

ANNUAL REPORT AND FORM 20-F 2019

2019



UNITED STATES SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 20-F

ANNUAL REPORT
PURSUANT TO SECTION 13 OR 15(D)
OF THE SECURITIES EXCHANGE ACT OF 1934

for the fiscal year ended December 31, 2019
Commission File Number 001-15106

Petróleo Brasileiro S.A. – Petrobras
(Exact name of registrant as specified in its charter)

Brazilian Petroleum Corporation – Petrobras
(Translation of registrant's name into English)

The Federative Republic of Brazil
(Jurisdiction of incorporation or organization)

Avenida República do Chile, 65
20031-912 – Rio de Janeiro – RJ – Brazil
(Address of principal executive offices)

Andrea Marques de Almeida
Chief Financial Officer and Chief Investor Relations Officer
(55 21) 3224-4477 – dfinri@petrobras.com.br

Avenida República do Chile, 65 – 23rd Floor 20031-912 – Rio de Janeiro – RJ – Brazil
(Name, telephone, e-mail and/or facsimile number and address of company contact person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

<u>Title of each class:</u>	<u>Name of each exchange on which registered:</u>
Petrobras Common Shares, without par value*	New York Stock Exchange*
Petrobras American Depositary Shares, or ADSs (evidenced by American Depositary Receipts, or ADRs), each representing two Common Shares	New York Stock Exchange
Petrobras Preferred Shares, without par value*	New York Stock Exchange*
Petrobras American Depositary Shares (as evidenced by American Depositary Receipts), each representing two Preferred Shares	New York Stock Exchange
Floating Rate Global Notes due 2020, issued by PGF	New York Stock Exchange
5.375% Global Notes due 2021, issued by PGF (successor to PifCo)	New York Stock Exchange
8.375% Global Notes due 2021, issued by PGF	New York Stock Exchange
6.125% Global Notes due 2022, issued by PGF	New York Stock Exchange
4.375% Global Notes due 2023, issued by PGF	New York Stock Exchange
6.250% Global Notes due 2024, issued by PGF	New York Stock Exchange
5.299% Global Notes due 2025, issued by PGF	New York Stock Exchange
8.750% Global Notes due 2026, issued by PGF	New York Stock Exchange
7.375% Global Notes due 2027, issued by PGF	New York Stock Exchange
5.999% Global Notes due 2028, issued by PGF	New York Stock Exchange
5.750% Global Notes due 2029, issued by PGF	New York Stock Exchange
6.875% Global Notes due 2040, issued by PGF (successor to PifCo)	New York Stock Exchange
6.750% Global Notes due 2041, issued by PGF (successor to PifCo)	New York Stock Exchange
5.625% Global Notes due 2043, issued by PGF	New York Stock Exchange
7.250% Global Notes due 2044, issued by PGF	New York Stock Exchange
6.900% Global Notes due 2049, issued by PGF	New York Stock Exchange
6.850% Global Notes due 2115, issued by PGF	New York Stock Exchange

*Not for trading, but only in connection with the registration of American Depositary Shares pursuant to the requirements of the New York Stock Exchange.

Securities registered or to be registered pursuant to Section 12(g) of the Act: None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None

The number of outstanding shares of each class of stock as of December 31, 2019 was:

7,442,231,382 Petrobras Common Shares, without par value

5,601,969,879 Petrobras Preferred Shares, without par value

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined by Rule 405 of the Securities Act.

Yes No

If this report is an annual or transitional report, indicate by check mark if the registrant is not required to file reports pursuant to section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes No

Indicate by check mark whether the registrant has submitted electronically if any, every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board

Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No



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DISCLAIMER

In prior years, we presented our annual report on Form 20-F following the structure and order of disclosure displayed in the SEC Form 20-F. In this annual report on Form 20-F for the year ended December 31, 2019 (referred to herein as our “annual report”) we made changes in the structure of our annual report in order to present information to investors in a manner more consistent with how we view our business. To guide the reader, a cross reference guide to SEC Form 20-F is presented under “Cross-Reference to Form 20-F” in this annual report.

Unless the context otherwise indicates, please consider this report the annual report of *Petróleo Brasileiro S.A. – Petrobras*. Unless the context otherwise requires, the terms “Petrobras,” “we,” “us” and “our” refer to *Petróleo Brasileiro S.A. – Petrobras* and its consolidated subsidiaries, joint operations and structured entities.

Our audited consolidated financial statements, presented in U.S. dollars, included in this annual report and the financial information contained in this annual report that is derived therefrom are prepared in accordance with the International Financial Reporting Standards (“IFRS”), as issued by the International Accounting Standards Board (“IASB”), including the effect of the implementation of IFRS 16 Leases, which became effective as of January 1, 2019.

Our functional currency and the functional currency of all of our Brazilian subsidiaries is the Brazilian *real* and the functional currency of most of our entities that operate outside Brazil, such as *Petrobras Global Finance B.V.* or *PGF*, is the U.S. dollar. In this annual report, references to “*real*,” “*reais*” or “R\$” are to Brazilian *reais* and references to “U.S. dollars” or “US\$” are to United States dollars.

Forward-Looking Statements

This annual report includes forward-looking statements that are not based on historical facts and are not assurances of future results. The forward-looking statements contained in this annual report, which address our expected business and financial performance, among other matters, contain words such as “believe,” “expect,” “estimate,” “anticipate,” “intend,” “plan,” “aim,” “will,” “may,” “should,” “could,” “would,” “likely,” “potential” and similar expressions (which are not the exclusive means of identifying such forward-looking statements).

Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. There is no assurance that the expected events, trends or results will actually occur.

We have made forward-looking statements that address, among other things:

- our marketing and expansion strategy;
 - our exploration and production activities, including drilling;
 - our activities related to refining, import, export, transportation of oil, natural gas and oil products, petrochemicals, power generation, biofuels and other sources of renewable energy;
 - our projected and targeted Capital Expenditures, commitments and revenues;
 - our liquidity and sources of funding;
 - our pricing strategy and development of additional revenue sources; and
 - the impact, including cost, of acquisitions and investments.
- Our forward-looking statements are not guarantees of future performance and are subject to assumptions that may prove incorrect and to risks and uncertainties that are difficult to predict. Our actual results could differ materially from those expressed or forecast in any forward-looking statements as a result of a variety of assumptions and factors. These factors include, but are not limited to, the following:
- our ability to obtain financing;
 - general economic and business conditions, including crude oil and other commodity prices, refining margins and prevailing exchange rates;
 - global economic conditions;
 - our ability to find, acquire or gain access to additional reserves and to develop our current reserves successfully;
 - uncertainties inherent in making estimates of our oil and gas reserves, including recently discovered oil and gas reserves;



DISCLAIMER

- competition;
- technical difficulties in the operation of our equipment and the provision of our services;
- changes in, or failure to comply with, laws or regulations, including with respect to fraudulent activity, corruption and bribery;
- receipt of governmental approvals and licenses;
- international and Brazilian political, economic and social developments;
- natural disasters, accidents, military operations, acts of sabotage, wars or embargoes;
- the cost and availability of adequate insurance coverage;
- our ability to successfully implement asset sales under our portfolio management program;
- the outcome of ongoing corruption investigations and any new facts or information that may arise in relation to the Lava Jato investigation;
- the effectiveness of our risk management policies and procedures, including operational risk; and

- litigation, such as class actions or enforcement or other proceedings brought by governmental and regulatory agencies.

For additional information on factors that could cause our actual results to differ from expectations reflected in forward-looking statements, see “Risks” in this annual report.

All forward-looking statements attributed to us or a person acting on our behalf are qualified in their entirety by this cautionary statement. We undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information or future events or for any other reason.

The crude oil and natural gas reserve data presented or described in this annual report are only estimates, which involve some degree of uncertainty, and our actual production, revenues and expenditures with respect to our reserves may materially differ from these estimates.



Documents on Display

We are subject to the information requirements of the Exchange Act, and accordingly our reports and other information filed and furnished by us with the SEC may be inspected and copied at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You can obtain further information about the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. You may also inspect our reports and other information at the offices of the New York Stock Exchange, or NYSE, at 11 Wall Street, New York, New York 10005, on which our ADSs are listed. Our SEC filings are also available to the public at the SEC’s website at <http://www.sec.gov> and at our website at www.petrobras.com.br/ir. The information available on these websites, which might be accessible through a hyperlink resulting from the URLs, is not and shall not be deemed to be incorporated into this annual report. For further information about obtaining copies of our public filings at the NYSE, call (212) 656-5060.

We also furnish reports on Form 6-K to the SEC containing our interim financial statements and other financial information of our company.

We also file audited consolidated financial statements, interim financial information and other periodic reports with the CVM.



GLOSSARY

Glossary of certain terms used in this Annual Report

Unless the context indicates otherwise, the following terms have the meanings shown below:

ACL	Free Marketing Environment (<i>Ambiente de Comercialização Livre</i>). Market segment in which the purchase and sale of electric energy are the subject of freely negotiated bilateral agreements, according to specific marketing rules and procedures.
ACR	Regulated Marketing Environment (<i>Ambiente de Comercialização Regulado</i>). Market segment in which the purchase and sale of electric power between selling agents and distribution agents, preceded by a bidding process, except for cases provided by law, according to specific marketing rules and procedures.
ADR	American Depositary Receipt.
ADS	American Depositary Share.
Amex Oil	The NYSE Arca Oil Index is a price-weighted index of the leading companies involved in the exploration, production, and development of petroleum. It measures the performance of the oil industry through changes in the sum of the prices of component stocks. The index was developed with a base level of 125 as of August 27, 1984.
AMS	Our health care plan (<i>Assistência Multidisciplinar de Saúde</i>).
ANP	The <i>Agência Nacional de Petróleo, Gás Natural e Biocombustíveis</i> (National Petroleum, Natural Gas and Biofuels Agency), or ANP, is the federal agency that regulates the oil, natural gas and renewable fuels industry in Brazil.
API	Standard measure of oil density developed by the American Petroleum Institute.
B3	The São Paulo Stock Exchange.
BioQav	Fuel produced from several biomass sources in different production processes, also known as “biojet” or “biokerosine” or “SAF” (synthetic aviation fuel) and named by the ANP as “Alternative Jet Fuel”, which must be added to jet fuel up to a maximum limit that varies from 10% to 50% by volume depending on the production process, as defined in ASTM (American Society for Testing and Materials) Annex D-7566 and ANP Resolution 778/2019.
Biofuel	Any fuel that is derived from biomass (plant, algae material or animal waste). It is produced through biological processes, such as agriculture and anaerobic digestion and it is considered renewable energy. Biodiesel and ethanol can be used as a fuel for vehicles, pure or added to diesel or gasoline to reduce the levels of carbon. Biodiesel is produced from oils or fats using a transesterification process, and ethanol is made by fermentation mostly from carbohydrates produced in sugar or starch crops such as corn, sugarcane or sweet sorghum.
Barrels	Standard measure of crude oil volume.
BNDES	Brazilian Development Bank (<i>Banco Nacional de Desenvolvimento Econômico e Social</i>).
Braskem	Braskem S.A.
Brazilian Treasury	The National Treasury is a Federal Government Secretariat, responsible for managing the financial resources that enter in the public safes. The mission of the National Treasury is managing the public accounts in an efficient and transparent way, ensuring a balanced fiscal policy and the quality of public expenditure, in order to contribute to the sustainable economic development.
Brent Crude Oil	A major trading classification of light crude oil that serves as a major benchmark price for commercialization of crude oil worldwide.
CADE	Administrative Council for Economic Defense
Câmara de Arbitragem do Mercado	An arbitration chamber governed and maintained by B3.
Capital Expenditures or “CAPEX”	Capital expenditures, or CAPEX, based on the cost assumptions and financial methodology adopted in our strategic plans, which includes acquisition of intangible assets and property, plant and equipment, investment in investees and other items that do not necessarily qualify as cash flows used in investing activities, comprising geological and geophysical expenses, research and development expenses, pre-operating charges, purchase of property, plant and equipment on credit and borrowing costs directly attributable to works in progress.



GLOSSARY

CDS	Credit Default Swap.
CEO	Chief Executive Officer.
CFO	Chief Financial Officer.
Central Bank of Brazil	The <i>Banco Central do Brasil</i> .
Central Depositária	The <i>Central Depositária de Ativos e de Registro de Operações do Mercado</i> , which serves as the custodian of our common and preferred shares (including those represented by ADSs) on behalf of our shareholders.
CGU	The <i>Controladoria Geral da União</i> (General Federal Inspector's Office), or CGU, is an advisory body of the Brazilian Presidency responsible for assisting in matters related to the protection of federal public property (<i>patrimônio público</i>) and the improvement of transparency in the Brazilian executive branch, through internal control activities, public audits, and the prevention and combat of corruption, among others.
CMN	The <i>Conselho Monetário Nacional</i> (National Monetary Council), or CMN, is the highest authority of the Brazilian financial system, responsible for the formulation of the Brazilian currency, exchange and credit policy, and for the supervision of financial institutions.
CNODC	CNODC Brasil Petróleo e Gás Ltda.
CNOOC	CNOOC Petroleum Brasil Ltda.
Condensate	Hydrocarbons that are in the gaseous phase at reservoir conditions but condense into liquid as they travel up the wellbore and reach separator conditions.
COMPERJ	The <i>Complexo Petroquímico do Rio de Janeiro – COMPERJ</i> (Petrochemical Complex of Rio de Janeiro).
CONAMA	The <i>Conselho Nacional do Meio Ambiente</i> (National Council for the Environment in Brazil).
CNPE	The <i>Conselho Nacional de Política Energética</i> (National Energy Policy Council), or CNPE, is an advisory body of the President of the Republic assisting in the formulation of energy policies and guidelines.
CVM	The <i>Comissão de Valores Mobiliários</i> (Brazilian Securities and Exchange Commission), or CVM.
D&M	DeGolyer and MacNaughton.
Deepwater	Between 300 and 1,500 meters (984 and 4,921 feet) deep.
Depositary	JPMorgan.
Development Ratio	Measures the relation between proved developed reserves and total proved reserves.
Distillation	The process by which liquids are separated or refined by vaporization followed by condensation.
DoJ	The U.S. Department of Justice.
E&P	Exploration & Production is our business segment that covers the activities of exploration, development and production of crude oil, NGL and natural gas in Brazil and abroad.
Eletrobras	Centrais Elétricas Brasileiras S.A. – Eletrobras.
EMBI+	Emerging Markets Bond Index Plus.
Exchange Act	Securities Exchange Act of 1934, as amended.
EWT	Extended well test.
Fitch	Fitch Ratings Inc., a credit rating agency.
Focus Survey	The Central Bank of Brazil carries out the Focus Survey compiling forecasts of about 140 banks, asset managers and others institutions.
FPSO	Floating production, storage and offloading unit.
Gaspetro	Petrobras Gás S.A.
GSA	Long-term Gas Supply Agreement entered into with the Bolivian state-owned company Yacimientos Petrolíferos Fiscales Bolivianos.
GTB	Gás Transboliviano S.A.
HCC or Hydrocracking	Conversion of heavier intermediate streams into the middle distillates boiling range (kerosene and diesel) in the presence of specific catalyst, hydrogen and severe conditions of temperature and pressure to produce high quality fuels. Depending on feedstock quality and operational conditions it is possible to direct production towards high quality lubes as well.



GLOSSARY

HDT or Hydrotreating	Process widely used in oil refining industry to remove heteroatoms such as sulfur and nitrogen from gasoline, kerosene and/or diesel in the presence of specific catalysts, hydrogen and adequate conditions of temperature and pressure. The aim is to adjust composition to comply with fuels specifications.
HSE	Health, Safety and Environmental.
IASB	International Accounting Standards Board.
IBAMA	The <i>Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis</i> (Brazilian Institute of the Environment and Renewable Natural Resources).
Ibovespa or IBOV	The gross total return index weighted by free float market cap and comprised of the most liquid stocks traded on the B3. It has been divided ten times by a factor of ten since Jan 1, 1985.
Inovar-Auto	This was a government program that proposed automotive industry to invest in research and development of more efficient and safe vehicles in exchange for tax benefits.
IMO	International Maritime Organization.
IOF	<i>Imposto sobre Operações Financeiras</i> (Brazilian taxes over financial transactions).
IPCA	The <i>Índice Nacional de Preços ao Consumidor Amplo</i> (National Consumer Price Index).
JPMorgan	JPMorgan Chase Bank, N.A.
Lava Jato	Operação Lava Jato, as detailed in “Risks Factors” and “Legal and Tax – Legal Proceedings – Lava Jato Investigation” in this annual report.
LIBOR	The London Interbank Offered Rate (LIBOR) is a benchmark interest rate at which major global banks lend to one another in the international interbank market for short-term loans.
LNG	Liquefied natural gas.
LPG	Liquefied petroleum gas, which is a mixture of saturated and unsaturated hydrocarbons, with up to five carbon atoms, used as domestic fuel.
MME	The <i>Ministério de Minas e Energia</i> (Ministry of Mines and Energy) of Brazil.
Moody's	Moody's Investors Service, Inc., a credit rating agency.
ME	The <i>Ministério da Economia</i> of Brazil (Ministry of Economy, former MPDM – <i>Ministério do Planejamento, Desenvolvimento e Gestão</i>).
Natural Gasoline (C5+)	Natural Gasoline C5+ is a NGL produced at natural gas processing plants with a vapor pressure intermediate between condensate and LPG, that may compose a gasoline blend.
Nelson complexity index (NCI)	It is a pure cost index that provides a relative measure of the construction costs of a particular refinery based on its crude and upgrading capacity. The NCI compares the costs of various upgrading units to the cost of a pure crude distillation unit, where more complex refineries are able to produce lighter, more heavily refined and valuable products from a barrel of oil. While the complexity factor is independent of the refinery capacity, multiple units of the same process, like multiple hydrotreaters or coking units, for example, do increase complexity.
NGL	The liquid resulting from the processing of natural gas and containing the heavier gaseous hydrocarbons.
NYSE	The New York Stock Exchange.
Oil	Crude oil, including NGLs and condensates.
Oil Products	Produced through processing at refineries such as diesel, gasoline, liquid fuel, LPG and other products.
ONS	The <i>Operador Nacional do Sistema Elétrico</i> (National Electric System Operator) of Brazil.
OPEC	Organization of the Petroleum Exporting Countries.
Operating income (loss)	The line equivalent to Net income (loss) before finance income (expense), results in equity-accounted investments and income taxes in our audited consolidated financial statements.
Organic Reserves Replacement Ratio or Organic RRR	Measures the amount of proved reserves added to a company's reserve base during the year, excluding disposals and acquisitions of proved reserves, relative to the amount of oil and gas produced.
OSRL	The Oil Spill Response Limited.
OTC	Offshore Technology Conference



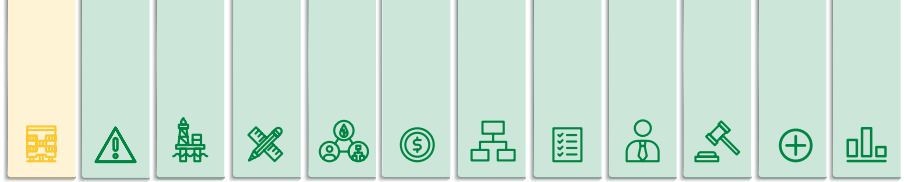
GLOSSARY

Petrochemicals	Chemicals obtained in petrochemical industries such as ethane, propene, benzene, xylenes, polypropylene, polyethylene and others.
Petros	Fundação Petros de Seguridade Social, Petrobras' employee pension fund.
Petros 2	Petrobras' sponsored pension plan.
PFLOPS	One PFLOPS equals the processing capacity of a quadrillion mathematical operations per second.
PGF	Petrobras Global Finance B.V.
PifCo	Petrobras International Finance Company S.A.
PLSV	Pipe laying support vessel.
Post-salt reservoir	A geological formation containing oil or natural gas deposits located above a salt layer.
PP&E	Property, plant and equipment.
PPSA	Pré-Sal Petróleo S.A.
Pre-salt Polygon	Underground region formed by a vertical prism of undetermined depth, with a polygonal surface defined by the geographic coordinates of its vertices established by Law No. 12,351/2010, as well as other regions that may be delimited by the Brazilian Federal Government, according to the evolution of geological knowledge.
Pre-salt reservoir	A geological formation containing oil or natural gas deposits located beneath a salt layer.
Proved reserves	Consistent with the definitions in Rule 4-10(a) of Regulation S-X, proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible – from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations. Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price is the unweighted arithmetic average of the first-day-of-the-month price during the twelve-month period prior to December 31, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. The project to extract the hydrocarbons must have commenced or we must be reasonably certain that we will commence the project within a reasonable time. Reserves which can be produced economically through application of improved recovery techniques (such as fluid injection) are included in the “proved” classification when successful testing by a pilot project, or the operation of an installed program in the reservoir or an analogous reservoir, provides support for the engineering analysis on which the project or program was based.
Proved developed reserves	Reserves that can be expected to be recovered: (i) through existing wells with existing equipment and operating methods or for which the cost of the required equipment is relatively minor compared to the cost of a new well; and (ii) through installed extraction equipment and infrastructure operational at the time of the reserve estimate if the extraction is by means not involving a well.
Proved undeveloped reserves	Reserves that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required. Reserves on undrilled acreage are limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances. Undrilled locations are classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances justify a longer time. Proved undeveloped reserves do not include reserves attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir or by other evidence using reliable technology establishing reasonable certainty.
PTAX	The reference exchange rate for the purchase and sale of U.S. dollars in Brazil, as published by the Central Bank of Brazil.
PwC	PricewaterhouseCoopers Auditores Independentes.
R&D	Research and development.
RNEST	The <i>Refinaria Abreu e Lima</i> (Abreu e Lima Refinery).
Refining	Refining, Transportation and Marketing is our business segment that covers the activities of refining, logistics, transport and trading of crude oil and oil products in Brazil and abroad, exports of ethanol, petrochemical operations, such as extraction and processing of shale, as well as holding interests in petrochemical companies in Brazil.



GLOSSARY

Reserves Replacement Ratio or RRR	Measures the amount of proved reserves added to a company's reserve base during the year relative to the amount of oil and gas produced.
Reserves to production ratio or R/P	Calculated as the amount of proved reserves of the year relative to the amount of oil and gas produced during the year, indicates a number of years reserves would last if production remains constant.
S&P	Standard & Poor's Financial Services LLC, a credit rating agency.
SDNY	The United States District Court for the Southern District of New York.
SEC	The United States Securities and Exchange Commission.
SELIC	The Central Bank of Brazil base interest rate.
Sete Brasil	Sete Brasil Participações, S.A.
Shell	Shell Brasil Petróleo Ltda.
Synthetic oil and synthetic gas	A mixture of hydrocarbons derived by upgrading (i.e., chemically altering) natural bitumen from oil sands, kerogen from oil shales, or processing of other substances such as natural gas or coal. Synthetic oil may contain sulfur or other non-hydrocarbon compounds and has many similarities to crude oil.
SPE	Society of Petroleum Engineers.
TAG	Transportadora Associada de Gás S.A.
TCU	The <i>Tribunal de Contas da União</i> (Federal Auditor's Office), or TCU, is a constitutionally established body linked to the Brazilian Congress, responsible for assisting it in matters related to the supervision of the Brazilian Federal Government and its resources with respect to accounting, finance, budget, operational and public property (<i>patrimônio público</i>) matters.
TBG	Transportadora Brasileira Gasoduto Bolívia-Brasil S.A. (TBG).
TJLP	The long-term interest rate target (Taxa de Juros de Longo Prazo or TJLP) is set quarterly by the National Monetary Council. The rate is used as the benchmark rate for loans from the BNDES to companies.
Total	Total E&P do Brasil Ltda.
Transfer of Rights Agreement	An agreement under which the Brazilian Federal Government assigned to us the right to explore and produce up to five billion barrels of oil equivalent "bnboe") in specified pre-salt areas in Brazil. See "Material Contracts" in this annual report.
Transpetro	Petrobras Transporte S.A.
Ultra-deepwater	Over 1,500 meters (4,921 feet) deep.
UPGN	Natural-gas processing Units (Unidade de Processamento de Gás Natural, in Portuguese). A natural gas processing plant is a facility designed to process raw natural gas from the offshore production fields by separating impurities and various non-methane hydrocarbons and fluids through different technologies to produce specified natural gas for final consumption. Through the process a gas processing plant can also recover natural gas liquids (condensate, natural gasoline and liquefied petroleum gas) with higher added value.
YPFB	Yacimientos Petroliferos Fiscales Bolivianos.



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We are a Brazilian company with over 57,000 employees committed to generate more value for our shareholders and the society. We are the largest company in market capitalization in Latin America, with a market capitalization of US\$101.1 billion as of December 31, 2019. We are one of the largest producers of oil and gas in the world, primarily engaged in exploration and production, refining, energy generation and trading. We have acquired expertise on deep and ultra-deepwater exploration and production as a result of almost 50 years spent developing the Brazilian offshore basins, becoming world leaders in this segment.



Datasheet

Name of the company: Petróleo Brasileiro S.A. – Petrobras

Date of Incorporation: 1953

Country of Incorporation: Brazil

Registration number at the CVM: 951-2

Central Index Key (or “CIK”) at the SEC: 0001119639

Address of principal executive office: Avenida República do Chile 65, 20031-912, Rio de Janeiro, RJ, Brazil

Telephone number: (55 21) 3224 4477

Corporate and investor relations websites: www.petrobras.com.br and www.petrobras.com.br/ir.

The information on these websites, which might be accessible through a hyperlink resulting from both URL, is not and shall not be deemed to be incorporated into this annual report.

Corporate purpose established in our Bylaws: research, prospecting, extraction, processing, trading and transportation of crude oil from wells, shale and other rocks, its products, natural gas and other fluid hydrocarbons, in addition to other energy-related activities, and the research, development, production, transportation, distribution, sale and trading concerning all forms of energy, as well as other related activities or similar purposes.



Selected Financial Data

The information below should be read jointly with, and is qualified in its entirety by reference to, our audited consolidated financial statements and the accompanying notes and “Operating and Financial Review and Prospects” in this annual report.

Statement of financial position

As of December 31,	2019	2018	2017	2016	2015
	(in US\$ million)				
Assets					
Cash and cash equivalents	7,372	13,899	22,519	21,205	25,058
Marketable securities	888	1,083	1,885	784	780
Trade and other receivables, net	3,762	5,746	4,972	4,769	5,554
Inventories	8,189	8,987	8,489	8,475	7,441
Assets classified as held for sale	2,564	1,946	5,318	5,728	152
Other current assets	5,037	5,401	3,948	3,808	4,194
Long-term receivables	17,691	22,059	21,450	20,420	19,426
Investments	5,499	2,759	3,795	3,052	3,527
Property, plant and equipment	159,265	157,383	176,650	175,470	161,297
Intangible assets	19,473	2,805	2,340	3,272	3,092
Total assets	229,740	222,068	251,366	246,983	230,521
Liabilities and equity					
Total current liabilities	28,816	25,051	24,948	24,903	28,573
Non-current liabilities ⁽¹⁾	67,918	43,334	42,871	36,159	24,411
Non-current finance debt ⁽²⁾	58,791	80,508	102,045	108,371	111,482
Total liabilities	155,525	148,893	169,864	169,433	164,466
Equity					
Share capital (net of share issuance costs)	107,101	107,101	107,101	107,101	107,101
Reserves and other comprehensive income (deficit) ⁽³⁾	(33,778)	(35,557)	(27,299)	(30,322)	(41,865)
Equity attributable to our shareholders	73,323	71,544	79,802	76,779	65,236
Non-controlling interests	892	1,631	1,700	771	819
Total equity	74,215	73,175	81,502	77,550	66,055
Total liabilities and equity	229,740	222,068	251,366	246,983	230,521

(1) Excludes non-current finance debt.

(2) Excludes current portion of long-term finance debt.

(3) Capital transactions, profit reserves and accumulated other comprehensive income (deficit).



Statement of income and other information

For the Year Ended December 31,	2019 ⁽¹⁾	2018 ⁽²⁾	2017 ⁽³⁾	2016 ⁽⁴⁾	2015 ⁽⁵⁾⁽¹⁰⁾
	(in US\$ million)				
Sales revenues	76,589	84,638	77,884	72,426	97,314
Operating income (loss)	20,614	16,788	10,553	4,303	(1,130)
Net income (loss) attributable to our shareholders	10,151	7,173	(91)	(4,838)	(8,450)
From continuing operations	7,660	6,572	(347)	(4,780)	-
From discontinued operations	2,491	601	256	(58)	-
Weighted average number of shares outstanding⁽⁶⁾:					
Common	7,442,231,382 ⁽⁷⁾	7,442,231,382 ⁽⁷⁾	7,442,231,382 ⁽⁸⁾	7,442,231,382 ⁽⁸⁾	7,442,231,382 ⁽⁸⁾
Preferred	5,601,969,879 ⁽⁷⁾	5,601,969,879 ⁽⁷⁾	5,601,980,132 ⁽⁸⁾	5,601,980,132 ⁽⁸⁾	5,601,980,132 ⁽⁸⁾
Operating income (loss) per:					
Common and preferred shares	1.58	1.29	0.81	0.33	(0.09)
Common and preferred ADS ⁽⁶⁾	3.16	2.58	1.62	0.66	(0.18)
Basic and diluted earnings (losses) per:					
Common and preferred shares	0.78	0.55	(0.01)	(0.37)	(0.65)
From continuing operations	0.59	0.50	(0.03)	(0.36)	-
From discontinued operations	0.19	0.05	0.02	(0.01)	-
Common and preferred ADS ⁽⁶⁾	1.56	1.10	(0.02)	(0.74)	(1.30)
From continuing operations	1.18	1.00	(0.06)	(0.72)	-
From discontinued operations	0.38	0.10	0.04	(0.02)	-
Cash dividends per⁽⁹⁾					
Common shares	0.19	0.07	-	-	-
Preferred shares	0.23	0.24	-	-	-
Common ADS ⁽⁶⁾	0.38	0.14	-	-	-
Preferred ADS ⁽⁶⁾	0.46	0.48	-	-	-

(1) In July 2019, we closed the transaction under which we sold a further portion of our interest in BR Distribuidora. After the closing of this transaction, we are no longer the controlling shareholder of BR Distribuidora and, since August 2019, we have been reflecting BR Distribuidora's results as an equity-accounted investment. Thus, from January to July 2019, we presented our post-tax profit of BR Distribuidora as Net income from discontinued operations in our consolidated statement of income, in accordance with IFRS 5, since it represented a separate major line of business. The statements of income for 2018, 2017 and 2016 were revised accordingly to reflect this classification. In 2019, we recognized impairment losses of US\$2,848 million.

(2) In 2018, we recognized the effects of the settlement of open matters with the DoJ and the SEC investigation, in the amount of US\$853 million. We also recognized impairment losses of US\$2,005 million.

(3) In 2017, we recognized US\$3,449 million as other income and expenses, due to the provision for legal proceedings relating to the agreement to settle our consolidated class action lawsuit before the United States District Court for the Southern District of New York. We also recognized impairment losses of US\$1,191 million.

(4) In 2016, we recognized impairment losses of US\$6,193 million.

(5) In 2015, we recognized impairment losses of US\$12,299 million.

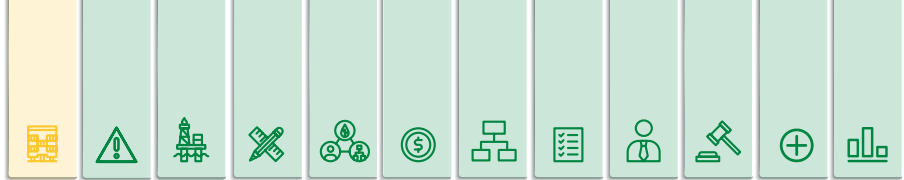
(6) The ratio of ADR to our common and preferred shares is two shares to one ADR.

(7) The total number of shares does not include 295,669 shares in treasury, of which 222,760 are common shares and 72,909 are preferred shares.

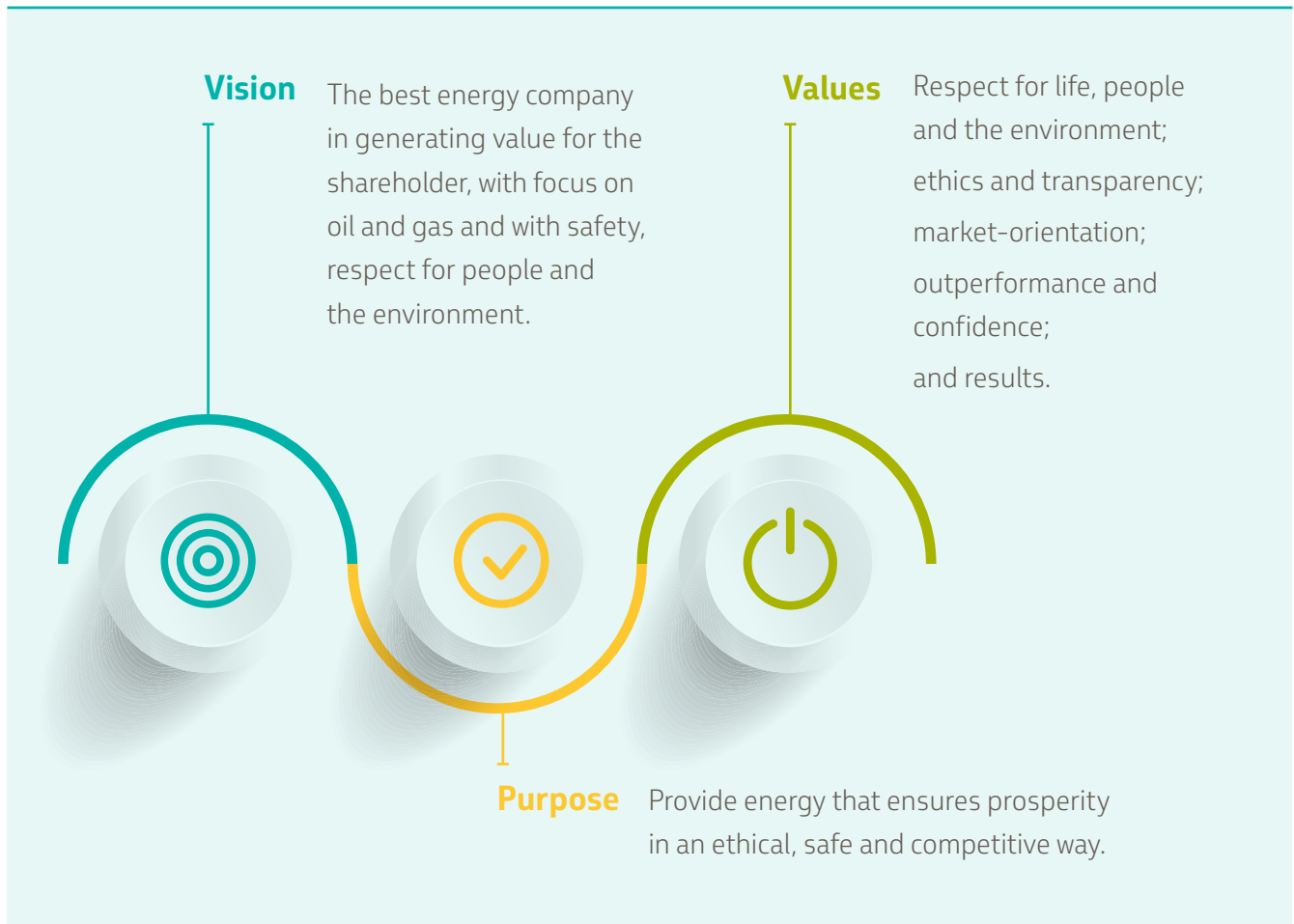
(8) The total number of shares does not include 285,416 shares in treasury, of which 222,760 are common shares and 62,656 are preferred shares.

(9) Pre-tax interest on capital and/or dividends proposed for the periods. Amounts were based on the exchange rate prevailing at the date of the approval by our Board of Directors, except for minimum mandatory dividends, which is based on the closing exchange rate on the date that our audited consolidated financial statements were released.

(10) Our audited consolidated financial statements for the year ended December 31, 2015 were not retrospectively revised to reflect our sale of BR Distribuidora as a discontinued operation.



Overview



We have a large base of proved reserves and operate and produce most of Brazil's oil and gas. Most of our proved reserves are world-class assets located in the adjacent offshore Campos and Santos Basins in southeast Brazil. Their proximity allows us to optimize our infrastructure and limit our costs of exploration, development and production. Additionally, we have developed technical knowledge in deepwater exploration and production from almost 50 years of developing Brazil's offshore basins, including the Campos and Santos Basins. The Campos and Santos Basins are expected to remain the main source of our future growth in proved reserves and oil and gas production.

Our business, however, goes beyond the oil and gas exploration and production. It entails a long process

through which we get the oil and gas to our refineries which themselves must be equipped and in constant evolution to supply the best products.

We operate most of the refining capacity in Brazil. Our refining capacity is substantially concentrated in southeast Brazil, within the country's most populated and industrialized markets and adjacent to the sources of most of our crude oil in the Campos and Santos Basins. We meet our demand for oil products through a planned combination of domestic refining of crude oil and oil products imports, seeking value creation. We are also involved in the production of petrochemicals through stakes in some companies. We distribute oil products through wholesalers and retailers.



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We also participate in the Brazilian natural gas market, including the logistics, distribution and processing of natural gas.

To meet domestic demand, we process natural gas derived from our onshore and offshore production (mainly from fields in the Campos, Espírito Santo and Santos Basins), import natural gas from Bolivia and import liquefied natural gas (“LNG”) through our regasification terminals. We also participate in the domestic power market primarily through our investments in gas-fired, fuel oil and diesel oil thermoelectric power plants and in renewable energy.

As a result of the divestments we concluded in 2019 and our portfolio review done as part of our 2020-2024 Strategic Plan, we reassessed the presentation of our business into certain segments. Our distribution and biofuels activities are no longer considered separate segments. We currently classify these activities as “Corporate and Other Businesses.” Accordingly, we currently divide our business into three main segments:

- **Exploration and Production (“E&P”):** this segment covers the activities of exploration, development and production of crude oil, Natural Gas Liquids (“NGL”) and natural gas in Brazil and abroad, for the primary purpose of supplying our domestic refineries. The E&P segment also operates through partnerships with other companies, including holding interests in non-Brazilian companies in this segment;
- **Refining, Transportation and Marketing (“Refining”):** this segment covers the activities of refining, logistics, transport, marketing and trading of crude oil and oil products in Brazil and abroad, exports of ethanol, petrochemical operations, such as extraction and processing of shale, as well as holding interests in petrochemical companies in Brazil; and
- **Gas and Power (“G&P”):** this segment covers the activities of logistics and trading of natural gas and electricity, transportation and trading of LNG, generation of electricity by means of thermoelectric power plants, as well as holding interests in transportation and distribution

companies of natural gas in Brazil and abroad. It also includes natural gas processing and fertilizer operations.

Furthermore, our “Corporate and Other Businesses” classification includes the activities that are not attributed to the business segments, notably those related to corporate financial management, corporate overhead and other expenses, provision for the class action settlement, and actuarial expenses related to the pension and medical benefits for retired employees and their dependents. It also comprises biofuels and distribution businesses. The biofuels business covers the activities of production of biodiesel and its co-products and ethanol. The distribution business covers the equity interest in the associate BR Distribuidora and the business for the distribution of oil products abroad (in Argentina, Bolivia, Colombia and Uruguay).

For further information regarding our business segments, see Notes 12 and 31 to our audited consolidated financial statements, as well as “Operating and Financial Review and Prospects” in this annual report.

In accordance with our 2020-2024 Strategic Plan, we have reduced our activities to eight countries outside Brazil (i.e., Argentina, Bolivia, Colombia, Uruguay, the U.S., Netherlands, United Kingdom and Singapore). In Latin America, our operations include exploration and production, marketing and retail services, including natural gas. In North America, we produce oil and gas through a joint venture. Until April 2019, we had refining operations in the United States. We have controlled companies in London, Rotterdam, Houston and Singapore that support our trade and financial activities. They constitute a complete and active trading desk for markets worldwide, and are in charge of market intelligence and marketing of oil, oil products, natural gas, commodity derivatives and shipping.

We operate through 20 direct subsidiaries (18 incorporated under the laws of Brazil and two incorporated abroad) and two direct joint operations as listed below. We also have indirect subsidiaries, including Petrobras Global Finance B.V. (“PGF”).



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Companies	Location	Our shareholding	Other shareholders
Petrobras Transporte S.A. – Transpetro	Brazil	100%	-
Petrobras Logística de Exploração e Produção S.A. – PB-LOG	Brazil	100%	-
Petrobras Gás S.A. – Gaspetro	Brazil	51%	Mitsui Gás e Energia do Brasil Ltda (49%)
Petrobras Biocombustível S.A.	Brazil	100%	-
Transportadora Brasileira Gasoduto Bolívia-Brasil S.A. – TBG	Brazil	51%	BBPP Holdings Ltda. (29%) YPFB Transporte S.A. (12%) GTB-TBG Holdings S.À.R.L. (8%)
Liquigás Distribuidora S.A.	Brazil	100%	-
Araucária Nitrogenados S.A.	Brazil	100%	-
Termomacaé S.A.	Brazil	100%	-
Breitener Energética S.A.	Brazil	94%	Alcântara, Mendes & Cia Ltda (1%) Arcadis Logos Energia S.A. (1%) Orteng Equipamentos e Sistemas Ltda (1%) GGR Participações S.A. (3%)
Termobahia S.A.	Brazil	99%	Petros (1%)
Baixada Santista Energia S.A.	Brazil	100%	-
Petrobras Comercializadora de Energia S.A. – PBEN	Brazil	100%	-
Fundo de Investimento Imobiliário RB Logística – FII	Brazil	99%	Pentágono SA DTVM (1%)
Petrobras Negócios Eletrônicos S.A. – E-Petro	Brazil	100%	-
Termomacaé Comercializadora de Energia S.A.	Brazil	100%	-
5283 Participações S.A.	Brazil	100%	-
Fábrica Carioca de Catalisadores S.A. – FCC ⁽¹⁾	Brazil	50%	Albemarle Brazil Holding Ltda. (50%)
Ibiritermo S.A. ⁽¹⁾	Brazil	50%	Edison S.p.A (50%)
Petrobras International Braspetro – PIB BV	Abroad	100%	-
Braspetro Oil Services Company – Brasoil	Abroad	100%	-

(1) Joint operations.

For a complete list of our subsidiaries and joint operations, including each of their full names, jurisdictions of incorporation and our percentage of equity interest, see Exhibit 8.1 to this annual report.



ABOUT US

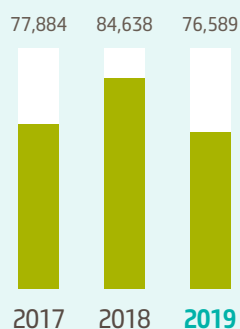
SELECTED FINANCIAL DATA
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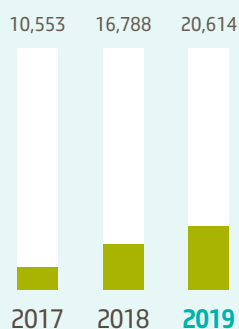
2019 HIGHLIGHTS CONSOLIDATED CORPORATE INDICATORS



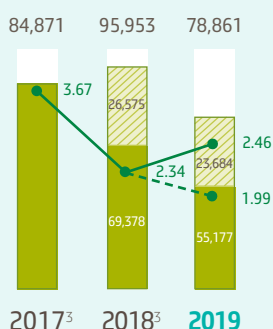
SALES REVENUES
(US\$ million)



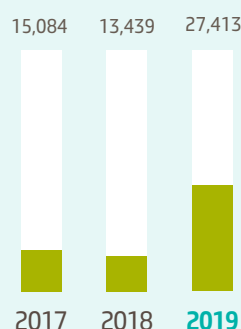
OPERATING INCOME/
LOSS¹ (US\$ million)



NET DEBT (US\$ million)
AND NET DEBT/ADJUSTED
EBITDA RATIO² (x)



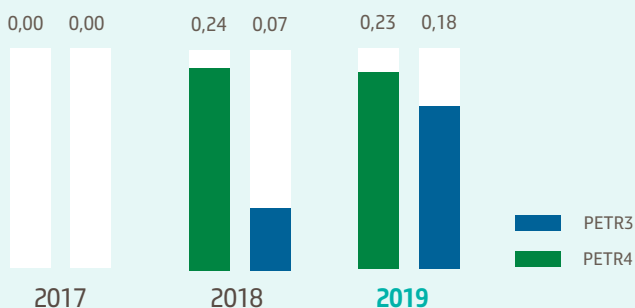
CAPITAL EXPENDITURES
(US\$ million)



NET DEBT
NET DEBT/ADJUSTED EBITDA RATIO
NET DEBT/ADJUSTED EBITDA RATIO
(EXCLUDING IFRS 16 EFFECTS)
IFRS 16 EFFECTS ON NET DEBT



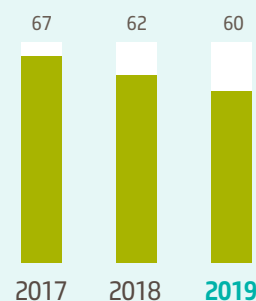
DIVIDEND PAID
PER SHARE⁴
(US\$)



TOTAL RECORDABLE INJURY RATE – TRI⁵



GHG EMISSION (million tons of CO₂e)



¹ Operating Income/Loss is equivalent to the line item Net income (loss) before finance income (expense), results in equity-accounted investments and income taxes in our audited consolidated financial statements.

² The Net Debt is in US dollars and the basis for calculating the ratio is in reais. For reconciliation of Net Debt/Adjusted EBITDA, a non-GAAP measure, see "Net Debt/Adjusted EBITDA Metric" in this annual report.

³ For comparative purposes, the December 31, 2018 net debt amounts shown above consider the initial application of IFRS 16 as of January 1, 2019. The net debt amount of 2017 does not consider effects of adoption of IFRS 16.

⁴ Dividends declared in reais and converted into U.S. dollars at the average exchange rate for the quarter of the payment. ADS holders will receive these distributions in proportion to the number of underlying common or preferred shares that such ADSs represent.

⁵ TRI below the peer group's historical benchmark (0.80). Benchmark from comparative information obtained in the Sustainability Reports of BP, Shell, Equinor, Total and Exxon.



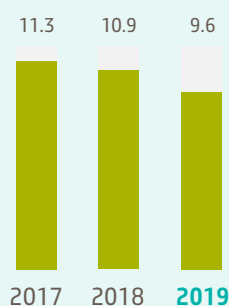
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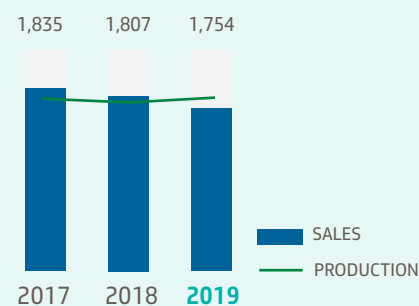
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2019 HIGHLIGHTS OPERATIONAL INDICATORS

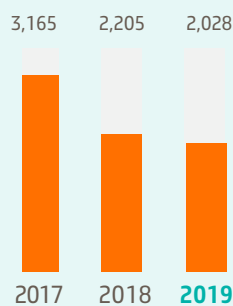
LIFTING COST - BRAZIL
(USD/Boe)



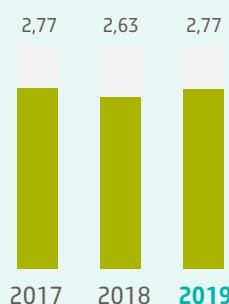
BRAZILIAN SALES AND OIL PRODUCTS PRODUCTION
(mbl/d)



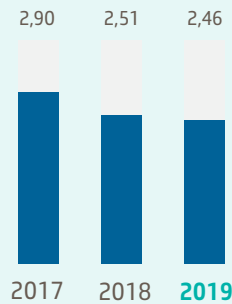
POWER GENERATION
(average MW)



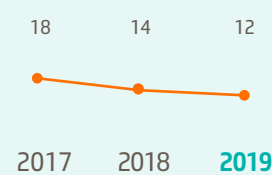
PRODUCTION
(millions boed)



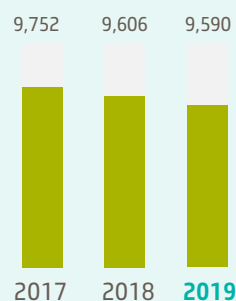
REFINING COST
(US\$/bbl)



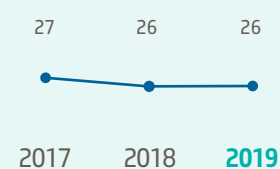
GHG EMISSIONS - GAS AND POWER
(million tons CO₂e)



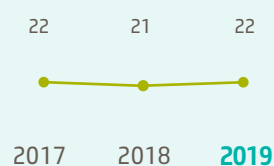
PROVED RESERVES
(millions boe)



GHG EMISSION - RTM
(million tons CO₂e)



GHG EMISSION - E&P
(million tons of CO₂e)





RISKS

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RISKS



RISKS

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The nature of our operations exposes us to a number of business risks that could, individually or together, have an effect on our financial performance. We classify the risks to which we are exposed in the following groups: (i) strategic risks, (ii) operational risks, (iii) financial risks, (iv) compliance, legal and regulatory risks, and (v) business risks. We also describe herein the risks arising from the government ownership and country risks, as well as debt and equity securities risks.



BUSINESS

Risks related to the company's business, according to its value chain, specific to an integrated oil company (exploration and production, refining, distribution, natural gas, transportation, etc.).



FINANCIAL

It gathers Risks arising from market fluctuations, defaults on counterparties and mismatches between assets and liabilities.



COMPLIANCE

Risks arising from non-compliance with the legislation and regulations applicable to Petrobras' business, as well as internal rules and procedures, especially those related to fraud, corruption, money laundering and the reliability of financial reports.



OPERATIONAL

It gathers Risks due to failures, deficiencies or inadequacies of internal and industrial processes, the supply of goods and services, systems, as well as natural disasters and/or actions from third parties.



STRATEGIC RISKS

Annually, from the list of business risks, analysis of business performance and the company's external and internal environment, our Board of Executive Officers and Board of Directors define those risks that, individually or in a consolidated manner, should be associated with Strategic Plan. These risks, called "**Strategic Risks**", are selected due to their importance for the implementation of the Strategic Plan, its scope, its degree of severity and/or resources demanded for its treatment.



RISKS

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Risk Factors

Strategic Risks

We are exposed to health, environment and safety risks in our operations, which may lead to accidents, significant losses, administrative proceedings and legal liabilities.

Some of our main activities present risks capable of leading to accidents, such as oil spills, product leaks, fires and explosions. In particular, deepwater, ultra-deepwater and refining activities present various risks, such as oil spills and explosions in our refineries and exploration and production units, including platforms, ships, pipelines, terminals and dams, among other assets owned or operated by us. These events may occur due to technical failures, human errors or natural events, among other factors. The occurrence of one of these events, or other related incidents, may result in various damages such as death, serious environmental damage and related expenses (including, for example, cleaning and repairing expenses). These events may have an impact on the health of our workforce or on communities, and may cause environmental or property damage, loss of production, financial losses and, in certain circumstances, liability in civil, labor, criminal, environmental and administrative lawsuits. As a consequence, we may incur expenses to repair or remediate the damages caused.

Since 2016, we suffered a significant increase in acts of intentional interference by third parties in our pipelines, including illegal taps (thefts) of oil, gas and oil products, especially in the states of São Paulo and Rio de Janeiro. If this interference continues, we may experience short-term or long-term accidents, leaks or damage in our facilities as a result, which can impact the continuation of our operations. In addition, we may be compelled to indemnify for any damages caused to the environment or to third parties because of these incidents.

In addition, public health epidemics such as the outbreak of the coronavirus (“COVID-19”) could cause health restrictions to our workforce and, therefore, impact the operation of some of our facilities, including our platforms, refineries, terminals, among others. This condition could have a negative impact on our results and financial condition. Finally, we may face difficulties in obtaining or maintaining operating licenses and may suffer damages to our reputation.

We may incur losses and spend time and financial resources defending pending litigations and arbitrations.

We are currently party to numerous legal and administrative proceedings relating to civil, administrative, tax, labor, environmental and corporate claims filed against us. These claims involve substantial amounts of money and other remedies, and the aggregate cost of unfavorable decisions could have a material adverse effect on our results and financial condition. These claims include the following: (i) indemnity actions (claiming material damages and loss of profits) brought by ethanol plants in several locations against the Brazilian federal government and us, as a result of diesel and gasoline prices in effect until 2016, and (ii) claims that seek to nullify divestments of assets and subsidiaries.

We may be frequently affected by changes in rules and regulation.

In addition, changes in rules and regulations applicable to us may have a material adverse effect on our financial condition and results.

Depending on the outcome, litigation can result in restrictions on our operations and have a material adverse effect on some of our businesses.

The selection and development of our investment projects involve risks that may affect our originally expected results.

We have numerous project opportunities in our portfolio of investments. Since most projects are characterized by a long development period, we may face changes in market conditions, such as changes in prices, consumer preferences and demand profile, exchange and interest rates and financing conditions of projects that may jeopardize our expected rate of return on these projects.

In addition, we face specific risks for oil and gas projects. Despite our experience in the exploration and production of oil in deepwater and ultra-deepwater and the continuous development of studies during the planning stages, the quantity and quality of oil produced in a certain field will only be fully known in the phases of deployment and operation, which may require adjustments throughout the project life cycle and expected rate of return on these projects.



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INSURANCE

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Our partnerships and divestments depend on external factors that could impact their successful implementation.

Pursuant to our 2020-2024 Strategic Plan, we expect to divest a significant number of assets in the coming years. External factors, such as the sustained decline in oil prices, injunctions and claims by third parties or public authorities in judicial, arbitral or administrative proceedings, exchange rate fluctuations, the deterioration of Brazilian and global economic conditions, the Brazilian political scenario and judicial decisions, among other factors, may reduce, delay or hinder sale opportunities for our assets or affect the price at which we can sell our assets.

If we are unable to successfully implement our planned partnerships and divestments, this may negatively impact our business, results and financial condition, including by potentially exposing us to short and medium-term liquidity constraints. In addition, the sale of assets may result in a decrease in our cash flows, which could negatively impact our long-term operating growth prospects and consequently our results in the medium and long-term.

Changes in the competitive environment of the Brazilian oil and gas market may intensify the requirements for our performance levels to remain in line with the best companies in the sector. The need to adapt to an increasingly competitive and more complex environment may compromise our ability to implement our 2020-2024 Strategic Plan.

We may face greater competitive forces in the downstream segment in Brazil, with the emergence of new companies competing against us in this sector. If we are unable to maximize return on capital employed, reduce costs, sell our products competitively, and implement new technologies in our business, we may encounter adverse effects on our results and operations.

Additionally, in the upstream segment, we may not be successful in acquiring exploration blocks in future bidding rounds if our competitors are able to bid based on better cost and capital structures than us. In that case, we may therefore have difficulty in repositioning our portfolio towards upstream assets that offer higher profitability and

competitive advantage, especially in the pre-salt layer, which could negatively affect our results.

In addition, changes in the regulatory framework and inquiries regarding compliance with antitrust and competition laws may subject us to business restrictions and penalties, adversely affecting our operations, results and reputation.

Failures in our information technology systems, information security (cybersecurity) systems and telecommunications systems and services can adversely impact our operations and reputation.

Our operations are highly dependent on information technology and communications systems and services. Interruption or malfunction affecting these systems and/or their infrastructure, as a result of obsolescence, technical failures and/or deliberate acts, may harm or halt our business and adversely impact our operations and reputation.

Moreover, cybersecurity and information security failures, including automation systems, either due to external acts, deliberate or unintentional, such as malware, hacking and cyberterrorism, or internal ones, such as negligence and misuse from employees or contractors, may also cause impacts on our business, our reputation, our relationship with stakeholders and external agents (government, regulatory bodies, partners, suppliers and others), our strategic positioning towards our competitors and our results. According to Law No. 13,709/2018 – Lei Geral de Proteção de Dados Pessoais (“LGPD”), we will be subject to penalties in cases of disclosure or misuse of personal information, when the law comes into effect in August 2020.

Operational Risks

We are not insured against business interruption for our Brazilian operations, and most of our assets are not insured against war or sabotage.

We generally do not maintain insurance coverage for business interruptions of any nature for our Brazilian operations, including business interruptions caused by labor disputes. If, for instance, our workers or those of our key third-party suppliers, vendors and service providers were to



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strike, the resulting work stoppages could have an adverse effect on us. In addition, we do not insure most of our assets against war or sabotage. Therefore, an attack or an incident causing an interruption of our operations could have a material adverse effect on our results and financial condition.

Additionally, our insurance policies do not cover all types of risks and liabilities related to safety, environment, health, government fees, fines or punitive damages, which may impact our results. There can be no guarantee that incidents will not occur in the future, that there will be insurance to cover the damages or that we will not be held responsible for these events, all of which may negatively impact our results.

Strikes, work stoppages or labor unrest by our employees or by the employees of our suppliers or contractors could adversely affect our results and our business.

Disagreements on how we manage our business, in particular divestments and their implications for our personnel, changes in our strategy, human resources policies regarding remuneration, benefits and headcount, employee contributions to cover the deficit of our pension plan Petros, implementation of regulations recently created relating to health and pension plans and changes in labor law may lead to judicial inquiries, labor unrest, strikes and stoppages.

Strikes, work stoppages or other forms of labor unrest at any of our facilities or in major suppliers, contractors or their facilities or in sectors of society that affect our business could impair our ability to complete major projects and impact our ability to continue our operations and achieve our long-term objectives.

Our success also depends on our ability to continue to train and qualify our personnel so they can assume qualified senior positions in the future. We cannot assure you that we will be effective in training and qualifying our workforce sufficiently, nor that we will be able to achieve this goal without incurring additional costs. Any such failure could adversely affect our results and our business.

We rely on suppliers of goods and services for the operation and execution of our projects and, as a result, we may be adversely affected by failures or delays of such suppliers.

We are susceptible to the risks of performance and product

quality within our supply chain. If our suppliers and service providers delay or fail to deliver goods and services owed to us, we may not meet our operational goals within the expected timeframe. In this case, we may ultimately need to postpone one or more of our projects, which may have an adverse effect on our results and financial condition.

We are subject to minimum local content requirements in some of our concession agreements, in the Transfer of Rights Agreement and in the Production Sharing Agreements. In this case, we may not meet the minimum percentages of local content required in those agreements with appropriate financial conditions and, as a result, we may be pacted by penalties in our contracts and we may need to search for international providers in the foreign market, which may subject us to consequences as defined in our agreements or delays in our investment projects.

Additionally, there may be risks of delays in the customs clearance process caused by external factors, which may impact the supply of goods to us and affect our operations and projects.

Furthermore, disruptions due to health events such as COVID-19 in China and elsewhere could have a negative impact on our results and on our supply chain as well.

Our projects and operations may affect, and be affected by, the expectations and dynamics of the communities where we operate, impacting our business, reputation and image.

It is part of our policy to respect human rights and maintain responsible relationships with the local communities located where we operate. However, the various locations where we operate are exposed to a wide range of issues related to political, social and economic instability, as well as intentional acts, such as illegal diversion, crime, theft, sabotage, terrorism, roadblocks and protests. We cannot control the changes in local dynamics and the expectations of the communities where we operate and establish our businesses.

Social impacts that result from our decisions and direct and indirect activities – especially those related to divestments – and disagreements with these communities and local governments may affect the schedule or budget of our projects, hinder our operations due to potential lawsuits, have a negative financial impact and harm our reputation and image.



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Water scarcity in some regions where we operate may impact the availability of water in the quantity and/or quality required for our operations, as well as difficulties in obtaining grants of the right to use water resources, impacting the business continuity of our industrial units.

We have a number of industrial facilities that demand the use of water, ranging from large users such as refineries to small users like distribution bases and terminals, which are logistically important within our chain. In recent years, several regions of the world, including some regions in Brazil, have experienced a shortage of freshwater, including for public consumption. In case of water scarcity, the grants pursuant to which we have the right to use water resources may be suspended or modified and, as a result, we may be required to reduce or suspend our production activities, since water for public consumption and watering of animals has priority over industrial use. This may jeopardize our business continuity, as well as generate financial and environmental impacts on us and our image.

Financial Risks

We have substantial liabilities and may be exposed to significant liquidity constraints in the near and medium term, which could materially and adversely affect our financial condition and results.

We have incurred in a substantial amount of debt related to investments decisions taken in the past and in order to finance the capital expenditures needed to meet our long term objectives.

Since there may be liquidity restrictions on the debt market to finance our planned investments and repay principal and interest obligations under the terms of our debt, any difficulty in raising significant amounts of debt capital in the future may impact our results and the ability to fulfill our 2020-2024 Strategic Plan.

The loss of our investment grade credit rating and any further lowering of our credit ratings could have adverse consequences on our ability to obtain financing in the market through debt or equity securities, or may impact our cost of financing, also making it more difficult or costly to refinance maturing obligations. The impact on our ability

to obtain financing and the cost of financing may adversely affect our results and financial condition.

In addition, our credit rating is sensitive to any change in the credit rating of the Brazilian federal government. Any further lowering of the Brazilian sovereign's credit ratings may have additional adverse consequences on our ability to obtain financing or the cost of our financing, and consequently, on our results and financial condition.

We are vulnerable to increased debt service resulting from depreciation of the real in relation to the U.S. dollar and increases in prevailing market interest rates.

As of December 31, 2019, a significant portion of our financial debt was denominated in currencies other than the real. A substantial portion of our indebtedness is, and is expected to continue to be, denominated in or indexed to the U.S. dollar and other foreign currencies. A further depreciation of the *real* against any of these other currencies will increase our debt service in *reais*, as the amount of reais necessary to pay principal and interest on foreign currency debt will increase with this depreciation.

Foreign exchange variations may have an immediate impact on our reported income. According to our cash flow hedge accounting policy, hedging relationships are designated for the existing natural hedge between our U.S. dollar denominated future exports that are considered to be highly probable (hedged item) and U.S. dollar denominated financial debt (hedging instruments).

Following a devaluation of the real, some of our operating expenses, capital expenditures, investments and import costs will increase. As most of our revenues are denominated in reais but linked to Brent prices in dolar, unless we increase the prices of our products in the local market to reflect the depreciation of the real, our cash generation relative to our capacity to service debt may decline.

To the extent we refinance our maturing obligations with newly contracted debt, we may incur additional interest expense.

As of December 31, 2019, a significant portion of our total indebtedness consisted of floating rate debt. We generally do not enter into derivative contracts or similar financial instruments or make other arrangements with third parties to hedge against the risk of an increase in interest rates.



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To the extent that such floating rates rise, we may incur in additional expenses. Moreover, as we refinance our existing debt in the coming years, the mix of our indebtedness may change, specifically as it relates to the ratio of fixed to floating interest rates, the ratio of short-term to long-term debt, and the currencies in which our debt is denominated or to which it is indexed.

Changes that affect the composition of our debt and cause rises in short or long-term interest rates may increase our debt service payments, which could have an adverse effect on our results and financial condition.

The obligations relating to our pension plan (“Petros”) and health care benefits (“AMS”) are estimates, which are reviewed annually, and may diverge from actual future contributions due to changes in market and economic conditions, as well as changes in actuarial assumptions.

The criteria used for determining commitments relating to pension and health care plan benefits are based on actuarial and financial estimates and assumptions with respect to (i) the calculation of projected short-term and long-term cash flows and (ii) the application of internal and external regulatory rules. Therefore, there are uncertainties inherent in the use of estimates that may result in differences between the forecasted value and the actual realized value. In addition, the financial assets held by Petros to cover pension obligations are subject to risks inherent to investment management and such assets may not generate the necessary returns to cover the relevant liabilities, in which case extraordinary contributions from us, as sponsor, and the participants, may be required.

With respect to health care benefits (AMS), the projected cash flows can also be impacted by (i) higher medical costs than expected; (ii) additional claims arising from the extension of benefits; and (iii) difficulties in adjusting the contributions of participants to reflect increases in health care costs.

In addition, we and Petros face risks relating to pension funds in lawsuits that may occasionally require additional disbursements from us.

These risks may result in an increase in our liabilities and may adversely affect our results and our business.

We are exposed to the credit risks of certain of our customers and associated risks of default. Any material nonpayment or nonperformance by some of our customers could adversely affect our cash flow, results and financial condition.

Some of our customers may experience financial constraints or liquidity issues that could have a significant negative effect on their creditworthiness. Severe financial issues encountered by our customers could limit our ability to collect amounts owed to us, or to enforce the performance of obligations owed to us under contractual arrangements.

In addition, many of our customers finance their activities through their cash flows from operations, the incurrence of short and long-term debt.

Declining economic conditions in Brazil, and resulting decreased cash flows, combined with a lack of debt or equity financing for our customers may affect us, since many of our customers are Brazilian and may have significantly reduced liquidity and limited ability to make payments or perform their obligations.

This could result in a decrease in our cash flow and may also reduce or curtail our customers’ future demand for our products and services, which may have an adverse effect on our results and financial condition.

Compliance, Legal and Regulatory Risks

Failures to prevent, detect in a timely manner, or correct behaviors inconsistent with our ethical principles and rules of conduct may have a material adverse effect on our results and financial condition.

In the past, some of our senior managers, directors and contractors have engaged in fraudulent activities incompatible with our ethics and compliance standards. We are subject to the risk that our management, employees, contractors or any person doing business with us may engage in fraudulent activity, corruption or bribery, circumvent or override our internal controls and procedures or misappropriate or manipulate our assets for their personal benefit or of third parties, against our interest.

This risk is heightened by the fact that we have a large



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number of complex, valuable contracts with local and foreign suppliers, as well as the geographic distribution of our operations and the wide variety of counterparties involved in our business.

We cannot guarantee that all of our employees and contractors will comply with our principles and rules of ethical behavior and professional conduct aimed at guiding our management, employees and service providers. Any failure, whether actual or perceived, to abide by our ethical principles or to comply with applicable governance or regulatory obligations could harm our reputation, limit our ability to obtain financing and have a material adverse effect on our results and financial condition.

We are subject to the risk that our internal controls may become inadequate in the future because of changes in conditions, or that our degree of compliance with our policies and procedures may deteriorate.

Because of its inherent limitations, our internal control over financial reporting may not prevent or detect misstatements. It is also difficult to project the effectiveness of internal control over financial reporting for future periods, as our controls may become inadequate because of changes in conditions, or because our degree of compliance with our policies or procedures may deteriorate and we cannot be certain that in the future additional material weaknesses will not occur or otherwise be identified in a timely manner.

Any failure to maintain our internal control over financial reporting could adversely impact our ability to report our financial results in future periods accurately and in a timely manner, and to file required forms and documents with government authorities, including the SEC. We may also be unable to detect accounting errors in our financial reports or may even have to restate our financial results. Any of these occurrences may adversely affect our business and operation, and may generate negative market reactions, potentially affecting our financial conditions leading to a decline of our shareholder value.

Any violation of the agreements that solved the investigations conducted by the SEC and the DoJ and potential future investigations regarding the possibility of noncompliance with the U.S. Foreign Corrupt Practices

Act could adversely affect us. Violations of this or other laws may require us to pay fines and expose us and our employees to criminal sanctions and civil suits.

In 2018, in light of facts uncovered in connection with the Lava Jato investigation, we entered into a nonprosecution agreement (“NPA”) with the DoJ, pursuant to which we admitted that certain of our former executives and officers had engaged in conduct during the period from 2004 to 2012 that gave rise to violations of books and records and internal controls provisions under U.S. law. As part of the SEC resolution, we settled charges of violation of the United States Securities Act of 1933 and the books and records and internal control provisions of the Securities Exchange Act of 1934, without admitting the SEC allegations.

The agreements, subject to the terms thereof, fully resolve the investigations carried out by the DoJ and the SEC. Under the terms of the agreements, we paid US\$85.3 million to the DoJ and US\$85.3 million to the SEC. In addition, the agreements credited our remittance of US\$682.6 million to the Brazilian authorities, which we deposited on January 30, 2019. The SEC also credited the payments we already made under our previously announced settlement of a securities class action lawsuit in the United States. The amount of US\$853.2 million was recorded in other operating expenses in the third quarter of 2018.

If, during the term of the NPA (three years, unless extended), the DoJ determines that we have committed a felony under U.S. federal law, provided deliberately false or misleading information, or otherwise breached the NPA, we could be subject to prosecution and additional fines or penalties, including charges under the U.S. Foreign Corrupt Practices Act (“FCPA”).

The Lava Jato investigation is still in progress by Brazilian authorities and additional relevant information affecting our interests may come to light. Adverse developments in relation to any of the above matters could negatively impact us and could divert the efforts and attention of our management team from our ordinary business operations. In connection with any further investigations or proceedings carried out by any authorities in Brazil or in any other jurisdiction, or any violation of the NPA, we may be required



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to pay fines or other financial relief, or consent to injunctions or orders on future conduct or suffer other penalties, any of which could have a material adverse effect on us.

We may face additional proceedings related to the Lava Jato investigation.

We were subject to a number of U.S. civil proceedings relating to the Lava Jato investigation, including the consolidated securities class action before the United States District Court for the Southern District of New York (“SDNY”), 33 lawsuits filed by individual investors before the same judge in the SDNY and one lawsuit filed in the United States District Court for the Eastern District of Pennsylvania (collectively, the “Individual Actions.”)

We entered into an agreement to settle the consolidated securities class action, which was approved by the SDNY, as well as agreements to settle the Individual Actions. In connection with the settlement of the consolidated securities class action, we paid US\$2,950 million in three different installments in 2018 and 2019, into an escrow account designated by the lead plaintiff. After resolving certain objections and appeals of the settlement, it is now final and no longer subject to appeal.

We are also currently party to a collective action commenced in the Netherlands, an arbitration proceeding in Argentina, and arbitration and judicial proceedings commenced in Brazil, all of which are currently in their initial stages. In each case, the proceedings were brought by investors (or entities that allegedly represent investors’ interests) who purchased our shares traded on the B3 Stock Exchange or other securities issued by us outside of the United States, alleging damages caused by facts uncovered in the Lava Jato investigations.

In Argentina, we are the defendant in two criminal lawsuits related to an alleged fraudulent offer of securities. The first lawsuit alleges non-compliance by us with the obligation to disclose to the Argentinian market a pending class action filed by *Consumidores Financieros Asociación Civil para su Defensa* before the Judicial Commercial Courts, pursuant to provisions of Argentine capital markets law. The second criminal action alleges a fraudulent offer of securities aggravated by allegedly false information included in our financial statements issued prior to 2015.

In addition, EIG Management Company, LLC (“EIG

Management”) and eight of EIG Management’s managed funds (“EIG Funds”) (together with EIG Management, “EIG”) filed a complaint against us on February 23, 2016 before the United States District Court for the District of Columbia. The dispute arises out of the EIG Funds’ indirect purchase of equity interests in Sete Brasil Participações S. A., and EIG currently has claims against us for fraud and aiding and abetting fraud related to the Lava Jato investigation. EIG seeks damages of at least US\$221 million.

It is possible that additional complaints or claims might be filed in the United States, Brazil, or elsewhere against us relating to the Lava Jato investigation in the future. It is also possible that further information damaging to us and our interests will come to light in the course of the ongoing investigations of corruption by Brazilian authorities. Our management may be required to direct its time and attention to defending these claims, which could prevent them from focusing on our core business.

In addition, as a result of the continuing Lava Jato investigation, substantive additional information may come to light in the future that would make the estimate that we made in 2014 for overpayments incorrectly capitalized appear, retrospectively, to have been materially low or high. In prior years, we were required to write off capitalized costs representing amounts that we overpaid for the acquisition of property, plant and equipment. We may be required to restate our financial statements to further adjust the write offs representing the overstatement of our assets recognized in our audited consolidated financial statements for prior years.

Differing interpretations of tax regulations or changes in tax policies could have an adverse effect on our financial condition and results.

We are subject to tax rules and regulation that may be interpreted differently over time, or that may be interpreted differently by us and Brazilian tax authorities (including the federal, state and municipal authorities), both of which could have a financial impact on our business. In some cases, when we have exhausted all administrative appeals relating to a tax contingency, further appeals must be made in the judicial courts, which may require that, in order to appeal, we provide collateral to judicial courts, such as the deposit of amounts



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equal to the potential tax liability in addition to accrued interest and penalties. In certain of these cases, settlement of the matter may be a more favorable option for us.

In the future, we may face similar situations in which our interpretation of a tax regulation may differ from that of tax authorities, or tax authorities may dispute our interpretation and we may eventually take unanticipated provisions and charges. In addition, the eventual settlement of one tax dispute may have a broader impact on other tax disputes. Any of these occurrences could have a material adverse effect on our financial condition and results.

Differences in interpretations and new regulatory requirements by the agencies in our industry may result in our need for increased investments, expenses and operating costs, or may cause delays in production.

Our activities are subject to regulation and supervision by regulatory agencies, such as the ANP. Issues such as local content requirements, procedures for the unitization of areas, definition of reference prices for the calculation of royalties and governmental participation, among others, are subject to a regulatory regime overseen by the ANP.

Changes in the regulations applicable to us, as well as differences of interpretation between us and the agencies that regulate our industry, may have a material adverse effect on our financial condition and results. Any future differences in interpretation between us and these regulatory agencies may materially impact our results, since such interpretations directly affect the economic and technical assumptions that guide our investment decisions.

Differing interpretations and numerous environmental, health and safety regulations and industry standards that are becoming more stringent may result in increased capital and operating expenditures and decreased production.

Our activities are subject to evolving industry standards and best practices, and a wide variety of federal, state and local laws, regulations and permit requirements relating to the protection of human health, safety and the environment, both in Brazil and in other jurisdictions where we operate. These laws, regulations and requirements may result in significant costs, which may have a negative impact on the profitability of the projects we intend to implement or may make such projects economically unfeasible.

Any substantial increase in expenditures for compliance with environmental, health or safety regulations may have a material adverse effect on our results and financial condition. These increasingly stringent laws, regulations and requirements may result in significant decreases in our production, including unplanned shutdowns, which may also have a material adverse effect on our results and financial condition.

We are subject to the granting of environmental licenses and permits that may result in delays to deliver some of our projects and difficulties to reach our crude oil and natural gas production objectives.

Our activities are subject to and depend on the granting of environmental licenses and permits by a wide variety of federal, state and local laws, relating to the protection of human health, safety and the environment, both in Brazil and in other jurisdictions in which we operate. As environmental, health and safety regulations become increasingly complex, it is possible that our efforts to comply with such laws and regulations will increase substantially in the future.

We cannot ensure that the planned schedules and budgets of our projects, including the decommissioning of mature fields, will not be affected by demands of new regulatory bodies or that the relevant licenses and permits will be issued in a timely manner. Potential delays in obtaining licenses may impact our crude oil and natural gas production objectives, negatively influencing our results and financial condition.

Operations with related parties may not be properly identified and handled.

Generally, transactions with related parties are part of the business of large companies. Such transactions must follow market standards and generate mutual benefit. Decision processes surrounding such transactions must be objective and documented. Further, we must comply with the rules of competition and adequate disclosure of information, in accordance with the applicable legislation and as determined by the CVM and the SEC. The possible failure of our process to identify and deal with these situations may adversely affect our economic and financial condition, as well as lead to regulatory assessments by agencies.



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We may be required by courts to guarantee the supply of products or services to defaulted counterparties.

As a company controlled by the federal government and operating throughout Brazil, we may be required by the Brazilian courts to provide products and services to clients, whether public or private institutions, with the purpose of guaranteeing supplies to the domestic oil market, even in situations where these clients and institutions are in default with contractual or legal obligations. Such supply in exceptional situations may adversely affect our financial position.

Business Risks

Our cash flow and profitability are exposed to the volatility of prices of oil, gas and oil products.

Most of our revenue derives primarily from sales of crude oil, oil products and, to a lesser extent, natural gas. International prices for oil and oil products are volatile and strongly influenced by conditions and expectations of world supply and demand. In addition, public health epidemics (such as the COVID-19 epidemic in early 2020), which is likely to decelerate the expected growth of worldwide oil demand in 2020, has already significantly affected oil prices and, consequently, could affect our financial results. Volatility and uncertainty in international oil prices are structural and likely to continue. Changes in oil prices usually result in changes in the prices of oil products and natural gas.

Currently, diesel and gasoline prices are defined taking into account the international import parity price, margins to remunerate the risks inherent in our operations and the level of market share. Price adjustments can be made at any time. Since one of our pricing objectives is to maintain fuel prices in parity with global market trends, substantial or extended declines in international crude oil prices may have a material adverse effect on our business, results and financial condition, and may also affect the value of our proved reserves.

In the past, our management has adjusted our pricing from time to time. We cannot guarantee that our way of setting prices will not change in the future. In previous years, we have not always adjusted our prices to reflect parity with

the global market trends or reflect exchange rate volatility. In the event that our way of setting prices changes based on the decisions of the Brazilian federal government, as our controlling shareholder, we may have periods in the future during which our prices for diesel and gasoline will not be at parity with international prices. Any such changes in our pricing may have a material adverse effect on our businesses, results and financial condition.

Developments in the economic environment and in the oil and gas industry and other factors have resulted, and may result, in substantial write-downs of the carrying amount of certain of our assets, which could adversely affect our results and financial condition.

We evaluate on an annual basis, or more frequently when the circumstances require, the carrying amount of our assets for possible impairment. Our impairment tests are performed by a comparison of the carrying amount of an individual asset or a cash generating unit with its recoverable amount. Whenever the recoverable amount of an individual asset or cash generating unit is less than its carrying amount, an impairment loss is recognized to reduce the carrying amount to the recoverable amount.

Changes in the economic, regulatory, business or political environment in Brazil or other markets where we operate, such as the recent significant decline in international crude oil and gas prices, the devaluation of the real, as well as changes in financing conditions, such as deterioration of risk perception and interest rates, for such projects, among other factors, may affect the original profitability estimates of our projects, which could adversely affect our results.

Climate change could impact our results and strategy.

Climate change poses new challenges and opportunities for our business. More stringent environmental regulations can result in the imposition of costs associated with greenhouse gas emissions, either through environmental agency requirements relating to mitigation initiatives or through other regulatory measures such as greenhouse gas emissions taxation and market creation of limitations on greenhouse gas emissions that have the potential to increase our operating costs.

The risks associated with climate change could also make it difficult for us to access capital due to public image



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issues with investors; changes in the consumer profile, with reduced consumption of fossil fuels; and energy transitions in the world economy, towards a lower carbon matrix, with the insertion of substitute products for fossil fuels and the increasing use of electricity for urban mobility. These factors may have a negative impact on the demand for our products and services and may jeopardize or even impair the implementation and operation of our businesses, adversely impacting our results and financial condition and limiting some of our growth opportunities.

The ability to develop, adapt, access new technologies and take advantage of opportunities related to innovations in digital technology is fundamental to our competitiveness.

The availability of technologies that ensure the maintenance of our reserve rates and the viability of production in an efficient manner, as well as the development of new products and processes that respond to environmental regulations and new market trends, play a key role in increasing our long-term competitiveness. In the event some disruptive technology is introduced into the oil industry, changing performance standards, it would be important for us to have access to this technology, which may impact our competitiveness in relation to other companies.

Recent advances in data acquisition and analysis, connectivity, artificial intelligence, robotics and other technologies are changing the sources that create competitive advantage. Eventual failure to capture these opportunities may have an impact on our competitiveness in the oil and gas market and our long-term objectives.

Maintaining our long-term objectives for oil production depends on our ability to successfully obtain and develop oil reserves.

Our ability to maintain our long-term objectives for oil production is highly dependent upon our ability to obtain additional reserves and to successfully develop our existing reserves.

Our ability to obtain additional reserves depends upon exploration activities, which demands significant capital investments, exposes us to the inherent risks of drilling, and may not lead to the discovery of commercially productive crude oil or natural gas reserves. We may also obtain additional reserves by proposing and implementing new

development projects. Deepwater reservoirs exploitation demands significant resources to be successful and involves numerous factors beyond our control, such as delays in availability of offshore equipment, shortages in access to critical resources, and unexpected operational conditions, including equipment failures or incidents, that may cause operations to be curtailed, delayed or cancelled.

In addition, increased competition in the oil and gas sector in Brazil and our own capital constraints may make it more difficult or costly to obtain additional acreage in bidding rounds for new contracts and to explore existing contracted areas.

Our crude oil and natural gas reserve estimates involve some degree of uncertainty, which could adversely affect our ability to generate income.

Our proved crude oil and natural gas reserves set forth in this annual report are the estimated quantities of crude oil and natural gas that geological and engineering data demonstrate with reasonable certainty to be economically recoverable from a given date forward from known reservoirs under existing economic and operating conditions (i.e. using prices and costs as of the date the estimate is made) according to applicable regulations. Reserve estimates presented are based on assumptions and interpretations, which are subject to risks and uncertainties. If the geological and engineering data that we use to estimate our reserves are not accurate, our reserves may be significantly lower than the ones currently indicated in the volume estimates of our portfolio and reported by companies that conduct an evaluation on our reserves estimates. Downward revisions in our reserve estimates could lead to lower future production, which could have an adverse effect on our results and financial condition.

We do not own any of the subsoil accumulations of crude oil and natural gas in Brazil.

Under Brazilian law, the Brazilian federal government owns all subsoil accumulations of crude oil and natural gas in Brazil and, according to the Brazilian concession regime, the concessionaire owns the oil and gas it produces from those subsoil accumulations pursuant to applicable agreements executed with the Brazilian federal government. We possess, as a concessionaire of certain oil and natural gas fields in



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Brazil, the exclusive right to develop the volumes of crude oil and natural gas included in our reserves pursuant to concession and other agreements. Access to crude oil and natural gas reserves is essential to an oil and gas company's sustained production and generation of income, and our ability to generate income would be adversely affected if the Brazilian federal government were to restrict or prevent us from exploiting these crude oil and natural gas reserves.

As a result of divestments and partnerships, we are exposed to risks that could lead to unforeseen financial losses.

Upon completion of each divestment or partnership, we must perform integrated management and monitoring of the actions required and provided for in the contracts related to such project, paying attention to the fulfillment of the obligations established for the buyer and the seller. In the event of non-compliance with these obligations, the financial adjustments between the parties may be different from the base scenario adopted at the time of divestment or partnership. In addition, as determined by the ANP, even in the event of total or partial disposal of our participation in E&P contracts, we remain jointly and severally liable for abandonment costs after the new concessionaire's production closes, should it default on this task. Such joint and several liability covers obligations arising on a date prior to the transfer, regardless of when such obligations arise. The same is true for any environmental liabilities.

Additionally, our sale of assets may negatively impact existing synergies or logistical issues within our company, which may adversely affect our long-term operating growth prospects and, as a result, our medium and long-term results.

In addition, our partners may not be able to meet their obligations, including financial obligations, which may jeopardize the viability of some projects in which we participate. When we act as operators, our partners may have the right to veto certain decisions, which may also affect the viability of some projects. Regardless of the partner responsible for the operations of each project, we may be exposed to the risks associated with those operations, including litigation (where joint liability could apply, in relation to the ANP, in the case of concession agreements, and in

relation to the ANP and production sharing regime) and the risk of government sanctions arising from such partnerships, which could have a material adverse effect on their operations, reputation, cash flow and financial condition.

We have assets and investments in other countries, where the political, economic and social situation may negatively impact our business.

We operate and have businesses in several countries, particularly in the Gulf of Mexico, in the U.S., in South America, in Europe, in Asia and in Africa, in areas where there may be political, economic and social instabilities. In such regions, external factors may adversely affect the results and the financial condition of our subsidiaries in these countries, including: (i) the imposition of price controls; (ii) the imposition of restrictions on hydrocarbon exports; (iii) the fluctuation of local currencies against the real; (iv) nationalization of our oil and gas reserves and our assets; (v) increases in export tax and income tax rates for oil and oil products; and (vi) unilateral (governmental) and contractual institutional changes, including controls on investments and limitations on new projects.

If one or more of the risks described above occurs, we may lose part or all of our reserves in the affected country and may also fail to achieve our strategic objectives in these countries, or in our international operations as a whole, which may negatively impact our results and financial resources.

The performance of companies licensed to use our brands may impact our image and reputation.

Our divestments and partnerships plan includes the sale of some of our companies in the fuel distribution segment. Some of these transactions include licensing our brands to future buyers and partners. Once a licensee holds the right to display our brands in products, services and communications, it can be perceived by stakeholders as our legitimate representative or spokesperson. Licensees' actions or events related to their business, such as, failures, accidents, errors in business performance, environmental crises, corruption scandals and improper use of our brand, among other factors, may negatively impact our image and reputation.



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Government Ownership and Country Risks

The Brazilian federal government, as our controlling shareholder, may pursue certain macroeconomic and social objectives through us that may have a material adverse effect on us.

Our Board of Directors consists of a minimum of seven and a maximum of eleven members, who are elected at our shareholders' meeting for a term of up to two years, with a maximum of three consecutive reelections allowed. Brazilian law requires that the Brazilian federal government owns a majority of our voting stock, and so long as it does, the Brazilian federal government will have the power to elect a majority of the members of our Board of Directors and, through them, the executive officers who are responsible for our day-to-day management. As a result, we may engage in activities that give preference to the objectives of the Brazilian federal government rather than to our own economic and business objectives, which may have an adverse effect on our results and financial condition.

Elections in Brazil occur every four years, and changes in elected representatives may lead to a change of the members of our Board of Directors appointed by the controlling shareholder, which may further impact the management of our business strategy and guidelines, as mentioned above.

As our controlling shareholder, the Brazilian federal government has guided and may continue to guide certain macroeconomic and social policies through us, pursuant to Brazilian law. Accordingly, we may make investments, incur costs and engage in transactions with parties or on terms that may have an adverse effect on our results and financial condition.

Fragility in the performance of the Brazilian economy, instability in the political environment, regulatory changes and investor perception of these conditions may adversely affect the results of our operations and our financial performance and may have a material adverse effect on us.

Our activities are strongly concentrated in Brazil. Economic policies adopted by the Brazilian federal government may

have important effects on Brazilian companies, including us, and on market conditions and prices of Brazilian securities. Our financial condition and results may be adversely affected by the following factors and the response of the Brazilian federal government to these factors:

- exchange rate movements and volatility;
- inflation;
- financing of government fiscal deficits;
- price instability;
- interest rates;
- liquidity of domestic capital and lending markets;
- tax policy;
- regulatory policy for the oil and gas industry, including pricing policy and local content requirements;
- allegations of corruption against political parties, elected officials or other public officials, including allegations made in relation to the Lava Jato investigation; and
- other political, diplomatic, social and economic developments in or affecting Brazil.

Uncertainty over whether the Brazilian federal government will implement changes in policy or regulations that may affect any of the factors mentioned above or other factors in the future may lead to economic uncertainty in Brazil and increase the volatility of the Brazilian securities market and securities issued abroad by Brazilian companies, which may have a material adverse effect on our results and financial condition.

Allegations of political corruption against members of the Brazilian government could create economic and political instability.

In the past, members of the Brazilian federal government and the Brazilian legislative branch have faced allegations of political corruption. As a result, a number of politicians, including senior federal officials and congressmen, resigned or have been arrested.

Currently, elected officials and other public officials in Brazil are being investigated for allegations of unethical and illegal conduct identified during the Lava Jato investigation being conducted by the Office of the Brazilian Federal Prosecutor. The potential outcome of these investigations is unknown,



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but they have already had an adverse impact on the image and reputation of the implicated companies (including us), in addition to the adverse impact on general market perception of the Brazilian economy. These proceedings, their conclusions or further allegations of illicit conduct could have additional adverse effects on the Brazilian economy. Such allegations may lead to further instability, or new allegations against Brazilian government officials and others may arise in the future, which could have a material adverse effect on us. We cannot predict the outcome of any such allegations nor their effect on the Brazilian economy.

Equity and Debt Securities Risks

The size, volatility, liquidity or regulation of the Brazilian securities markets may curb the ability of holders of ADSs to sell the common or preferred shares underlying our ADSs.

Our shares are among the most liquid traded on the B3, but overall, the Brazilian securities markets are smaller, more volatile and less liquid than the major securities markets in the United States and other jurisdictions, and may be regulated differently from the way in which U.S. investors are accustomed. Factors that may specifically affect the Brazilian equity markets may limit the ability of holders of ADSs to sell the common or preferred shares underlying our ADSs at the price and time they desire.

Holders of our ADSs may be unable to exercise preemptive rights with respect to the common or preferred shares underlying the ADSs.

Holders of ADSs who are residents of the United States may not be able to exercise the preemptive rights relating to the common or preferred shares underlying our ADSs unless a registration statement under the Securities Act is effective with respect to those rights or an exemption from the registration requirements of the Securities Act is available. We are not obligated to file a registration statement with respect to the common or preferred shares relating to these preemptive rights, and therefore we may not file any such registration statement. If a registration statement is not filed and an exemption from registration does not exist, JPMorgan, as depositary, will attempt to

sell the preemptive rights, and holders of ADSs will be entitled to receive the proceeds of the sale. However, the preemptive rights will expire if the depositary cannot sell them. For a more complete description of preemptive rights with respect to the common or preferred shares, see “Shareholder Information – Shares and Shareholders – Other Shareholders’ Rights” in this annual report.

If holders of our ADSs exchange their ADSs for common or preferred shares, they risk losing the ability to timely remit foreign currency abroad and other related advantages.

The Brazilian custodian for our common or preferred shares underlying our ADSs must obtain a certificate of registration from the Central Bank of Brazil to be entitled to remit U.S. dollars abroad for payments of dividends and other distributions relating to our preferred and common shares or upon the disposition of the common or preferred shares.

The conversion of ADSs directly into ownership of the underlying common or preferred shares is governed by CMN Resolution No. 4,373 and foreign investors who intend to do so are required to appoint a representative in Brazil for the purposes of CMN Resolution No. 4,373, who will be in charge for keeping and updating the investors’ certificates of registrations with the Central Bank of Brazil, which entitles registered foreign investors to buy and sell directly on the B3. Such arrangements may require additional expenses from the foreign investor. Moreover, if such representatives fail to obtain or update the relevant certificates of registration, investors may incur in additional expenses or be subject to operational delays which could affect their ability to receive dividends or distributions relating to the common or preferred shares or the return of their capital in a timely manner.

The custodian’s certificate of registration or any foreign capital registration directly obtained by such holders may be affected by future legislative or regulatory changes, and we cannot assure such holders that additional restrictions applicable to them, the disposition of the underlying common or preferred shares, or the repatriation of the proceeds from the process will not be imposed in the future.



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Holders of our ADSs may face difficulties in protecting their interests.

Our corporate affairs are governed by our Bylaws and Brazilian Corporate Law, which differ from the legal principles that would apply if we were incorporated in a jurisdiction in the United States or elsewhere outside Brazil. In addition, the rights of an ADS holder, which are derivative of the rights of holders of our common or preferred shares, as the case may be, to protect their interests are different under Brazilian Corporate Law than under the laws of other jurisdictions. Rules against insider trading and self-dealing and the preservation of shareholder interests may also be different in Brazil than in the United States. In addition, the structure of a class action in Brazil is different from that in the U.S. Under Brazilian law, shareholders in Brazilian companies do not have standing to bring a class action, and under our Bylaws must, generally with respect to disputes concerning rules regarding the operation of the capital markets, arbitrate any such disputes. See “Shareholder Information – Shares and Shareholders – Dispute Resolution” in this annual report.

We are a state-controlled company organized under the laws of Brazil, and all of our directors and officers reside in Brazil. Substantially all of our assets and those of our directors and officers are located in Brazil. As a result, it may not be possible for holders of ADSs to effect service of process upon us or our directors and officers within the United States or other jurisdictions outside Brazil or to enforce against us or our directors and officers judgments obtained in the United States or other jurisdictions outside Brazil. Because judgments of U.S. courts for civil liabilities based upon the U.S. federal securities laws may only be enforced in Brazil if certain requirements are met, holders of ADSs may face greater difficulties in protecting their interest in actions against us or our directors and officers than would shareholders of a corporation incorporated in a state or other jurisdiction of the United States.

Holders of our ADSs do not have the same voting rights as our shareholders. In addition, holders of ADSs representing preferred shares do not have voting rights.

Holders of our ADSs do not have the same voting rights as holders of our shares. Holders of our ADSs are entitled to the contractual rights set forth for their benefit under the

deposit agreements. ADS holders exercise voting rights by providing instructions to the depository, as opposed to attending shareholders meetings or voting by other means available to shareholders. In practice, the ability of a holder of ADSs to instruct the depository as to voting will depend on the timing and procedures for providing instructions to the depository, either directly or through the holder’s custodian and clearing system.

In addition, a portion of our ADSs represents our preferred shares. Under Brazilian Corporate Law and our Bylaws, except for specific situations, holders of preferred shares do not have the right to vote in shareholders’ meetings. Holders of ADSs representing preferred shares are not entitled to vote most of decisions as well. See “Shareholders – Shares and Shareholders – Shareholders Rights – Shareholders’ Meetings and Voting Rights” in this annual report.

The market for PGF’s debt securities may not be liquid.

Some of PGF’s notes are not listed on any securities exchange and are not quoted through an automated quotation system. Most of PGF’s notes are currently listed both on the NYSE and the Luxembourg Stock Exchange and trade on the NYSE Euronext and Euro Multilateral Trading Facility (“MTF”) market, respectively, although most trading in PGF’s notes occurs over-the-counter. PGF can issue new notes that can be listed in markets other than the NYSE and the Luxembourg Stock Exchange and traded in markets other than the NYSE Euronext and the Euro MTF market. We can make no assurance as to the liquidity of or trading markets for PGF’s notes. We cannot guarantee that the holders of PGF’s notes will be able to sell their notes in the future. If a market for PGF’s notes does not develop, holders of PGF’s notes may not be able to resell the notes for an extended period of time, if at all.

We would be required to pay judgments of Brazilian courts enforcing our obligations under the guaranty relating to PGF’s notes only in reais.

If proceedings were brought in Brazil seeking to enforce our obligations in respect of the guaranty relating to PGF’s notes, we would be required to discharge our obligations only in *reais*. Under Brazilian exchange controls, an obligation to pay amounts denominated in a currency other than *reais*, which is payable in Brazil pursuant to a decision of a



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Brazilian court, will be satisfied in *reais* at the rate of exchange in effect on the date of payment, as determined by the Central Bank of Brazil.

A finding that we are subject to U.S. bankruptcy laws and that the guaranty executed by us was a fraudulent conveyance could result in PGF noteholders losing their legal claim against us.

PGF's obligation to make payments on the PGF notes is supported by our obligation under the corresponding guaranty. We have been advised by our external U.S. counsel that the guaranty is valid and enforceable in accordance with the laws of the State of New York and the United States. In addition, we have been advised by our general counsel that the laws of Brazil do not prevent the guaranty from being valid, binding and enforceable against us in accordance with its terms. In the event that U.S. federal fraudulent conveyance or similar laws are applied to the guaranty, and we, at the time we entered into the relevant guaranty:

- were or are insolvent or rendered insolvent by reason of our entry into such guaranty;
- were or are engaged in business or transactions for which the assets remaining with us constituted unreasonably small capital; or

- intended to incur or incurred, or believed or believe that we would incur, debts beyond our ability to pay such debts as they mature; and
- in each case, intended to receive or received less than reasonably equivalent value or fair consideration therefor, then our obligations under the guaranty could be avoided, or claims with respect to that agreement could be subordinated to the claims of other creditors. Among other things, a legal challenge to the guaranty on fraudulent conveyance grounds may focus on the benefits, if any, realized by us as a result of the issuance of the PGF notes. To the extent that the guaranty is held to be a fraudulent conveyance or unenforceable for any other reason, the holders of the PGF notes would not have a claim against us under the relevant guaranty and would solely have a claim against PGF. We cannot ensure that, after providing for all prior claims, there will be sufficient assets to satisfy the claims of the PGF noteholders relating to any avoided portion of the guaranty.



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Corporate Risk Management

We believe that integrated and proactive risk management is essential for the delivery of results in a safe and sustainable way. Our risk-management process is centralized, allowing the standardization and uniformity of risk analysis and the management of risk responsibilities. We have an executive risk committee to advise our Board of Executive Officers in the analysis of matters relating to risk management. Each of our organizational units must identify, prioritize, monitor and, together with our business risks teams, periodically communicate to the executive risk committee the main risks involved in the activities performed by such unit, as well as planned mitigating actions.

In order to assist in this process, our corporate risk management policy establishes guidelines and responsibilities and is based on the following fundamental principles:

- respect for life and life diversity;
- full alignment and consistency with our Strategic Plan;
- ethical behavior and compliance with legal and regulatory requirements;
- integrated risk management; and
- orientation of risk response actions aimed at aggregating or preserving shareholder value and business continuity.

The risks we categorize as “strategic risks” are monitored through specific actions, which are key for the implementation of our Strategic Plan. The scope and probability of these risks, as well as the resources required to address these risks, are particularly important to assess for our business.

The risk management organizational structure, that is under the supervision of our CFO, is responsible for:

- identifying, monitoring and reporting periodically to our Board of Executive Officers and Board of Directors on the effects of major risks on our integrated results;

- promoting integration and synergy of risk management actions taken in the organizational units, as well as in other business processes, support and management;
- establishing a corporate methodology for risk management guided by an integrated and systemic view, which allows for an environment of continuous monitoring of risks in several hierarchical levels;
- disseminating knowledge and the culture of risk management; and
- encouraging managers to develop and implement the necessary measures to align our exposure to acceptable risk levels.

In order to support the risk management process, our corporate risk management policy specifies authorities to be consulted, responsibilities to be undertaken, and five principles and ten guidelines that guide our risk management initiatives.

This policy has a comprehensive approach to corporate risk management, which combines the traditional economic and financial risk management approach with other relevant areas of interest, such as protection of life, health and environment, assets and business information protection (property and security) and combating fraud and corruption (legal and compliance), among other corporate risks. With a focus on integrating risk management actions, our policy allows any employee to have access to the terms and concepts related to risk management, as well as to the measures taken and parties responsible for the management of each of the risks we are exposed to.

For further information regarding our revised business risk management policy, please visit our website at <https://www.petrobras.com.br/ir>. The information on this website, which might be accessible through a hyperlink resulting from this URL, is not and shall not be deemed to be incorporated into this annual report.



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Disclosures about Market Risk

Commodity Price Risk

We operate in an integrated manner throughout the various stages of the oil industry. A great part of our results relate directly to oil exploration and production, refining and the sale of natural gas, biofuels and electricity in Brazil. As our purchases and sales of crude oil and oil products are linked to international commodity prices, we are exposed to their price fluctuations, which may influence our profitability, our cash flow from operations and our financial situation.

We prefer to maintain exposure to the price cycle than use financial derivatives to systematically protect purchases and sale transactions that focus on fulfilling our operation needs. However, based on crude oil market conditions and prospects of realization of our Strategic Plan, we may decide to implement protection strategies using financial instruments to manage our cash flow expenses.

In March 2019, we deployed a hedging strategy for part of our expected oil production in 2019, in a volume equivalent to 186 million barrels. Put options were purchased with exercise price referenced to the average price of Brent oil from April through the end of 2019, with an average exercise price of around US\$60 per barrel. The options matured at the end of 2019. However, throughout the third quarter of 2019,

due to the significant reduction in cash flow uncertainties for the 2019-2023 period, we sold our put options at an exercise price referenced to the average Brent oil prices from April to the end of 2019 at US\$60/barrel, with total premium received of US\$101 million.

In addition, transactions with derivatives were also implemented to protect our margins for short-term commercial transactions carried out abroad. Our derivatives contracts provide economic hedges for oil product purchases and sales in the global markets, generally expected to occur within a 30 to 360-day period.

For more information about our commodity derivatives transactions, including a sensitivity analysis demonstrating the net change in fair value of a 25% (or 50%) adverse change in the price of the underlying commodity for options and futures, see Note 36 to our audited consolidated financial statements.

Exposure to interest rate and exchange rate risk

For information about interest rate and exchange rate risk, see “Operating and Financial Review and Prospects” in this annual report.

Insurance

Regarding operational risks, our policy is to maintain insurance coverage when the obligation to maintain such coverage derives from a legal or contractual instrument or our Bylaws; or the event covered may cause significant damage to our financial results, and coverage is economically feasible.

We maintain several insurance policies, including policies against fire, operational risk, engineering risk, property damage coverage for onshore and offshore assets such as fixed platforms, floating production systems and offshore drilling units, hull insurance for tankers and auxiliary vessels, third party liability insurance and transportation insurance. The coverages of these policies are contracted according

to the objectives we define and the limitations imposed by the global insurance and reinsurance markets. Although some policies are issued in Brazil, most of our policies are reinsured abroad with reinsurers rated A- or higher by Standard & Poor’s, or B + or higher by A.M. Best.

Our policies are subject to deductibles, limits, exclusions and limitations, and there is no assurance that such coverage will adequately protect us against liability from all possible consequences and damages associated with our activities. Thus, it is not possible to assure that insurance coverage will exist for all damages resulting from possible incidents or accidents, which may negatively affect our results.



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Specifically, we do not maintain insurance coverage to safeguard our assets in case of war or sabotage. We also do not maintain coverage for business interruption, except for some specific assets in Brazil. Generally, we do not maintain coverage for our wells in operation in Brazil, except when required by a joint operating agreement. In addition, our third-party liability policies do not cover government fines or punitive damages.

Our national property damage policies have a maximum deductible of US\$180 million and their indemnity limits can reach US\$2.28 billion for refineries and US\$2.5 billion for platforms, depending on the replacement value of our assets. We self-insure less valuable assets, including but not limited to small auxiliary vessels, certain storage facilities and some administrative facilities.

Our general third party liability policy with respect to our onshore and offshore activities in Brazil, including losses due to sudden pollution, such as oil spills, has a maximum indemnity limit of US\$250 million with an associated deductible of US\$10 million. We also maintain marine insurance with additional protection and indemnity against third parties related to our domestic offshore operations with

an indemnity limit of US\$50 million up to US\$500 million, depending on the type of vessel. For activities in Brazil, in the event of an explosion or similar event on one of our non-fixed offshore platforms, these policies may provide third-party combined liability coverage of up to US\$750 million. In addition, although we do not insure most of our pipelines against property damage, we have insurance against damages or losses to third parties arising from specific incidents, such as unexpected infiltration and oil pollution.

Outside Brazil, we maintain different levels of third party liability insurance, as a result of a variety of factors, including country risk assessments, whether we have onshore and offshore operations, or legal requirements imposed by a particular country in which we operate. We maintain separate well-control insurance policies in our international operations to cover liabilities arising from the uncontrolled eruption of oil, gas, water or drilling fluid. In addition, such policies cover claims of environmental damage caused by wellbore explosion and similar events as well as related clean-up costs with coverage limits of up to US\$345 million depending on the country.



Emerging Risks

Emerging risks are the long-term strategic risks that we have identified as the most severe and could significantly impact the execution of our Strategic Plan. We detail below these risks already briefly described in “Risks – Risk Factors” in this annual report.

Technology systems, security (cybersecurity) systems, telecommunications systems and services.

Recently, concerns about information security failures have been growing in the world. These failures may have an external source, such as malware, hacking, cyber terrorism, among others. These failures can also have an internal origin, through intentional and fraudulent acts by employees and contractors with the purpose of obtaining personal advantages.

The perception of the severity of this risk by our management has increased significantly over time. Therefore such risk has been classified as a strategic risk in our Strategic Plan. In addition to cybersecurity issues, the concern and actions by our management aimed to improve protection and privacy of personal data held by us.

In Brazil, the LGPD will be completely effective as of August 2020. The LGPD has a series of sanctions, including fines, to be applied to organizations that do not comply with LGPD’s rules.



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We are using layers of protection over e-mails, analysis of vulnerabilities in networks and applications, audit trails in information systems, privileged access control, updating security packages, authentication of devices and users for access to the internet, corporate network, internet content filters, encryption and segregation of key functions.

Additionally, in order to guarantee our security in a world where data are considered valuable and strategic assets, in December 2019, we created an area dedicated to information security, linked to the Digital Transformation and Innovation Executive Officer, for purposes of centralizing management related to all security information disciplines.

The strategic initiative for digital transformation of our strategic plan aims to prepare for a competitive environment that is being increasingly influenced by digital technologies and a new way of working, based on collaboration. The possibilities for transforming operational and business models bring opportunities to increase the efficiency and safety of operations, reduce costs and bring more robustness and agility to decisions. Efforts go beyond the implementation of technological solutions, also seeking to implement a culture of innovation that promotes experimentation, multifunctional collaboration and information sharing.

For more details, see “Risks – Risk Factors – Strategic Risks” and “Strategic Plan – Digital Transformation” in this annual report.

Changes in the competitive environment.

In June 2019, we signed two commitment agreements with CADE, which consolidate the understanding between the parties on the execution of divestment of refining assets and the promotion of competition in the natural gas industry in Brazil, including the sale of our shareholding in companies operating in the natural gas sector and their related assets. These agreements suspend the administrative investigation started by CADE court to investigate alleged abuse of our dominant position in the refining segment and creates a favorable environment for new investors to enter the natural gas industry.

The implementation of these agreements, associated with possible upstream regulatory changes, could increase the level of competition in the sector.

We are focusing on assets in which we are the natural owner and we expect better prospective return on capital (deepwater and ultra-deepwater activities), constantly pursue a competitive and efficient cost and investment structure, using active portfolio management as a key driver to our partnerships and divestments.

In addition, we have improving our operating efficiencies, reducing significantly our financial debt and we approved a plan of resilience related to our projects and assets, for guarantee profitability even in low oil prices scenarios. Since 2015, we launched some voluntary dismissal programs (see “Management and Employees – Employees – Workforce” in this annual report) and we maintain the efforts to cut others costs, with a rationalization of our physical space as part of risk treatment and strategy.

For more information, see “Risks – Risk Factors – Strategic Risks”, “Strategic Plan – 2020-2024 Strategic Plan” and “Portfolio Management” in this annual report.



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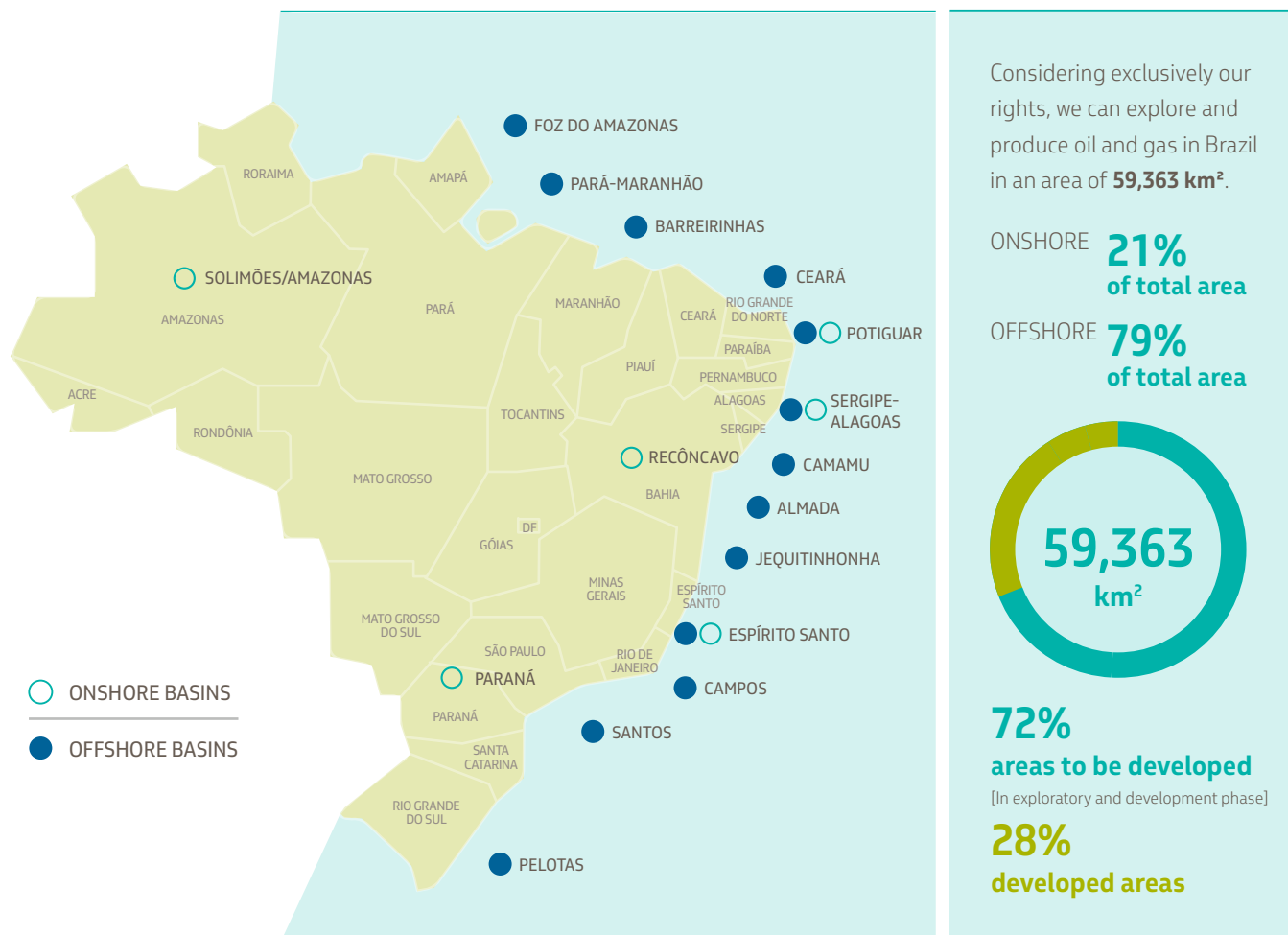
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Exploration and Production

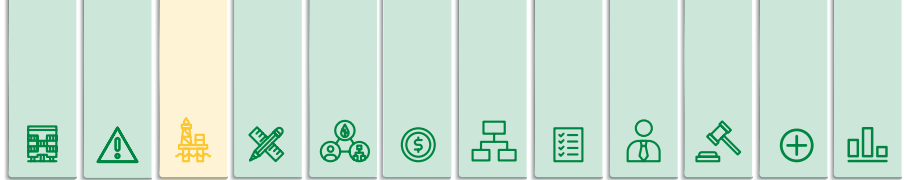
Overview

Our oil and natural gas exploration and production activities are the major components of our investment portfolio and include offshore and onshore exploration, appraisal, development, production and incorporation of oil and natural gas reserves, producing oil and natural gas in a safe and profitable way.

Our activities are focused on deepwater and ultra-deepwater oil reservoirs in Brazil, which accounted for 87% of our total production in 2019. We also have activities in mature fields in shallow waters and onshore, as well as outside Brazil as detailed below in this annual report. Brazilian exploration and production assets represent 92% of our worldwide blocks and fields, 98% of our global oil production and 99% of our oil and natural gas reserves.



We have 430 assets in exploration and production including 132 joint ventures with other oil and gas companies. From the 430 blocks and fields, 406 are under the concession regime, 14 are Production Sharing Agreements and 10 are regulated by Transfer of Rights Agreements.



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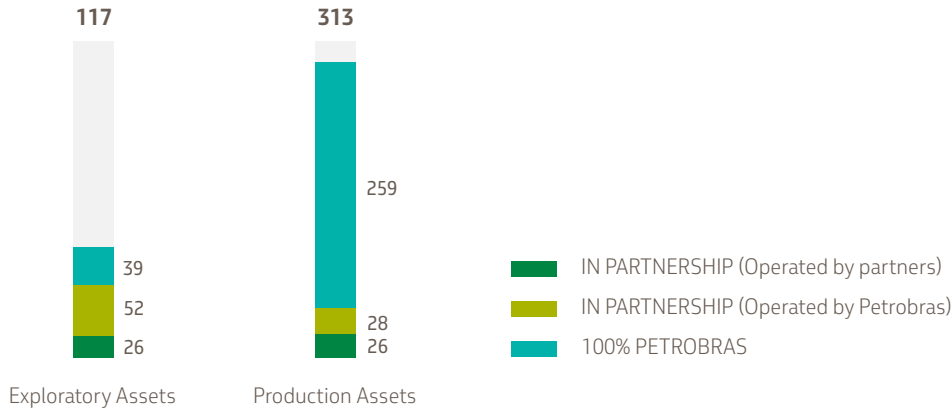
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Exploration and Production assets (Number of assets)



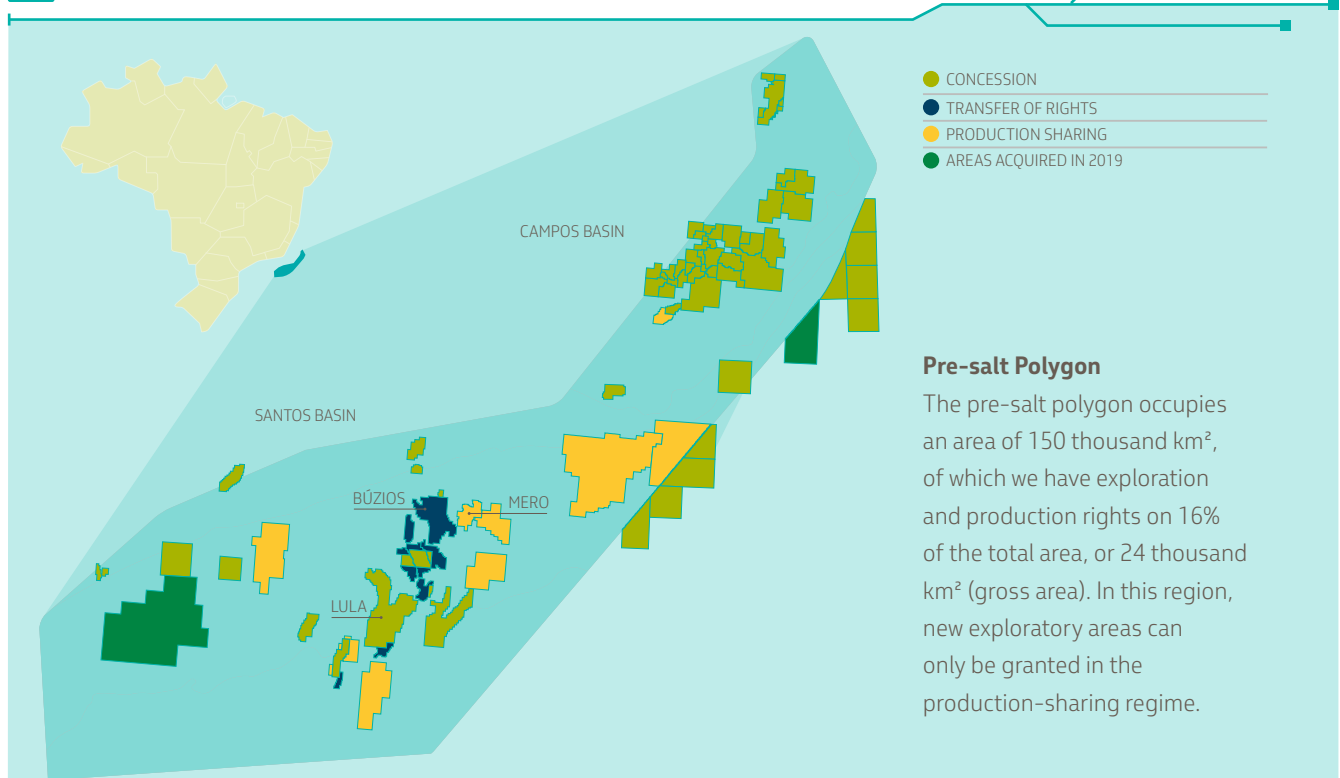
Like most major oil and gas companies, we operate in partnerships using E&P consortia in the exploration of blocks and the production of oil fields in Brazil, mainly in ultra-deepwaters.

We lead and operate E&P consortia that are responsible for some major projects under development, such as Mero (Petrobras 40%, Shell 20%, Total 20%, CNODC 10% and

CNOOC 10%), Berbigão, Sururu and Atapu (all with Petrobras 42.5%, Shell 25%, Total 22.5% and Petrogal 10%).

These E&P consortia also comprise some of the biggest production fields in Brazil, such as Lula (Petrobras 65%, Shell 25%, Petrogal 10%), Sapinhoá (Petrobras 45%, Shell 30%, Repsol Sinopec 25%), Roncador (Petrobras 75%, Equinor 25%) and Tartaruga Verde (Petrobras 50%, Petronas 50%).

We also operate these fields which are under the concession regime in the Pre-salt Polygon area.



Pre-salt Polygon

The pre-salt polygon occupies an area of 150 thousand km², of which we have exploration and production rights on 16% of the total area, or 24 thousand km² (gross area). In this region, new exploratory areas can only be granted in the production-sharing regime.



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CAMPOS BASIN

100 thousand km²
 1971

43
 Jubarte, Roncador, Marlim, Marlim Sul and Marlim Leste

OIL PRODUCTION IN 2019:
899 mbb/d

Pre-salt: 188 mbb/d
Post-salt: 711 mbb/d

The Campos Basin is one of Brazil's main and most prolific oil and gas offshore basins. Its first oil production occurred in the 70's and although in decline, we have been able to mitigate the natural decline in mature fields of Campos Basin by drilling in-fill wells and installing new production systems.

Most of our production in the Campos Basin is from post-salt reservoirs. Pre-salt reservoirs in the Campos Basin, however, are a growing source of production. We first began pre-salt oil production in 2008 in the Jubarte field.

SANTOS BASIN

350 thousand km²
 1970

21
 Lula, Búzios, Sapinhoá and Mero

OIL PRODUCTION IN 2019:
1,121 mbb/d

Pre-salt: 1,088 mbb/d
Post-salt: 33 mbb/d

We believe the Santos Basin is one of the most promising offshore exploration sites in the world, containing the southern and most prolific part of the pre-salt province. Our pre-salt activities in the Santos Basin began with the acquisition of blocks in 2000.

We currently have 17 pre-salt production units in the Santos Basin. With these units, we have been increasing the pre-salt oil production in the Santos Basin since its first oil production, in 2009.

TOTAL AREA START OF EXPLORATION ACTIVITIES OPERATED PLATFORMS IN PRODUCTION (2019) MAIN FIELDS

Other Basins

We produce oil and gas and hold exploration acreage in 17 other basins in Brazil. The most significant potential for exploratory success within our other basins are the Equatorial Margin and East Margin.

International

Outside Brazil, we have activities in South America, North America and West Africa. We have focused on opportunities to leverage the deepwater expertise we have developed in Brazil. However, since 2012 we have been substantially reducing our international activities through the sale of assets in accordance with our portfolio management.

South America

We conduct exploration and production activities in Argentina, Bolivia and Colombia.

In **Argentina**, through our subsidiary Petrobras Operaciones S.A., we have a 33.6% working interest in the Rio Neuquén production asset. Our unconventional gas and condensate production is concentrated in the Neuquén Basin. In 2019, our production of oil and gas in Argentina, including NGL, was 7.7 mboed.

In **Bolivia**, our gas and condensate production comes, among others, mostly from the San Alberto and San Antonio fields with 35% working interest on each of those service



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operation contracts, which are operated mainly to supply gas to Brazil and Bolivia. In 2019, our production of oil and gas in Bolivia, including NGL, was 27.5 mboed. The return of those contracts is a proportion of the production.

In **Colombia**, we operate and hold a 44.44% working interest in the Tayrona offshore exploration block, which includes the Orca gas discovery. We also operate and hold a 50% working interest in the Villarica Norte onshore exploration block.

North America

In the **United States**, we focus on deepwater fields in the Gulf of Mexico, where we have non-consolidated production from the 20% participation of Petrobras America Inc. ("PAI") in the joint venture with Murphy Exploration & Production Company ("Murphy"), the MPGOM LLC. The main contributors to the production are the Chinook, Saint Malo and Dalmatian fields. In 2019, our 20% participation represents a production of 13.5 mboed, including NGL.

In **Mexico**, we were party to the non-risk service contracts through our joint venture with PTD Servicios Multiplos SRL for the Cuervito and Fronterizo blocks in the Burgos Basin. This was terminated in March 2019.

West Africa

We used to explore oil and gas opportunities in West Africa exclusively through our 50% equity interest in Petrobras Oil & Gas B.V. ("PO&G"), a joint venture with BTG Pactual. The assets of this joint venture included the Agbami, Akpo, and Egina fields, and the Preowei and Egina South discoveries appraisal projects in Nigeria. In 2019, our 50% participation represents a production of 33.6 mboed, including NGL.

On October 31, 2018, our subsidiary Petrobras International Braspetro BV ("PIBBV") signed a sale and purchase agreement for the sale of its 50% equity interest in PO&G with Petrovida Holding B.V. ("Petrovida"). Petrovida is owned by Africa Oil Corp. The transaction closed on January 14, 2020.

For more information on our divestments, see "Portfolio Management" in this annual report.



Main Assets

	2019	2018	2017
Exploration and Production			
Production wells (oil and natural gas) ⁽¹⁾	6,587	7,256	7,888
Floating rigs	16	16	30
Operated platforms in production ⁽²⁾	107	113	114

(1) Includes information from outside Brazil, corresponding to our shares in affiliated companies.

(2) Includes only definitive production systems, EWT and EPS units.



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Exploration

Exploration



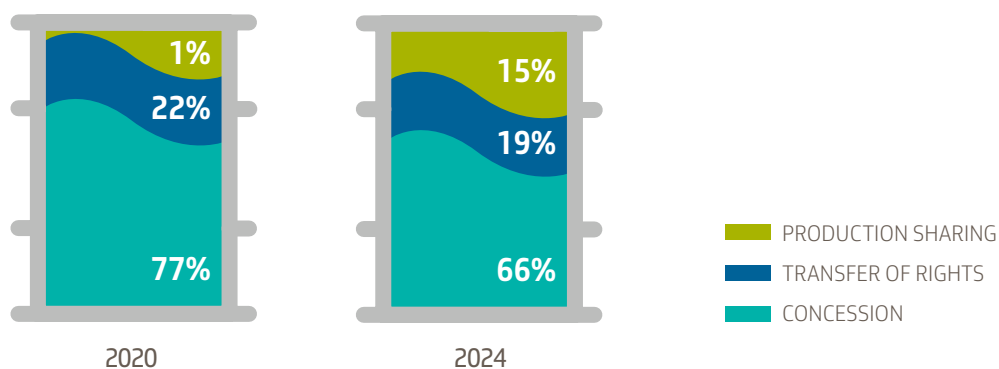
Production

The oil and gas industry value chain begins in the exploratory phase, with the acquisition of exploratory blocks either through bid rounds conducted by governments or by purchases from other companies.

In Brazil, the Brazilian federal government owns the oil deposits, but companies and consortia are allowed to extract and explore such oil upon payment in several forms, such as royalties. Forms of payment vary depending on the applied regulatory model. Biddings rounds are the main process for the acquisition of rights over the exploratory blocks.

There are currently three regulatory models in Brazil: Concession Agreements; Transfer of Rights Agreements and Production Sharing Agreements. The concession model fully governed the oil and natural gas exploration and production until 2010, when the Brazilian federal government enacted laws establishing Transfer of Rights Agreements and Production Sharing Regimes in the Pre-salt Polygon. Currently, our main production fields follow the concession regime. However, our production fields under the Transfer of Rights Agreement and Production Sharing Regime will represent an important part of our production in the medium and long term.

Projected production by regulatory regime (2020–2024 Strategic Plan)



For information on the regulatory models applicable to our exploration and production activities, see “Legal and Tax” in this annual report.



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The Transfer of Rights Agreement Amendment

The Transfer of Rights Agreement signed in 2010 between us and the Brazilian federal government is governed by Law No. 12,276/2010. This agreement regulates the transfer of oil and natural gas exploration and production rights in specific pre-salt areas and establishes provisions such as:

- Volume that can be extracted in these areas, up to five billion barrels of oil equivalent;
- Price paid for the Transfer of Rights Agreement;
- Term of the Transfer of Rights Agreement and percentage of local content; and
- Provisions that define a later revision on the following items: value, maximum volume, term and percentage of local content.

As a counterpart to the right of exploration and production, we paid the Brazilian federal government R\$74.8 billion (US\$42.5 billion as of September 1, 2010).

The Transfer of Rights Agreement defined that the revision of its clauses of value, maximum volume to be produced by area, the term of validity and minimum percentages of local content could occur after the first declaration of an area's commercial feasibility. We have already declared commercial feasibility in fields of all six blocks provided for in the agreement: Franco (Búzios), Florim (Itapu), Nordeste de Tupi (Sépia), Entorno de Iara (Norte de Berbigão, Sul de Berbigão, Norte de Sururu, Sul de Sururu, Atapu), Sul de Guarã (Sul de Sapinhoá) and Sul de Tupi (Sul de Lula).

We acquired a significant volume of information through the drilling of more than 50 wells and long-term production tests and also have extensive knowledge of the Santos Basin pre-salt layer. This allowed us to characterize the existence of volumes exceeding five billion equivalent oil barrels originally contracted ("surplus volume").

We formed an internal committee, composed of the two directors elected by the minority shareholders, and by an independent external member with notable knowledge in the area of technical and financial analysis of investment projects. The committee was responsible for negotiating the review of the Transfer of Rights Agreement with representatives of the Brazilian federal government.

In November 2019, we signed an amendment to the Transfer of Rights Agreement with the Brazilian federal government. Under this amendment, we maintain the total contracted volume of five billion barrels of oil equivalent, guarantee the reimbursement of US\$8.3 billion, and adopt revised local content requirements. In December 2019, we received the amount owed to us by the Brazilian federal government.

For more information on the Transfer of Rights Agreement, see "Legal and Tax" in this annual report.



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Bid rounds

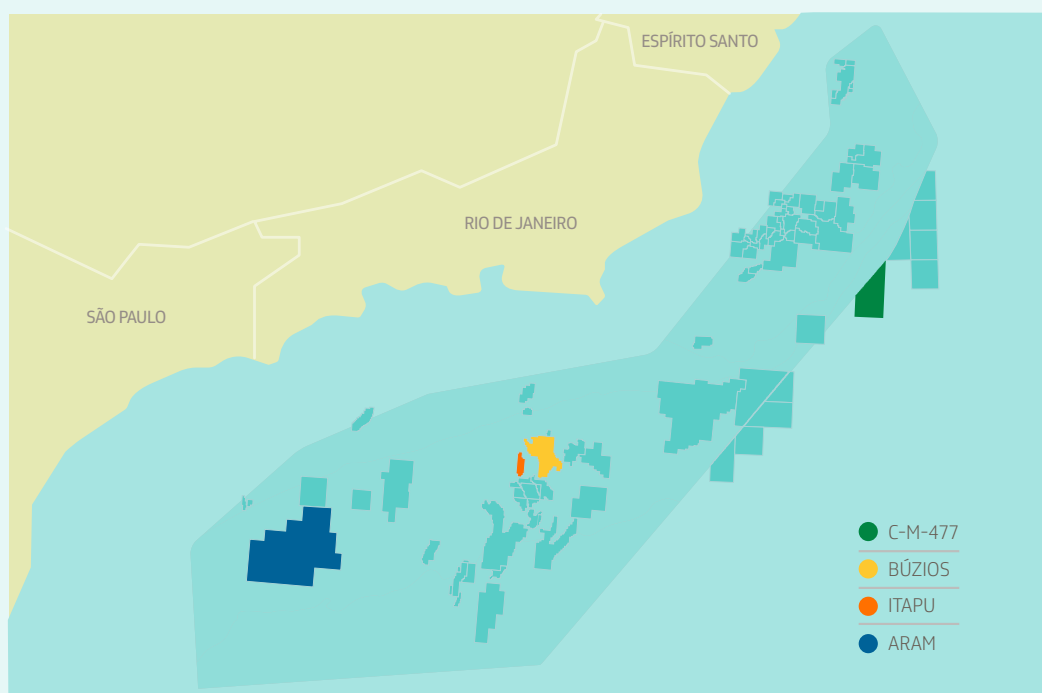
We acted selectively in the bidding rounds carried out by the ANP, aiming to reorganize our exploratory portfolio and maintain the relationship between our reserves and our production in order to ensure the sustainability of our future oil and gas production. Our joint operation with important companies in consortia is also aligned with our strategic goal to strengthen partnerships, with the intent to share risks, combine technical and technological skills and capture synergies to leverage results and reflect the importance of these areas in Brazil for world-class oil companies.

In September and October 2017, we acquired 10 new exploratory blocks (nine offshore and one onshore), with a total area of 11.4 thousand km². In the offshore blocks outside the Pre-salt Polygon, contracted under the concession regime, we hold 50% of the working interest in partnerships with ExxonMobil. Under the Production Sharing Agreements, we acquired three blocks inside the pre-salt area, in partnership with Shell, Repsol Sinopec, CNODC and BP.

In 2018, we acquired 11 new offshore exploratory blocks, with a total area of 8.8 thousand km². In the Pre-salt Polygon, we acquired four areas under the production sharing regime, in partnerships with Chevron, Shell, Equinor, ExxonMobil, BP and Galp. In the Campos Basin, we acquired four blocks outside of the Pre-salt Polygon, under the concession regime, in partnerships with ExxonMobil, Qatar Petroleum and Equinor. We also acquired three blocks in the Potiguar Basin, two of them in partnership with Shell.

In 2019, the ANP held three bidding rounds for exploratory blocks in Brazil.

The table below summarizes the areas acquired by us in each bidding round.





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Round	Asset	Consortium	Bonus R\$ million	Bonus USD Million ⁽²⁾	Profit Oil %	Area Acquired km ²
16 th Round Concession	C-M-477	Petrobras ⁽¹⁾ 70% BP 30%	1,432	348	n/a	1,363
Transfer of Rights Surplus Production Sharing Bidding Round	BÚZIOS	Petrobras ⁽¹⁾ 90% CNOOC 5% CNODC 5%	61,375	14,912	23.24	n/a
	ITAPU	Petrobras 100%	1,766	429	18.15	n/a
6 th Round Production Sharing	ARAM	Petrobras ⁽¹⁾ 80% CNODC 20%	4,040	982	29.96	4,476

(1) Operator

(2) Using an exchange rate of R\$ 4.1158 per USD for 4Q19

Búzios and Itapu fields

The Búzios field started production in April 2018 and has already produced around 100 million boe. The Búzios field is the largest discovered deepwater field in the world. It has light oil and high productivity wells.

The Búzios field is an asset with significant reserves and low lifting costs. It is economically resilient to a low oil price scenario.

In 2019, we acquired the exploration and production rights of the surplus volume of the Búzios field from the Transfer of Rights Agreement, in a partnership with CNODC Brasil Petróleo e Gás Ltda. (5%) and CNOOC Petroleum Brasil Ltda. (5%). This acquisition is consistent with the strategy of focusing our investments on world class assets. New units will be installed in the field to produce the surplus volume of the Transfer of Rights Agreement. The number and capacity of the new units will be established with the formalization of the co-participation agreement between the consortium participants. The co-participation agreement must be signed until September 2021, but we have the agreement with CNODC and CNOOC to conclude it until December 2020. The Chinese partners in the consortium have the right to acquire more 5% of participation, or, if the agreement has not been signed by Pré-Sal Petróleo S.A. ("PPSA") until September 2021, they have the right to leave the consortium.

Additionally, we acquired 100% of the exploration and production rights of Itapu field's surplus volume. In July 2019 we started the procurement process of the production unit, which will now be responsible for production under the Transfer of Rights Agreement and production of the surplus volumes. The full acquisition of the area is extremely attractive economically, given the low additional investments and the bid conditions.

The bidding round results help us ensure the maintenance of the operation in these fields, which enhance our global leadership in ultra-deepwaters. This is consistent with our strategy of focusing on the exploration and production of world-class offshore assets.



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As of December 31, 2019, we had 117 exploratory blocks (39 with 100% working interest) which had 22 discoveries under evaluation. We also had five discoveries being assessed in production areas. We serve as the operator in 52 of these exploration partnership blocks.

The table below breaks down our participation in exploration activities in 2019:

Our participation in exploration activities in 2019

	Net exploratory area (km ²)			Exploratory blocks (number)			Evaluation plans (number)			Wells drilled (number)		
	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017
Brazil	40,625	51,600	41,820	113	133	123	24	26	28	8	8	8
Other S. America	6,081	6,081	5,425	4	4	2	1	1	1	1	0	1
North America	0	0	198	0	0	10	0	0	0	0	0	0
Africa	0	0	0	0	0	0	2	2	2	0	0	0
TOTAL	46,706	57,681	47,443	117	137	135	27	29	31	9	8	9

These investments mainly cover the costs of drilling, seismic surveys and acquisition of blocks, which contributed to the following endeavors.

In 2019, two exploratory wells were drilled in the Moita Bonita Appraisal plan area, Sergipe Basin. These wells confirmed Campanian oil and gas-bearing reservoirs extensions. A Drilling Stem Test ("DST") in the gas-bearing accumulation has shown encouraging results regarding reservoir continuity and productivity.

An exploratory well was drilled in 2019 in Marlim Leste, Campos Basin. This well confirmed the Aptian pre-salt oil reservoirs extensions discovered. Future extended well testing at the discovery site is intended to provide better measurements to guarantee the project's economic viability and future resources incorporation.

In order to achieve greater return on invested capital, while always prioritizing safety, the speed at which our new projects are implemented is key. Thus, we have a strategic program (PROD1000) with the objective of reducing the

implementation time of our projects, with the ambition to reach 1,000 days between field discovery and the beginning of production, compared to current average for pre-salts of 3,000 days. Our efforts in such program are related to the integration of exploration and production development teams, the optimization of reservoir processes, the standardization of FPSO design, the early supplier engagement, the reduction of the construction time, and the optimization of processes through the use of digital technologies and agile methods. In addition, we are also implementing a strategic program (EXP100) that has the ambition to increase the chance of discovering oil to 100% in exploratory wells, reducing project risks and costs by expediting production development. This program aims to better evaluate the prediction of geological properties through the use of an integrated upstream data platform and high performance computing capacity, that enables the application of more complex algorithms in the processing of large volumes of data.



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Production

Exploration



Production

Production Development

After a field is declared commercially viable, the process of production development begins. The investments made in this phase are mainly focused on designing and contracting production systems, which includes platforms, subsea systems, drilling, and the completion of wells.

In the last three years, we have installed several major systems, mainly in the pre-salt area of the Santos Basin, which helped to mitigate the Santos Basin's natural decline. In 2019, we started four new production systems: (i) the P-76 and P-77 platforms, located in the Búzios field; (ii) the P-67 platform, located in the Lula field; and (iii) the P-68, located in the Berbigão and Sururu fields. Those new systems connected 19 new wells (13 production and six injection wells) in our production systems. We expect several major systems to be installed in the next five years.

Over the last nine years, we pursued substantial cost optimizations regarding project development. Time to drill and complete wells in the Santos Basin pre-salt area decreased by 63% in 2019 when compared to 2010. In 2019, we spent an average of 116 days in the drilling and completion of a pre-salt well on the Santos Basin. This helped to significantly reduce our capital expenditures per well. Due to the wells' high productivity, we have been able to complete the ramp-up of the platforms with fewer wells.

In the Búzios field, we hit a production record with 63 mbbbl/d from a single well connected to the P-75 platform. The Búzios field's greater productivity made the P-75 and P-76 complete their ramp-up with just three wells each. This productivity plus the reduction on FPSO commissioning time allowed us to beat our ramp-up time record twice in 2019. In

July, the P-75 reached its production capacity in 8.6 months; in October, the P-76 reached its full capacity in only 7.7 months.

We have installed eight new systems since 2018, including the systems that were implemented in 2019. In total, we have installed 10 new systems throughout the last three years, and expect to install other systems in the next five years.

Currently, we own 89 and lease 18 offshore platforms. Besides those, there are three platforms on fields operated by our partners. In 2019, these 110 platforms had a daily production of 2.09 million barrels of oil and 380.4 million cubic feet of natural gas (discounting the liquefied volume).

Pre-salt and the fields under the transfer of rights fiscal regime will be particularly important to support our production growth.

In 2020, the P-70 platform will be installed in the Atapu field. The P-70 platform has the capacity to process 150 mbbbl/d and 6 million m³ of natural gas per day and arrived in Brazil, Rio de Janeiro on January 2020. A dry tow was used to transport the unit from China to Rio de Janeiro. It was loaded on a semi-submersible vessel used to transport heavy cargo instead of being driven by ocean tugs. Due to this transportation method, we were able to reduce the average transportation time from 100 days to around 45 days. Time is an extremely important variable for the return of a project, which highlights the contribution of the decrease in transportation time obtained through the use of dry tow.

As for the production sharing contracts areas, we expect to install the first definitive system in the Mero field in 2021.



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Installed Systems since 2010

Start up (year)	Basin	Field/Area	Production unit	Crude oil nominal capacity (bbl/d)	Gas nominal capacity (mmcf/d)	Water depth (meters)	Fiscal regime	Main production source	Type
2019	Santos	Berbigão	Petrobras 68	150,000	211.9	2,280	Concession	Pre-Salt	FPSO
	Santos	Búzios 4	Petrobras 77	150,000	247	2,000	Transfer of Rights	Pre-Salt	FPSO
	Santos	Búzios 3	Petrobras 76	150,000	247	2,030	Transfer of Rights	Pre-Salt	FPSO
	Santos	Lula Norte	Petrobras 67	150,000	211.9	2,130	Concession	Pre-Salt	FPSO
2018	Campos	Tartaruga Verde	Cid. de Campos dos Goytacazes	150,000	117	765	Concession	Post-Salt	FPSO
	Santos	Lula Extremo Sul	Petrobras 69	150,000	211.9	2,200	Concession	Pre-Salt	FPSO
	Santos	Búzios 1	Petrobras 74	150,000	247	2,005	Transfer of Rights	Pre-Salt	FPSO
	Santos	Búzios 2	Petrobras 75	150,000	247	2,010	Transfer of Rights	Pre-Salt	FPSO
2017	Santos	Lula Sul	Petrobras 66	150,000	211.9	2,100	Concession	Pre-Salt	FPSO
	Santos	Mero	Pioneiro de Libra	50,000	141.3	2,040	Production Sharing	Pre-Salt	FPSO
2016	Santos	Lula Central	Cidade de Saquarema	150,000	211.9	2,100	Concession	Pre-Salt	FPSO
	Santos	Lula Alto	Cidade de Maricá	150,000	211.9	2,100	Concession	Pre-Salt	FPSO
2015	Santos	Lula	Cidade de Itaguaí	150,000	282.5	2,200	Concession	Pre-salt	FPSO
2014	Santos	Sapinhoá	Cidade de Ilhabela	150,000	211.9	2,140	Concession	Pre-salt	FPSO
	Santos	Lula	Cidade de Mangaratiba	150,000	282.5	2,220	Concession	Pre-salt	FPSO
	Campos	Roncador	Petrobras 62	180,000	211.9	1,600	Concession	Post-salt	FPSO
	Campos	Jubarte	Petrobras 58	180,000	211.9	1,400	Concession	Pre-salt	FPSO
2013	Campos	Roncador	Petrobras 55	180,000	141.3	1,795	Concession	Post-salt	SS
	Campos	Papa-Terra	Petrobras 63	145,000	35.3	1,200	Concession	Post-salt	FPSO
	Santos	Lula	Cidade de Paraty	120,000	176.6	2,140	Concession	Pre-salt	FPSO
	Santos	Baúna	Cidade de Itajai	80,000	70.6	275	Concession	Post-salt	FPSO
	Santos	Sapinhoá	Cidade de São Paulo	150,000	176.6	2,140	Concession	Pre-salt	FPSO



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2012	Campos	Jubarte	Cidade de Anchieta	100,000	123.6	1,220	Concession	Pre-salt	FPSO
2011	Campos	Marlim Sul	Petrobras 56	140,000	211.9	1,700	Concession	Post-salt	SS
	Santos	Mexilhão	Mexilhão	20,000	529.7	170	Concession	Post-salt	Fixed
2010	Campos	Jubarte	Petrobras 57	180,000	70.6	1,260	Concession	Post-salt	FPSO
	Santos	Lula	Cidade de Angra dos Reis	100,000	176.6	2,150	Concession	Pre-salt	FPSO
	Santos	Uruguá/Tambaú	Cidade de Santos	25,000	353.1	1,300	Concession	Post-salt	FPSO
	Campos	Jubarte	Capixaba	110,000	113.0	1,300	Concession	Post-salt	FPSO

Main Systems to be installed until 2024

Start up (year)	Basin	Field/Area	Production unit	Crude oil nominal capacity (bbl/d)	Gas nominal capacity (mmcf/d)	Water depth (meters)	Fiscal regime	Main production source	Type
Expected 2020	Santos	Atapu 1	Petrobras 70	150,000	211.9	2,300	Transfer of Rights	Pre-Salt	FPSO
Expected 2021	Santos	Sépia	Carioca	180,000	211.9	2,150	Transfer of Rights	Pre-Salt	FPSO
	Santos	Mero 1	Guanabara	180,000	423.8	2,100	Production Sharing	Pre-Salt	FPSO
Expected 2022	Campos	Marlim 1	Anita Garibaldi	80,000	51.2	670	Concession	Post-Salt	FPSO
	Santos	Búzios 5	Alm. Barroso	150,000	211.9	2,100	Transfer of Rights	Pre-Salt	FPSO
	Santos	Lula (Lula Recovery Factor Project)	N/D	150,000	211.9	2,000	Concession	Pre-Salt	FPSO
Expected 2023	Campos	Parque das Baleias	N/D	100,000	176.6	1,400	Concession	Pre-Salt	FPSO
	Santos	Mero 2	Sepetiba	180,000	423.8	2,000	Production Sharing	Pre-Salt	FPSO
	Campos	Marlim 2	Anna Nery	70,000	33.2	927	Concession	Post-Salt	FPSO
Expected 2024	Santos	Búzios 6 ⁽¹⁾	N/D	150,000	254.3	2,025	Transfer of Rights/ Production Sharing	Pre-Salt	FPSO
	Santos	Mero 3	N/D	180,000	423.8	2,070	Production Sharing	Pre-Salt	FPSO
	Sergipe Alagoas	SEAP	N/D	120,000	353.1	2,250	Concession	Deepwater	FPSO
	Santos	Itapu	N/D	120,000	106	2,010	Transfer of Rights/ Production Sharing	Pre-Salt	FPSO

(1) Regarding the production system to be installed in the Module 7 area of the Búzios field.



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Critical Resources in Exploration and Production

We seek to procure, develop and retain all of the critical resources that are necessary to meet our production targets. Drilling rigs and special vessels are important resources for our exploration and production operations, and are centrally coordinated to assure both technical specifications and proper lead time.

Since 2008, we have grown from three rigs capable of drilling in waters with depth greater than 2,000 meters (6,560 feet) to 15 rigs with this capacity as of December 31, 2019.

We have sufficient rigs to meet our production targets, and we will continue to evaluate our drilling and special vessels demands and will adjust our fleet size as needed.

Drilling units in use by exploration and production as of December 31,	2019		2018		2017	
	Leased	Owned	Leased	Owned	Leased	Owned
Brazil	18	0	17	4	29	7
Onshore	2	0	1	3	1	4
Offshore, by water depth (WD)	16	0	16	1	28	3
Jack-up rigs	0	0	0	0	0	2
Floating rigs:	16	0	16	1	28	1
500 to 999 meters WD	0	0	1	0	1	0
1000 to 1999 meters WD	1	0	2	0	3	1
2000 to 3200 meters WD	15	0	13	1	24	0
Outside Brazil	1	0	1	0	4	0
Onshore	1	0	1	0	3	0
Offshore	0	0	0	0	1	0
Worldwide	19	0	18	4	33	7

In order to achieve our production goals, we have also secured a number of specialized vessels (such as Pipe Laying Support Vessels or "PLSVs") to connect wells to production systems. As of December 31, 2019, we had 13 PLSVs and our specialized vessels were sufficient to meet our needs.

Production

After several years of stagnation, our operating performance has improved significantly, reaching daily, quarterly and annual oil and gas production records. In 2019, our total production of oil and gas, including NGL, was 2.77 mmboed, of which 2.69 mmboed were produced in Brazil and 82.3 mboed were produced abroad, a 5.4% increase compared to 2018. This production growth was due to the ramp-up of the eight new systems in Búzios (P-74, P-75, P-76 and P-77), Lula (P-67 and P-69), Berbigão/Sururu (P-68) and Tartaruga Verde (FPSO Campos dos Goytacazes) fields.

Our 2019 operating performance reflected better results in the second half, leveraged by the ramp-up of new production systems, compensating for the challenges faced during the first half. The oil production in Brazil was 2.17 million bbl/d, 6.7% above production achieved in 2018, exceeding the revised target in July (2.1 million bbl/d). The oil production represented 81% of the average of 2.69 mmboed oil and gas produced in Brazil.

Our production in the pre-salt layer reached 1.28 million bbl/d in 2019, representing an increase of 28.4% in relation to our production in 2018. In 2019, the oil production in the pre-salt layer represented more than half of our total oil production in Brazil, 59% compared to 49% in 2018.



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Oil and gas production (mboed)

	2019	2018	2017	2019 vs 2018
Crude oil and natural gas - Brazil	2,688	2,527	2,654	6.4%
Crude oil (mbl/d) ⁽¹⁾	2,172	2,035	2,154	6.7%
Onshore	124	135	150	-8.1%
Shallow waters	66	90	118	-26.7%
Post-salt deep and ultra-deepwaters	704	816	977	-13.7%
Pre-salt	1,277	994	908	28.5%
Natural gas (mboed)	516	492	500	4.9%
Crude oil and natural gas -Abroad	82	101	112	-18.8%
Total	2,770	2,628	2,767	5.4%

(1) Including NGL

Pre-salt oil production increased 28.5%, reflecting higher production in the Búzios and Lula fields. The pre-salt area is comprised of large accumulations of light oil, of excellent quality and with high commercial value.

The post-salt oil production, in deep and ultra-deepwaters, decreased by 13.7%. This was due to (i) the closure

of the production cycle of platforms P-33 and P-37 (which will be replaced by new units for the Marlim field revitalization project) and (ii) the postponement of new wells on platforms that need adjustments in discharged water processing plants.



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Main production fields

Basin	Field	Main source	Production units				Consortium	API gravity	Sulphur content (% wt)	2019 oil production (mmbbl/d)
			Owned	Capacity (mmbbl/d)	Leased	Capacity (mmbbl/d)				
Santos	Lula	Pre-salt	3	3 units with 150	6	1 unit with 100 1 unit with 120 4 units with 150	Petrobras (65%), Shell (25%), Petrogal (10%)	28 – 32	0.29 – 0.38	615
Santos	Búzios	Pre-salt	4	4 units with 150	-	-	Petrobras (100%) ⁽¹⁾	28.4	0.31	252
Santos	Sapinhoá	Pre-salt	-	-	2	2 units with 150	Petrobras (45%), Shell (30%), Repsol Sinopec (25%)	29.8	0.4	106
Campos	Jubarte	Pre-salt	2	2 units with 180	2	1 unit with 100 1 unit with 110	Petrobras (100%)	17 – 30	0.29 – 0.56	205
Campos	Roncador	Post-salt	4	3 units with 180 1 unit with 190	-	-	Petrobras (75%), Equinor (25%)	17 – 28	0.53 – 0.74	121
Campos	Marlim Sul	Post-salt	3	1 unit with 140 1 unit with 180 1 unit with 200	-	-	Petrobras (100%)	17 – 23	0.59 – 0.73	135
Campos	Tartaruga Verde	Post-salt	-	-	1	1 unit with 150	Petrobras (100%) ⁽¹⁾	26.9	0.61	94
Campos	Marlim	Post-salt	7	1 unit with 50 1 unit with 75 4 units with 100 1 unit with 180	-	-	Petrobras (100%)	19 – 23	0.68 – 0.77	75
Campos	Marlim Leste	Post-salt	1	1 unit with 180	1	1 unit with 100	Petrobras (100%)	23 – 29	0.50 – 0.51	55
Other pre and post-salt fields										324
Onshore										124
Shallow waters										66
TOTAL										2,172

(1) Including operations in 2019.



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Shallow waters oil production decreased by 24 mbb/d due to the divestment of Polo Pargo, the maintenance stop of the PNA-2 platform and the end of the PNA-1 production. Onshore oil production decreased 11 mbb/d due to the natural decline in reservoir.

We have produced 91.8 million m³/d of gas in 2019. From that volume, we have used 49 million m³/d in our production processes (reinjecting, flared, consumed), and destined 42.8 million m³/d to our processing plants.

In 2019, our average lifting cost excluding government fees was US\$9.5 per boe, 11% less than the average cost of US\$10.7 per boe in 2018.

PRODUCTION 2019



AVERAGE OIL
AND GAS
PRODUCTION
IN PRE-SALT

1.54
million boed



AVERAGE OIL
PRODUCTION
IN PRE-SALT

1.28
million bbl/d



GAS UTILIZATION
INDEX

96
%



RECORD MONTHLY
PRODUCTION
OF OIL AND
NATURAL GAS

3.1
million boed
(November/2019)

We also carry out limited oil shale mining operations in São Mateus do Sul, in the Paraná Basin of Brazil, and convert the kerogen (solid organic matter) from these deposits into synthetic oil and gas. This operation is conducted in an integrated facility and its final products are fuel gas, liquefied petroleum gas ("LPG"), shale naphtha and shale fuel oil. Our business units in Brazil do not utilize the fracking method or the hydraulic fracturing method for oil production, since they are not appropriate in the context of our operations. Also, we do not inject any water or chemicals in the soil in connection with our open pit oil shale mining operations. Our process consists of crushing, screening and subsequently heating all the shale at high temperatures (pyrolysis) and we have in place a proper segregation process for the by-products derived from such process.

For more information on our production of crude oil, natural gas, synthetic oil and synthetic gas by geographic area in 2019, 2018 and 2017, see Exhibit 15.3 to this annual report.



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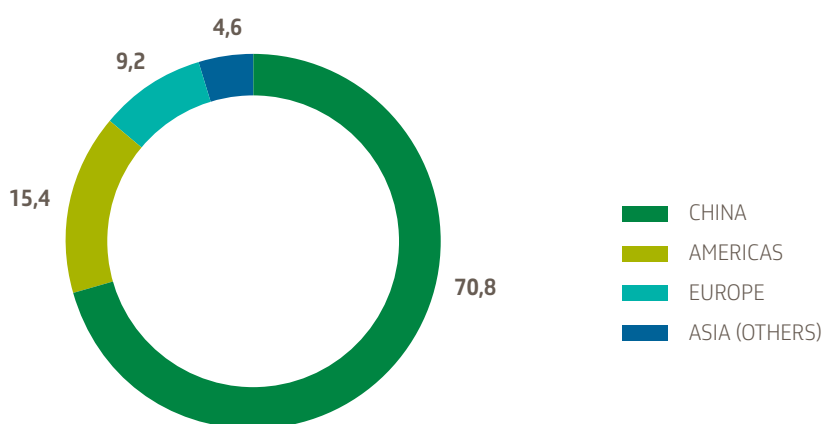
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Customers and Competitors

Crude oil is primarily sold through long-term contracts and also in the spot market. Our overseas portfolio includes approximately 60 clients, such as refiners that process or have processed Brazilian oils regularly, distributed throughout the Americas, Europe, China, and Asia.

Oil clients (% vol)



In the exploration and production industry, we deal with several competitors when we participate in bidding rounds conducted by the ANP.

Reserves



Preparation of reserves estimates

We apply SEC rules [Rule 4-10(a) of Regulation S-X] for estimating and disclosing oil and natural gas reserve quantities included in this annual report. In accordance with those rules, we estimate reserve volumes by considering average prices calculated as the unweighted arithmetic average of the first-day-of-the-month price for each month within the 12-month period prior to the end of the reporting period, except for the reserves of the Amazon fields for which volumes are estimated using gas prices as set forth in our contractual arrangements for the sale of gas. Reserve volumes of non-traditional reserves such as synthetic oil and gas are also included in this annual report in accordance with SEC rules.

We estimate reserves based on forecasts of field production, which depends on an array of technical information, such as seismic surveys, well logs and tests, rock and fluid samples, and geoscience, engineering and economic data. All reserve estimates involve some degree of uncertainty. The uncertainty depends primarily on the amount of reliable geological and engineering data available



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at the time of the estimate and the interpretation of that data. Our estimates are thus made using the most reliable data and technology at the time of the estimate, in accordance with the best practices in the oil and gas industry and SEC rules and regulations.

Thus, the reserve estimation process begins with an initial evaluation of our assets by geophysicists, geologists and engineers. Reserves coordinators in each business unit in Brazil and the corporate reserves team provide guidance for reserves estimates in compliance with SEC requirements to the asset teams. General managers in our business units in Brazil and executive officers of companies outside Brazil where we have interests are responsible for regional reserves estimates in compliance with SEC requirements. The corporate reserves team is responsible for consolidating our reserves estimates, standardized measures of discounted net cash flows related to proved oil and gas reserves and other information related to proved oil and gas reserves. Our reserves estimates are approved by our Board of Executive Officers, which then informs our Board of Directors about the approval. The technical person primarily responsible for overseeing the preparation of our reserves is the manager of the corporate reserves team, who has a degree in engineering and 17 years of experience in the oil and gas industry.

DeGolyer and MacNaughton (“D&M”) conducted a reserves evaluation of 97% of our net proved crude oil, condensate and natural gas reserves as of December 31, 2019 in Brazil. The amount of reserves reviewed by D&M corresponds to 96% of our total proved reserves company-wide on a net equivalent barrel basis. For disclosure describing the qualification of D&M’s technical person primarily responsible for overseeing our reserves evaluation, see Exhibit 99.1 to this annual report.

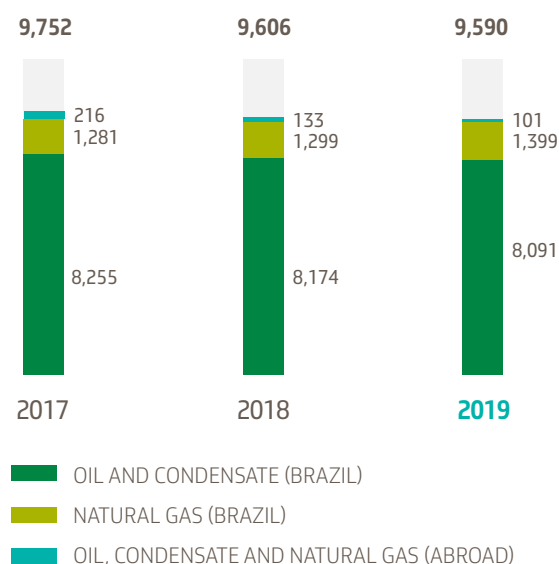
For a description of the risks relating to our reserves and our reserve estimates, see “Risks” in this annual report.

We discover new areas through exploratory activity. Such areas constitute our fields after the declaration of commerciality. We then prepare a development plan for each field. As projects achieve adequate maturity, proved reserves may be reported.

Our fields’ proved reserves can be later increased with additional drilling, operational optimizations and improved recovery methods, such as water injection, among other activities.

Our net proved oil, condensate and natural gas reserves as of December 31, 2019 were estimated at 9,590 million boe.

Proved reserves (million boe)*



* Apparent differences in the sum of the numbers are due to rounding off



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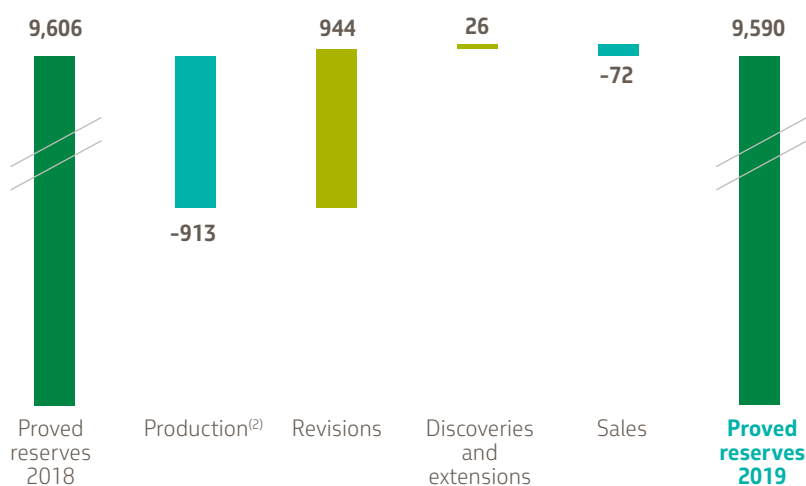
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Oil and gas reserves volumes change yearly. Quantities included in our previous year's reserves that are produced during the year are no longer reserves at year-end. Other factors, such as reservoir performance, revisions in oil prices, discoveries, extensions, purchases and sales of assets that occurred during the year, also influence year-end reserves quantities.

Proved reserves (million boe)⁽¹⁾



(1) Apparent differences in the sum of the numbers are due to rounding off.

(2) The 913 million boe production volume is the net volume withdrawn from our proved reserves. It therefore excludes NGL, as we estimate our oil and gas reserves at a reference point located prior to the gas processing plants, except for the United States of America and Argentina. The production does not consider injected gas volumes, production of EWTs in exploratory blocks and production in Bolivia, since Bolivian reserves are not included in our reserves due to restrictions determined by Bolivian Constitution.

In 2019, we incorporated 944 million boe of proved reserves by revising previous estimates, including:

- addition of 529 million boe resulting from technical revisions, mainly due to good performance and increased production experience in reservoirs in the pre-salt layer of Santos Basin;
- addition of 267 million boe related to contractual revisions, including the rearrangement of volumes due to the revision of Transfer of Rights Agreement and renewals of concession contracts in Brazil;
- addition of 243 million boe due to approvals of new projects in the Santos, Campos and Espírito Santo Basins; and
- reduction of 95 million boe related to economic revisions, mainly due to the decrease in oil prices.

In addition, we added 26 million boe to our proved reserves due to extensions and discoveries, mainly in the pre-salt of Santos Basin, and reduced 72 million boe due to sales of proved reserves.

RESERVES INDEXES 2019



RESERVES REPLACEMENT RATIO (RRR)

98%



ORGANIC RESERVES REPLACEMENT RATIO (ORGANIC RRR)

106%



RESERVES TO PRODUCTION RATIO (R/P)

10.5 years



DEVELOPMENT RATIO

63%



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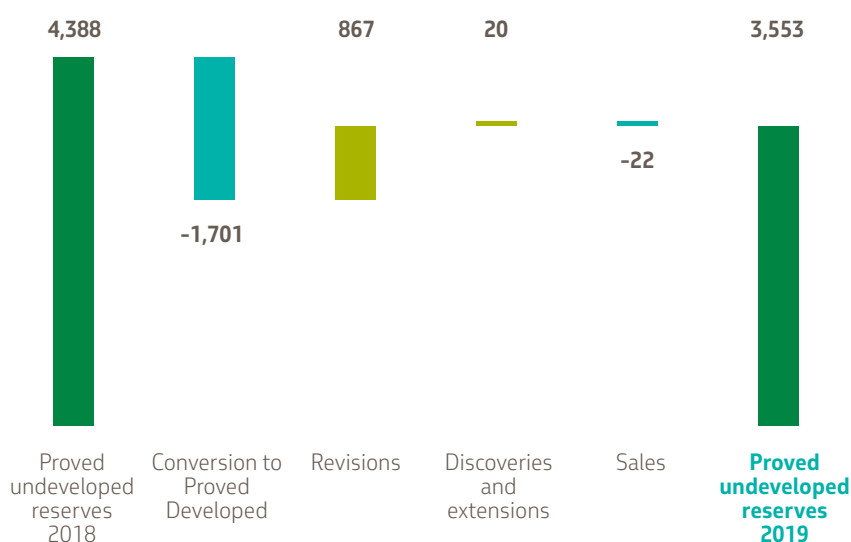
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Proved Undeveloped Reserves

As of December 31, 2019, our proved undeveloped reserves were estimated at 3,553 million boe, a net decrease of 19% when compared to 2018 year-end. This decrease is a result of the following changes:

- we converted a total of 1,701 million boe of proved undeveloped reserves to proved developed reserves, mainly as a result of pre-salt fields platforms start-ups in the Santos Basin and offshore and onshore drilling and tieback operations;
- we incorporated 867 million boe into our proved undeveloped reserves as a result of revisions to previous estimates, including: technical revisions (580 million boe), mainly due to the good performance and increased production experience in the pre-salt layer of the Santos Basin; new project approvals (241 million boe) in the Santos, Campos and Espírito Santo Basins; contractual revisions (59 million boe); and a reduction of 12 million boe due to economic revisions.
- we added 20 million boe to our proved undeveloped reserves due to extensions and discoveries, mainly in the pre-salt of the Santos Basin; and
- we reduced 22 million boe from our proved undeveloped reserves as a result of sales of proved reserves.

Variation in proved undeveloped reserves (million boe)⁽¹⁾



(1) Apparent differences in the sum of the numbers are due to rounding off.

As of December 31, 2019, 42% (1,489 million boe) of our proved undeveloped reserves have remained undeveloped for five years or more, mainly due to the inherent complexity of ultra-deepwater development projects in giant fields, particularly in the Santos and Campos Basins, in which we are investing in the required infrastructure.

In 2019, we invested a total of US\$7.0 billion in development projects, of which 98% (US\$6.8 billion) was invested in Brazil.

Most of our investments relate to long-term development projects, which are developed in phases due to the large volumes and extensions involved, the deep and ultra-deepwater infrastructure and the production resources complexity. In these cases, the full development of the reserves related to these investments can exceed five years.

For further information on our reserves, see the unaudited section “Supplementary Information on Oil and Gas Exploration and Production” in our audited consolidated financial statements.



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Oil and Gas Additional Information

The following tables show (i) the number of gross and net productive oil and natural gas wells and (ii) total gross and net developed and undeveloped oil and natural gas acreage in which we had working interests as of December 31, 2019. A gross well or acre is a well or acre where we own a working interest, while the number of net wells or acres is the sum of fractional working interests in gross wells or acres. We do not have any material acreage expiring before 2025.

Gross and net productive wells

As of December 31, 2019	Oil		Natural gas		Synthetic oil		Synthetic gas	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Consolidated subsidiaries								
Brazil	5,870	5,841	346	339	-	-	-	-
International								
South America (outside of Brazil)	55	24	197	96	-	-	-	-
Total international	55	24	197	96	-	-	-	-
Total consolidated	5,925	5,864	543	435	-	-	-	-
Equity method investees:								
South America (outside of Brazil)	-	-	-	-	-	-	-	-
North America	42	5,0	1	0,1	-	-	-	-
Africa	67	4	-	-	-	-	-	-
Total gross and net productive wells	6,034	5,874	544	435	-	-	-	-

Gross and net developed and undeveloped acreage

As of December 31, 2019	Developed acreage		Undeveloped acreage	
	Gross	Net	Gross	Net
Acreage (in acres)				
Consolidated				
Brazil	4,664,280.7	4,168,906.0	559,717.3	461,612.3
South America (outside of Brazil)	2,304.0	774.1	2,310.0	776.2
Total consolidated	4,666,584.7	4,169,680.1	562,027.3	462,388.5
Equity method investees				
Africa	35,978.3	2,575.3	-	-
North America	23,024.0	2,354.6	153,336.0	15,067.7
Total equity method investees	59,002.3	4,929.9	153,336.0	15,067.7
Total gross and net acreage	4,725,587.0	4,174,610.0	715,363.3	477,456.2

For "net" figures, we used our working interest held on December 31, 2019. The division in oil and gas in the acreage table was not included because, usually, oil and gas are produced from the same acreage. Gross and net developed and undeveloped acreage presented in this table does not include exploratory areas.

The following table sets forth the number of net productive and dry exploratory and development wells drilled in the last three years.



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Net productive and dry exploratory and development wells

	2019	2018	2017
Net productive exploratory wells drilled:			
Consolidated subsidiaries:			
Brazil	5.5	4.0	7.0
South America (outside of Brazil)	1.0	-	-
Total consolidated subsidiaries	6.5	4.0	7.0
Equity method investees:			
North America ⁽¹⁾	-	-	-
Africa	-	-	-
Total productive exploratory wells drilled	6.5	4.0	7.0
Net dry exploratory wells drilled:			
Consolidated subsidiaries:			
Brazil	1.0	4.0	0.4
South America (outside of Brazil)	-	-	0.4
Total consolidated subsidiaries	1.0	4.0	0.8
Equity method investees:			
North America ⁽¹⁾	-	-	-
Africa	-	-	-
Total dry exploratory wells drilled	1.0	4.0	0.8
Total number of net exploratory wells drilled	7.5	8.0	7.8
Net productive development wells drilled:			
Consolidated subsidiaries:			
Brazil	98.3	103.7	174.8
South America (outside of Brazil)	-	3.7	2.7
Total consolidated subsidiaries	98.3	107.4	177.5
Equity method investees:			
North America ⁽¹⁾	0.14	0.1	0.6
Africa	0.6	0.4	1.0
Total productive development wells drilled	99.04	107.9	179.1
Net dry development wells drilled:			
Consolidated subsidiaries:			
Brazil	-	-	-
South America (outside of Brazil)	-	-	-
Total consolidated subsidiaries	-	-	-
Equity method investees:			
North America ⁽¹⁾	-	-	-
Africa	-	-	-
Total dry development wells drilled	-	-	-
Total number of net development wells drilled	99.04	107.9	179.1

(1) Due to the joint venture formed by PAI and Murphy, information regarding proved reserves, acreage and wells in the United States are reported in the "equity method investees" section. For "net" figures, we used the working interest held as of December 31, 2019.



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The following table summarizes the number of wells in the process of being drilled as of December 31, 2019.

Number of wells being drilled as of December 31, 2019

Year-end 2019	Gross	Net
Wells Drilling		
Consolidated Subsidiaries:		
Brazil	7.0	5.45
International:		
South America (outside of Brazil)	1.0	1.0
North America	1.0	0.2
Total wells drilling	9.0	6.65

The following table sets forth our average sales prices and average production costs by geographic area and by product type for the last three years.

Average sales prices and average production costs (US\$)

	Brazil	South America	North America	Total	Equity method investees ⁽²⁾
2019					
<i>Average sales prices</i>					
Oil and NGL, per barrel	61.25	36.89	-	61.25	64.71
Natural gas, per thousand cubic feet ⁽¹⁾	7.72	3.65	-	7.55	2.60
Synthetic oil, per barrel	50.55	-	-	50.55	-
Synthetic gas, per thousand cubic feet	3.53	-	-	3.53	-
<i>Average production costs, per barrel – total</i>	7.05	4.69	-	7.02	31.20
2018					
<i>Average sales prices</i>					
Oil and NGL, per barrel	66.66	42.44	67.21	66.65	72.76
Natural gas, per thousand cubic feet ⁽¹⁾	7.15	4.09	3.56	7.00	0.76
Synthetic oil, per barrel	60.04	-	-	60.04	-
Synthetic gas, per thousand cubic feet	4.47	-	-	4.47	-
<i>Average production costs, per barrel – total</i>	10.21	4.57	9.75	10.11	31.85
2017					
<i>Average sales prices</i>					
Oil and NGL, per barrel	50.48	34.18	47.92	50.42	53.87
Natural gas, per thousand cubic feet ⁽¹⁾	6.30	3.53	3.31	6.10	-
Synthetic oil, per barrel	42.42	-	-	42.42	-
Synthetic gas, per thousand cubic feet	3.97	-	-	3.97	-
<i>Average production costs, per barrel – total</i>	11.15	3.65	9.17	10.99	27.00

(1) The volumes of natural gas used in the calculation of this table are the production volumes of natural gas available for sale and are also shown in the production table above. Natural gas amounts were converted from bbl to cubic feet in accordance with the following scale: 1 bbl = 6 cubic feet.

(2) Operations in Venezuela until 2016, in Africa until October 2018, and in the United States from December 2018, following the creation of a joint venture with Murphy, in which our wholly-owned subsidiary PAI has a 20% stake.

For more information about our capitalized exploration costs, see Note 26 to our audited consolidated financial statements and the unaudited supplementary information on oil and gas exploration and production contained in our audited consolidated financial statements.



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Refining, Transportation and Marketing

We processed 71% of all our oil production, which includes oil and LNG and excludes natural gasoline (“C5+”), in our refineries. The remainder was exported. In 2019, our production of oil products of 1.779 million bbl/d from the processing of 90% of Brazilian oil, complemented with imported oil. We traded these oil products both in Brazil and abroad.

Furthermore, we operate in the petrochemical sector with interests in companies, as well as in the production of biofuels through our wholly-owned subsidiary, Petrobras Biocombustível S.A. (“P BIO”).

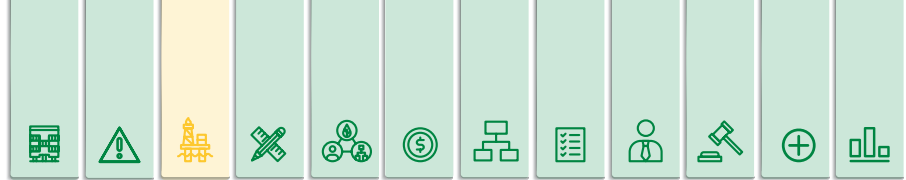
Overview

We own and operate 13 refineries in Brazil, with a total net crude distillation capacity of 2,176 mbbbl/d. This represents 99% of all refining capacity in Brazil, according to the 2019 statistical yearbook published by the ANP.

Most of our refineries are located near our crude oil pipelines, storage facilities, refined product pipelines and major petrochemical facilities, easing access to crude oil supplies and end-users.

We also operate a large and complex infrastructure of pipelines and terminals, and a shipping fleet to transport oil products and crude oil to Brazilian and global markets.

We operate 44 of our own terminals through our wholly-owned subsidiary Petrobras Transporte S.A. (“Transpetro”), and we have contracts for the use of some of the storage capacity of 19 third-party terminals.



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OWN TERMINALS*

- | | |
|---|--|
| A COARI
MANAUS | N BARRA DO RIACHO
NORTE CAPIXABA
VITÓRIA |
| B BELÉM | O BARUERI
CUBATÃO
GUARAREMA
GUARULHOS
PAULÍNIA
RIBEIRÃO PRETO
SÃO CAETANO DO SUL
SANTOS
SÃO SEBASTIÃO |
| C SÃO LUÍS | P ANGRA DOS REIS
CAMPOS ELÍSEOS
ILHA D'ÁGUA
ILHA REDONDA
JAPERI
VOLTA REDONDA |
| D MUCURÍPE | Q PARANAGUÁ |
| E GUAMARÉ | R BIGUAÇU
GUARAMIRIM
ITAJÁI
SÃO FRANCISCO DO SUL |
| F CABEDELO | S NITERÓI
OSÓRIO
RIO GRANDE |
| G SUAPE | |
| H MACEIÓ | |
| I ARACAJU | |
| J CANDEIAS
ITABUNA
JEQUIÉ
MADRE DE DEUS | |
| K BRASÍLIA | |
| L SENADOR CANEDO | |
| M UBERABA
UBERLÂNDIA | |

REFINERIES

START OPERATION CRUDE DISTILLATION CAPACITY API GRAVITY

<p>1 REMAN (ISAAC SABÁ)</p> <p> 1956 46 41,1</p>	<p>4 RNEST (ABREU E LIMA)</p> <p> 2014 88 23,2</p>	<p>7 REDUC (DUQUE DE CAXIAS)</p> <p> 1961 239 29,2</p>	<p>10 RPBC (PRES. BERNARDES)</p> <p> 1955 170 27</p>
<p>2 LUBNOR (REFINARIA LUBRIFICANTES E DERIVADOS DO NORDESTE)</p> <p> 1966 8 16,8</p>	<p>5 RLAM (LANDULPHO ALVES)</p> <p> 1950 279 30,2</p>	<p>8 REPAR (PRES. GETÚLIO VARGAS)</p> <p> 1977 208 27,8</p>	<p>REVP (HENRIQUE LAGE)</p> <p> 1980 252 26,4</p>
<p>3 RPCC (POTIGUAR CLARA CAMARÃO)</p> <p> 2009 38 25,9</p>	<p>6 REGAP (GABRIEL PASSOS)</p> <p> 1968 157 27,2</p>	<p>SIX (SHALE INDUSTRIALIZATION UNIT)</p> <p> 1972 - -</p>	<p>REPLAN (PAULÍNIA)</p> <p> 1972 434 27,5</p>
		<p>9 REFAP (ALBERTO PASQUALINI)</p> <p> 1968 201 29,7</p>	<p>RECAP (CAPUAVA)</p> <p> 1954 57 30,9</p>

* Operated by Transpetro, a 100% Petrobras subsidiary



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Our Refining, Transportation and Marketing also include activities such as (i) petrochemicals (ii) extraction and processing of shale and (iii) production of biofuels.

We are repositioning ourselves in the refining business through divestment, a strategy which allows us to share risks and the establishment of a dynamic, competitive and efficient industry, while generating liquidity for us.

In line with our repositioning process, in June 2019, we signed a commitment with the Administrative Council for Economic Defense (“CADE”) which consolidates our understanding on the execution of divestment of refining assets in Brazil. The purpose of the agreement is to provide

competitive conditions, encouraging new economic agents to enter the downstream market, as well as suspending the CADE’s court administrative investigation related to the alleged abuse of our dominant position in the refining segment. The agreement considers the divestment of approximately 50% of our refining capacity. We intend to divest from seven refining units (Reman, Lubnor, Rnest, Rlam, Regap, Repar and Refap) and a shale industrialization unit (SIX).

For more information on our partnerships and divestments, see “Portfolio Management” in this annual report.



Main Assets

	2019	2018	2017
Transport and storage			
Pipelines (km)	7,719	7,719	7,719
Vessel fleet (owned and chartered)	128	123	128
Own	45	43	39
Chartered	83	80	89
Terminals	63	56	55
Own	44	44	44
Third party's ⁽¹⁾	19	9	8
Refining			
Refineries	13	14	14
Brazil	13	13	13
Abroad	-	1	1
Nominal installed capacity (mmbbl/d)	2,176	2,276	2,276
Brazil	2,176	2,176	2,176
Abroad	-	100	100

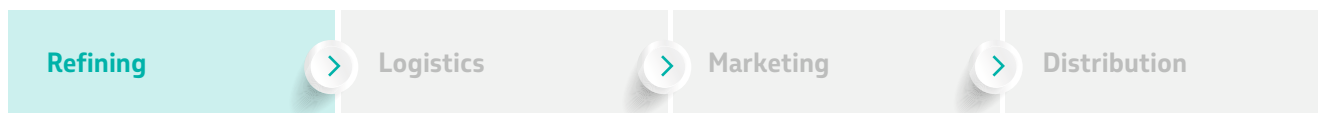
(1) Third party terminals that have existing contracts for the use of the storage service, except Transpetro contracts.



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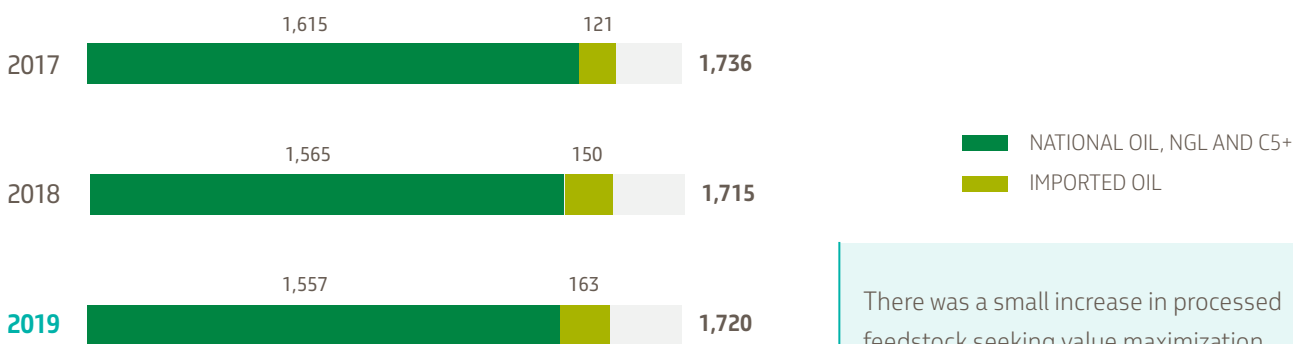
Refining



We serve our oil products clients in Brazil through a coordinated combination of oil processing, importing and exporting that seeks to optimize our margins, considering different opportunity costs of domestic and imported oil, oil products in the several markets, as well as the costs for transport, storage and processing involved.

In 2019, we processed 1,720 mbb/d of oil in our 13 refineries, based on the processing of 91% of domestic oil. The following graphs show the processed feedstock and the performance of our refineries.

Processed feedstock (mbbl/d)



There was a small increase in processed feedstock seeking value maximization and alignment with demand behavior.

In 2019, there was an increase in the production of oil products and utilization factor of the refining system as compared to 2018. The higher production volume was directed to the export of bunker oil and high octane gasoline, which is valued in the U.S. market.

Diesel output fell due to the use of some of its streams to produce 0.5% bunker according to IMO 2020 specifications and the lower availability of the refining system. Diesel sales in 2019 dropped compared to 2018, with an increased portion of imported diesel.

The volume of gasoline production remained stable between 2019 and 2018. There was a drop in sales due to the higher market share of importers and hydrated ethanol. This drop was offset by an increase in exports of 34 mbb/d.

Fuel oil production increased in 2019 due to the bunker oil price rose in the global market, which brought fuel oil export

opportunities in particular to Singapore. There was a drop in sales volume in the Brazilian market between 2019 and 2018 due to lower deliveries for thermal power generation.

Naphtha production increased in 2019, enabling the reduction of imports compared to 2018.

LPG production and sales remained stable in 2019 and 2018.

In 2019, there was a decrease in the production of jet fuel following the reduction in sales due to a retraction in demand.

In addition to constructing new refineries, over the past 10 years, we have made substantial investments in our existing refineries to increase our capacity to economically process heavier Brazilian crude oil, improve the quality of our oil products to meet stricter regulatory standards, modernize our refineries, and reduce the environmental impact of our refining operations. These investments in our existing refineries have been largely completed.



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The following table sets out the performance of our refineries.

Performance of refineries

Refinery	Crude distillation capacity (mbl/d)	Nelson Complexity Index	Average throughput ⁽¹⁾ (mbl/d)			Operational availability %			Utilization rate %		
	2019	2019	2019	2018	2017	2019	2018	2017	2019	2018	2017
LUBNOR	8	3.5	7	8	7	95.3	97.5	98.0	82.7	94.5	89.9
RECAP	57	6.8	50	50	50	96.2	97.6	97.5	87.8	93.1	94.0
REDUC	239	14.9	190	190	178	96.9	95.3	93.9	79.5	79.7	74.5
REFAP	201	5.7	138	135	138	93.7	95.8	97.3	68.8	66.8	68.4
REGAP	157	7.8	134	141	143	96.3	97.7	97.2	85.3	89.7	91.0
REMAN	46	1.8	32	30	32	97.9	97.1	97.6	69.1	64.3	69.8
REPAR	208	7.7	168	173	162	94.2	96.6	96.0	80.9	83.1	78
REPLAN	434	6.9	326	286	324	96.2	87.2	95.7	75.2	68.8	77.9
REVAP	252	8.5	185	213	208	94.5	96.5	94.8	73.5	84.8	82.8
RLAM	279	7.7	206	201	198	92.9	95.2	93.9	73.9	63.8	62.7
RPBC	170	9.6	133	140	144	95.3	97.5	96.9	78.3	82.4	85.0
RPCC	38	1.0	32	32	33	-	-	98.7	-	-	87.8
RNEST	88	8.5	74	67	68	97.8	94.6	94.6	84.4	90.2	92.4
Average crude oil throughput	-	-	1,675	1,664	1,686	-	-	-	-	-	-
Average NGL throughput	-	-	45	51	50	-	-	-	-	-	-
Average throughput	-	-	1,72	1,715	1,736	-	-	-	-	-	-
Crude Distillation capacity	2,176	-	-	-	-	-	-	-	-	-	-

(1) Considers oil and NGL processing (fresh feedstock).

Main products, markets and storage capacity of our refineries

Refinery	Main products	Main markets in Brazil	Storage capacity (mbl)	
			Crude oil	Oil products
LUBNOR	Asphalt (45%); Fuel Oil (31%); Lubricants (12%); Diesel (11%)	Lubricant Oil – sold to distributors and marketed nationwide Asphalts – states in Northern and Northeastern Brazil and Minas Gerais	0.3	0.6
RECAP	Diesel (44%); Gasoline (34%); LPG (8%)	Part of the São Paulo metro region and petrochemical plants	0.5	1.8
REDUC	Diesel (23%); Gasoline (15%); Fuel Oil (15%); LPG – Jet Fuel - Naphtha (10%)	Rio de Janeiro, São Paulo, Espírito Santo, Minas Gerais, Bahia, Ceará, Paraná, Rio Grande do Sul	5.7	12.5
REFAP	Diesel (50%); Gasoline (26%); LPG (7%)	Rio Grande do Sul, part of Santa Catarina and Paraná, in addition to other states by means of coastal shipping	3.2	1.4
REGAP	Diesel (45%); Gasoline (25%); Jet Fuel (8%); LPG (7%)	Currently supplies the state of Minas Gerais and, occasionally, the state of Espírito Santo. It can also expand its reach to the Rio de Janeiro market	1.7	6.0
REMAN	Gasoline (36%); Diesel (28%); Naphtha (10%); Jet Fuel (9%); Fuel Oil (8%)	Amazonas, Acre, Roraima, Rondônia, Amapá and Pará	0.7	1.5
REPAR	Diesel (46%); Gasoline (27%); LPG (8%)	Paraná, Santa Catarina, Southern São Paulo and Mato Grosso do Sul	2.9	1.9



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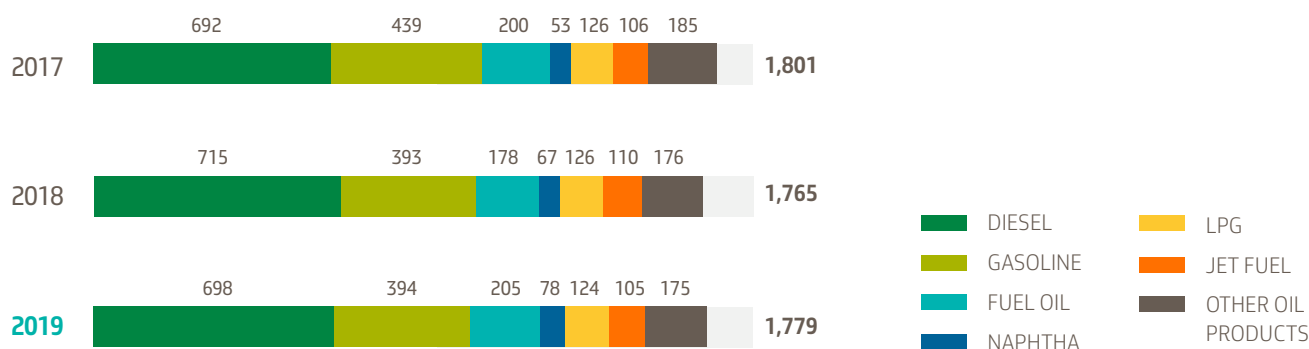
Refinery	Main products	Main markets in Brazil	Storage capacity (mdbl)	
			Crude oil	Oil products
REPLAN	Diesel (43%); Gasoline (24%); LPG – Jet Fuel (7%)	Countryside of the state of São Paulo, Mato Grosso, Mato Grosso do Sul, Rondônia and Acre, Southern Minas Gerais and the so-called “Triângulo Mineiro”, Goiás, Brasília, and Tocantins	6.7	12.9
REVAP	Diesel (28%); Gasoline (22%); Jet Fuel (14%); Fuel Oil (13%)	Paraíba Valley, the northern coast of the state of São Paulo, southern Minas Gerais, the São Paulo metro region, Midwestern Brazil and Southern Rio de Janeiro. It supplies 80% of the demand for jet fuel in the São Paulo state market and 100% of the Guarulhos International Airport	3.3	12.0
RLAM	Diesel (35%); Fuel Oil (28%); Gasoline (22%); LPG (7%)	Primarily the northeastern region of Brazil, followed by the north region and the state of Minas Gerais	– ⁽¹⁾	4.3
RPBC	Diesel (46%); Gasoline (29%); Fuel Oil (9%); LPG (6%)	Most products are intended for São Paulo’s capital. A portion is also shipped to Santos and to the Northern, Northeastern, and Southern Brazilian regions	2.5	6.8
RPCC	Fuel Oil (67.5%); Diesel (15%); Jet Fuel (11.5%); Gasoline (6%)	Rio Grande do Norte and southern Ceará	0.12	0.12
RNEST	Diesel (66%); Naphtha (15%); Coke (10%); Fuel Oil (6%)	North and Northeast of Brazil	– ⁽²⁾	0.7

(1) Crude oil is supplied directly to RLAM tank farms of 4.1 mdbl, with no external crude oil storage.
 (2) Crude oil is supplied directly to RNEST’s tank farms of 5.1 mdbl, with no external crude oil storage.

The Pasadena refinery was sold on May 1, 2019 to Chevron U.S.A. Inc. (“Chevron”) for US\$467 million, which included the sale of the Pasadena Refining System (“PRSI”). Therefore, Chevron began operating the Pasadena refinery.

With respect to oil products, we produced 1,779,000 bbl/d of oil products in 2019, as shown in the following graphic:

Oil products production (mdbl/d)





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International Maritime Organization

In 2016, the International Maritime Organization (“IMO”) decided to reduce the allowable upper limit for sulfur content in marine fuels (bunker fuel) from 3.5% to 0.5% from January 1, 2020 on.

From 2017 to the first quarter of 2019, we carried out studies and analyses in order to prepare our refineries and logistics to produce and deliver a compliant fuel. Furthermore, our increasing production of oil from pre-salt has low sulfur, allowing us to obtain fuel oil that already practically meets the bunker fuel specifications without requiring the addition of high amounts of diluents which give us a competitive edge in the global market.

We have a competitive advantage in the production of the IMO 2020 compliant marine fuel, allowing us to anticipate the market trend and satisfying the needs of our clients.

On October 1, 2019, we started selling bunker fuel with a maximum sulfur content of 0.5% (Low Sulfur Fuel Oil – LSFO) in all Brazilian ports. We began doing this 90 days before the deadline set by the IMO.

In the last quarter of 2019, the demand for LSFO increased in all ports where we offered the product while the international prices have risen significantly.

By December 2019, the appreciation of the cargo exports of fuel oils reached US\$80 per ton higher than gasoil low sulfur (10 parts per million).



Ongoing undertakings

In the last few years, we initiated the construction of GASLUB Itaboraí, previously denominated COMPERJ, to process our domestically produced heavy oil for oil products that were in highest demand in the Brazilian market and with growing shortage.

Located in southeastern Brazil (Itaboraí, in the state of Rio de Janeiro), the GASLUB Itaboraí project is comprised of the GASLUB Itaboraí Refinery, UPGNs and other underlying utilities. With respect to UPGN, in 2019, all critical bidding for UPGN utilities was successfully completed and the unit start up is scheduled for 2021. We are studying project alternatives for the GASLUB Itaboraí area that include integration with the refinery operating in Duque de Caxias (REDUC) for the production of basic lubricants G-II and high quality fuels.

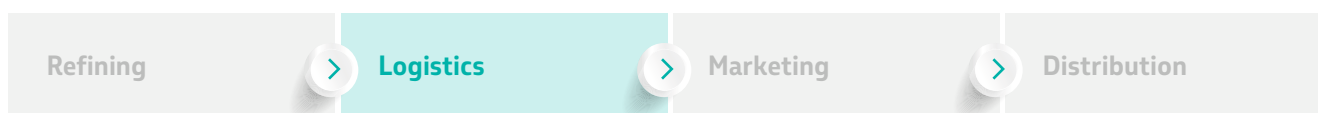
In October, 2019, we entered into a Memorandum of Understanding (“MOU”) with Equinor ASA (“Equinor”), to maximize value in the downstream segment of both companies through natural gas thermoelectric generation projects as well as feasibility studies related to gas processing assets and pipelines in TECAB (Cabiúnas Terminal in Macaé, RJ) and GASLUB Itaboraí, where an UPGN is under construction, both belonging to Petrobras.



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Logistics



Oil and oil products logistics connect the oil production systems to refineries and markets, seeking to minimize the costs involved with transportation and storage. The system seeks to optimize the result of oil refining operations and the commercialization of oil and oil products in Brazil and abroad.

We directly manage some assets of this system, while we contract others with our wholly owned subsidiary Petrobras Transporte S.A. ("Transpetro").

Transpetro is a logistics company which performs operations for the storage and handling of oil and its derivatives, ethanol, gas and biofuels for the supply of Brazilian machinery, thermoelectric and refineries, including import and export activities.

The terminals and pipelines operation is an important link in our supply chain. The oil is transported from the production fields to Transpetro terminals either by pipeline or by ship. From there, it is transported to refineries or for export. After refining, the oil products are again drained through pipelines to the terminals to be delivered to fuel distribution companies, which supply the Brazilian and global markets.

This operation covers a 7,719 km pipeline network and 44 terminals, 24 of which are marine and 20 onshore. The terminals have a total nominal storage capacity of 10.24 million m³. In 2019, Transpetro handled 567.2 million m³ of oil and oil products, totaling 8,161 operations with tankers and oil barges.

Volume moved at terminals and pipelines (million m³)



The increase observed in oil movement in the terminals and pipelines operated by Transpetro was mainly a result of the increase in ship-to-ship exports due to the rise in Petrobras oil production. We also had an average refinery processing load slightly above that of 2018, targeting the production of the low sulfur bunker (fuel highly valued at this time of transition to IMO standards for 2020).

In 2019, we launched the Integrated Pipeline Protection Program ("Pró-Dutos"), which aims to expand and integrate all of our actions to mitigate the risks caused by illegal taps (thefts) of oil and oil products in its onshore pipelines. The scope of Pró-Dutos is multidisciplinary and, therefore, we act preventively with several actions, focusing on six areas: intelligence, legislation, social responsibility, communication,

technology and contingency. We seek, in cooperation with public intelligence and security agencies, to reduce theft of oil and oil products by 75% by December 2021. Alongside the integrity of our operations our key concern is to protect life and the environment around the regions where we operate. In 2019, we managed to reduce the number of incidents of oil and derivatives thefts by 22% compared to the 261 thefts



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that occurred in 2018 and reduced the volume of oil and derivatives stolen by 35% compared to the 10.8 million liters of products stolen in 2018. We also launched a wide range advertising campaign to raise public awareness of this type of risk, which has encouraged the population to collaborate

through our communication channel, telephone 168, effectively reporting criminal actions. We also reviewed and improved our crisis management procedures and responding to emergencies caused by theft. In 2019, 3 emergency drills were conducted with a focus on illegal taps.

Terminals

Location	Terminal	Type	Nominal capacity (m ³)
Alagoas	Maceió	Marine	58,266
Amazonas	Manaus (REMAN)	Marine	-
	Coari	Marine	81,705
Bahia	Candeias	Onshore	36,472
	Itabuna	Onshore	28,845
	Jequié	Onshore	28,111
	Madre de Deus	Marine	663,582
Ceará	Mucuripe	Marine	-
Espírito Santo	Barra do Riacho	Marine	107,883
	Norte Capixaba	Marine	85,205
Distrito Federal	Vitória	Marine	10,706
	Brasília	Onshore	72,309
Goiás	Senador Canedo	Onshore	127,449
Maranhão	São Luís	Marine	78,895
Minas Gerais	Uberaba	Onshore	54,615
	Uberlândia	Onshore	47,226
Pará	Belém	Marine	48,100
Paraíba	Cabedelo	Marine	10,745
Pernambuco	Suape	Marine	108,713
Paraná	Paranaguá	Marine	204,499
Rio de Janeiro	Ilha d' Água	Marine	179,150
	Angra dos Reis	Marine	1,004,861
	Campos Elíseos	Onshore	547,243
	Ilha Redonda	Marine	81,833
	Japeri	Onshore	37,729
Rio Grande do Norte	Volta Redonda	Onshore	29,649
	Guamaré	Marine	258,521
Rio Grande do Sul	Osório	Marine	842,100
	Niterói	Marine	26,978
	Rio Grande	Marine	101,408



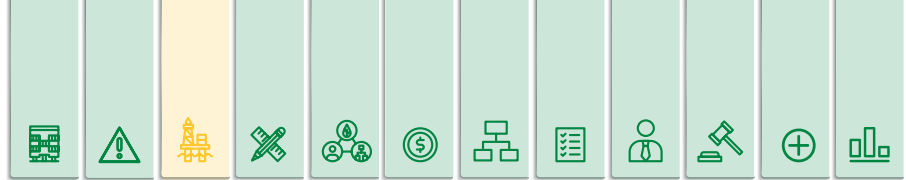
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Location	Terminal	Type	Nominal capacity (m ³)
Santa Catarina	Biguaçu	Onshore	37,916
	Itajaí	Onshore	56,806
	Guaramirim	Onshore	18,926
	São Francisco do Sul	Marine	472,408
Sergipe	Aracaju	Marine	156,940
	Santos	Marine	382,561
São Paulo	São Sebastião	Marine	2,041,906
	Barueri	Onshore	206,262
	Cubatão	Onshore	160,836
	Guararema	Onshore	1,030,673
	Guarulhos	Onshore	164,194
	Paulínia	Onshore	274,349
	Ribeirão Preto	Onshore	50,826
São Caetano do Sul	Onshore	227,496	
Total	44	-	10,244,896

In 2019, Transpetro received the last two ships from its fleet modernization program. Transpetro's transport capacity, when combined with the wholly-owned subsidiary Transpetro International B.V.-TIBV, is 4.8 million deadweight tonnage, through 59 vessels (owned and chartered). Additionally, we have 69 more vessels chartered by us. These vessels are used both for the flow of offshore production and for the transportation of oil and oil products, LPG and ethanol to supply the Brazilian and global markets.

For more information on the vessels chartered or owned by us and Transpetro, see Exhibit 15.4 to this annual report.



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Marketing



MAIN SOURCES

FROM THE TOTAL SUPPLY OF OIL PRODUCTS

1.567
mmbbl/d

Come from the production of our refineries

187
mmbbl/d

Were imported

CONSUMPTION

WE SOLD

An average of

1.754
mmbbl/d

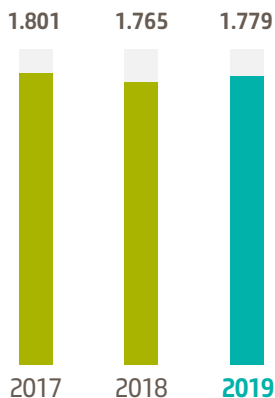
Of oil product for the Brazilian market

199
mmbbl/d

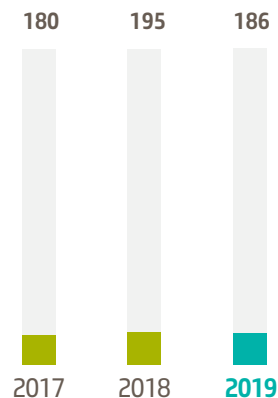
To the foreign market

90% of the total sales of our oil products were destined to the Brazilian market and derived from our refineries and imports.

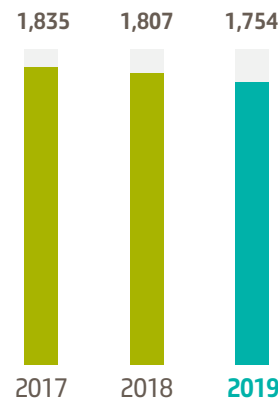
OIL PRODUCTS PRODUCTION (mmbbl/d)



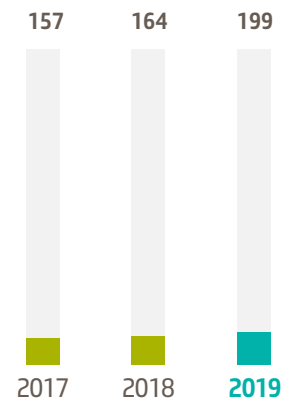
IMPORT OF OIL PRODUCTS (mmbbl/d)



BRAZILIAN MARKET SALES (mmbbl/d)



EXPORT OF OIL PRODUCTS (mmbbl/d)

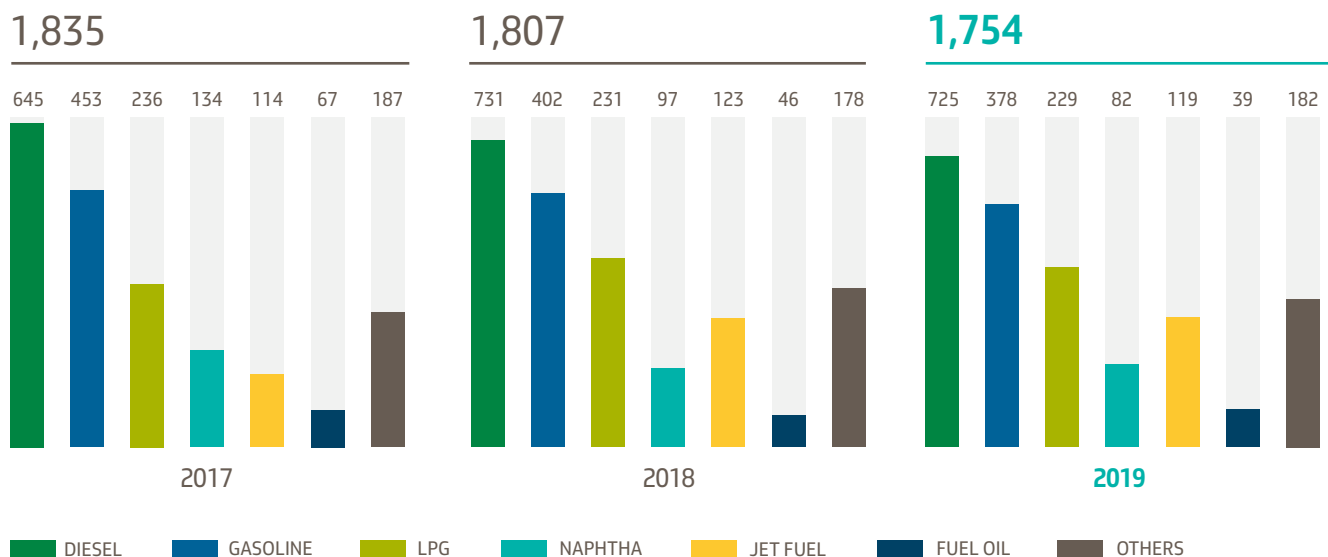




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Sales volumes of oil products to Brazilian market, per product and total in the year*
(mbbl/d)



DIESEL

Diesel is a medium petroleum distillate used as fuel in vehicles with compression-ignites internal combustion engines (Diesel cycle engines). It is used mostly for cargo and passenger's road transport (80%) and in agriculture sector (10%). All diesel sold to end users in Brazil must be blended with biodiesel. Mandatory level of biodiesel in the fuel is currently at 11%. The most important variables that impact diesel demand are Brazilian economic performance and the size of grain and sugarcane harvest, once the country is very dependent on road transport.

Diesel sales in 2019 showed a slight decrease compared to 2018. The main factor negatively affecting diesel sales was a significant increase in imports by competitors during 2019. Positive factors to highlight include economic growth, increase in acreage and production of a second corn crop, as well as a depreciated basis of comparison, due to the truck drivers' strike that took place at the end of May 2018.

GASOLINE

Gasoline is a light petroleum distillate used in vehicles with spark-ignites internal combustion engines (Otto cycle engines). Refineries in Brazil produces a distillate named "gasoline A", which must be blended with 27% of anhydrous ethanol (current mandate) at distributors sites and than sold to end users as "gasoline C" at gas stations. Its main competitors are hydrated ethanol (sold directly by producers to distributors, who resell it on gas stations) and CNG (sold by gas distributors directly to gas stations). In 2019, "gasoline A" share in Brazilian Cycle-Otto market was 50%.

The sharp drop in gasoline sales in 2019 compared to 2018 is related with the entry of additional players in this sector between 2018 and 2019. The additional players include importers, petrochemicals, private refineries and formulators. Third party imports are noteworthy as they increased significantly. Compared to 2018, there was also a decrease in the use of gasoline in flex vehicles, with increased use of hydrous ethanol.

* Due to the divestment of Petrobras Distribuidora, the data for 2017 and 2018 do not consider its sales.



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LPG

The liquefied petroleum gas (LPG) is a light distillate composed by propane and butane. It is used as fuel for heating applications such as cooking equipment, rural heating and water boilers, among others. In Brazil, around 80% of LPG consumption is for cooking, whose demand is directly driven by population growth and real income growth. On the other hand, consumption is inversely correlated with local temperatures and efficiency rate of cooking equipment. The complement of LPG demand (20%) comes from industrial and services sectors, whose demand is driven by economic growth.

The drop in LPG sales compared to 2018 can be mainly attributed to the increase in average temperatures in the main consumer regions in 2019. Higher temperatures reduce the need for product use.



JET FUEL

Jet-Fuel is a medium petroleum distillate used as aviation fuel in aircrafts powered by gas-turbine engines. It is used by all commercial aviation companies (passengers and cargo transportation), which represents 90% of total Brazilian demand. Regarding commercial aviation, domestic flights add up to 60% of Brazilian jet-fuel demand, leaving 40% for the international flights. Jet-fuel demand is strongly correlated with GDP growth, as it directly affects the demand for travel – business and leisure.

Air transport industry in Brazil was strongly impacted due to the ending of Avianca Brasil operations in May of 2019 – the company was in judicial recovery since December 2018. As a result, QAV sales in 2019 declined from the previous year.



FUEL OIL

Fuel oil is a residual fraction of the petroleum distillation. It is used in industrial (mostly non-ferrous metallurgy companies) and electricity generation sectors (thermoelectric plants). The demand for fuel oil for industrial consumption depends mostly on GDP growth and on the natural gas availability (its main competing product). The fuel oil thermoelectric plants participate marginally in the country's energy supply, entering into operation only when the water level in reservoirs are very low. In 2019, industrial use of fuel oil represented around 80% of demand, while the use in power generation represented only 20%.

Sales of fuel oil in 2019 sharply fell compared to 2018. This was mainly due to the decrease in demand for the product to complementary thermal plants when compared to the previous year. The main factors that contributed to this lower demand was an improvement in the level of water reservoirs in general, as well as a heightened wind and solar generation.



NAPHTHA

Naphtha is a light petroleum distillate that is mainly used as raw material for petrochemical sector. This product is sold to three existing petrochemical plants in Brazil, which produce commodity chemicals such as ethylene, propylene, butadiene and aromatics (benzene, toluene, xylenes).

Naphtha sales in 2019 decreased significantly compared to 2018. The drop was mainly due to the reduction in sales to Braskem-BA as of May 2019, due to the maintenance shutdown of its Alagoas plant.



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Besides oil and oil products, we also trade natural gas, nitrogen fertilizers, renewables and other products.

Brazilian sales volumes and exports (mmbbl/d)

	2019	2018	2017
Total oil products	1,738	1,787	1,815
Ethanol, nitrogen fertilizers, renewables and other products	7	17	96
Natural gas	350	345	361
Total Brazilian market	2,095	2,149	2,272
Exports ⁽¹⁾	735	594	659
Total Brazilian market and exports	2,830	2,743	2,931

(1) It mainly includes crude oil and oil products.



Oil products prices

Crude oil is a commodity, the value of which depends on its quality. A lighter crude oil has a better value than a heavier one, given that it can generate higher value products. A low-sulfur crude oil also has a better value than oil with a higher sulfur content. Different refineries assign different values to the same crude oil, depending on their conversion capacity and the products they intend to produce to supply their specific market. Refineries can process a wide variety of different crude oils, which make different crude oils competitors among themselves.

Crude oils are globally traded and their prices used to be referenced on international quotations, as WTI, Brent or Dubai. Depending on the quality, offer, demand, size lot, commercial conditions and logistics costs to make a crude oil cargo available at a certain delivery point, a premium or a discount negotiated between buyer and seller will be added to the reference quotation.

Refined oil products are commodities and their prices in the global market are driven by the supply and demand balance, crude oil price and crack spread. Crack spread refers to the overall pricing difference between a barrel of crude oil and oil products refined from it. It is an industry-specific type of gross processing margin. The “crack” being referred to is an industry term for breaking apart crude oil into the component products, including gases like propane, heating fuel, gasoline, light distillates like jet fuel, intermediate distillates like diesel fuel and heavy distillates like grease. Typically, a crack is defined in terms of one specific product versus one specific crude. For example, the diesel crack on Brent indicates how much the price of the individual product is contributing to refining profitability.

The price of a barrel of crude oil and the various prices of the products refined from it are not always in perfect synchronization. Depending on seasonality and global inventories among other factors, the supply and demand for particular distillates results in pricing changes that can impact the profit margins on a barrel of crude oil for the refiner.



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As oil products are traded globally and can be transported between markets, prices around the world tend to fluctuate together.

Therefore, the oil products in Brazil are priced to the parity with international prices.

Diesel and Gasoline

Diesel and gasoline prices are defined taking into account the international parity price and margins to remunerate the risks inherent in the operation.

In 2019, we announced adjustments to selling prices at refineries, resulting in price increases of 27.1% for gasoline and 28.9% for diesel, when comparing prices in place on December 31, 2019 with those effective as of December 31, 2018.

In addition, we have the option to use derivatives, aiming to give additional flexibility to the management of prices of these products. The derivative mechanism may be applied in times of high market volatility in order to achieve a result equivalent to those that would be obtained through daily adjustments, a practice that also remains an option for us, in this case, the derivative mechanism can not be used for speculation purposes.

LPG

In August 2019, the price for the sale of LPG to distributors marketed began to be defined considering the international parity price and margins to remunerate the risks inherent in the operation. Price adjustments are made without defined periodicity, according to market conditions and analysis of internal and external environments.

Imports, Exports, and International Sales

Our import and export of crude and oil products are driven by economic factors involving our domestic refining, the Brazilian demand levels and international prices. Most of the crude oil we produce in Brazil is classified as medium API gravity. We import some light crude oil to balance the slate for our refineries, and export mainly medium crude oil from our production in Brazil. In addition, we continue to import oil products to balance any shortfall between production from our Brazilian refineries and the market demand for each product.

In 2019, net exports increased by 138,000 bbl/d, reaching 381,000 bbl/d. This level represented the monthly record for oil exports and it encompasses an increase in gasoline exports and an increase in chain exports for bunker formulation 0.5% due to the appreciation caused by the entry of IMO 2020. In addition, there was a drop in naphtha imports due to the Brazilian market's own production.

We also export oil products from our refineries.



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Exports and imports of crude oil and oil products (mmbbl/d)

	2019	2018	2017
Exports			
Crude oil	536	428	512
Fuel oil	133	121	119
Other oil products	66	43	28
Total exports	735	592	659
Imports			
Crude oil	168	154	127
Diesel	70	59	12
Gasoline	28	19	11
Other oil products	88	117	158
Total imports	354	349	308

Our crude oil, oil products and LNG trading activities aim to meet our internal demands or potential businesses opportunities identified by our commercial teams, seeking to optimize the buying and selling operations in the Brazilian and global markets, as well as offshore operations.

The international trading teams are based in the major global commercial hubs of oil and oil products, such as London, Houston and Singapore, Rotterdam and Buenos Aires, and are comprised of crude oil and product traders, shipping and support operators.

Our most representative trade in terms of volume and profitability is crude oil. We sell crude oil through

long-term and spot-market contracts. In 2019, the crude oil volume committed through long-term contracts with fixed quantity subject to final agreement on commercial terms is approximately 200 mmbbl/d and the volume committed through long-term contracts subject to mutual agreement is expected to be around 60 mmbbl/d. Considering the planned processing rates of our refineries for the coming year and considering the impacts of the divestment projects, we believe that our production will be sufficient to allow us to continue delivering all contracted volumes.

Distribution



We sell our oil products to several distribution companies in Brazil. Until July 2019, we had a 71.25% stake in Petrobras Distribuidora ("BRDT"), one of the largest distribution companies in the country. As a result of the follow-on offering closed in July 2019, the first privatization of a state-owned company through capital markets in the history of Brazil, we have a 37.5% participation in BRDT as of December 31, 2019.

Even after completing the sale of part of our shareholding in BRDT, we remain the owner of the main brands used by it, including those that identify service stations, fuel, loyalty program, aviation segments and certification program, among others.



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A 10-year trademark license agreement, is in place and grants BRDT a non-exclusive, paid, temporary license on certain trademarks we own, including but not limited to “Petrobras,” “Petrobras Podium,” “Petrobras Premmia,” “De Olho no Combustível,” “BR Aviation” and “Petrobras Grid.” The trademark license agreement was renegotiated before the follow on to incorporate changes necessary for both companies. It was signed in 2019, and is renewable for an additional 10-year period. Under the terms of this agreement, the license is granted exclusively to the service station and aviation segments, for which BRDT shall exclusively use the brands licensed by us. BRDT must also exclusively use our licensed brands in the oil and gas and biofuels segments. Meanwhile, during the term of the trademark license agreement, we undertake to refrain from operating in the service stations across the Brazilian territory. The definition of a “service station” under this agreement is any facility where oil and gas products and services and/or services related to any other energy sources (renewable or otherwise) intended to power automotive vehicles and watercrafts are offered to the Business-to-Consumer (or B2C) public, including convenience stores.

We operate in the bottling, distribution and sale of LPG through our subsidiary Liqueigás Distribuidora S.A. (“Liqueigás”). On November 19, 2019, we entered into an agreement with Copagaz and Nacional Gás Butano for the sale of our entire equity stake in Liqueigás Distribuidora, pursuant to a purchase and sales agreement. Closing of the transaction is subject to customary conditions precedent, including CADE’s approval.

This transaction is in line with the optimization of our portfolio and with the improvement of our capital allocation, aiming to create value for our shareholders.

For more information on the sale of part of our shareholding position in Petrobras Distribuidora and our equity stake in Liqueigás Distribuidora, see “Portfolio Management” in this annual report.

For more information on oil products clients, see “Customers and Competitors” in this annual report.

We also participate in the retail sector in other South American countries, as follows:

- **Colombia:** Our operations include 123 service stations and a lubricant plant with a production capacity of 54,000 m³/year.
- **Uruguay:** We have 87 service stations;
- **Chile:** Following the sale of our distribution operations in Chile, which was concluded in January 2017, we entered into a brand licensing agreement in that country, for the initial term of eight years. To operate our acquired assets in Chile, Southern Cross created Esmax, a company that operates as our licensee in the fuel distribution segment;
- **Paraguay:** Until March 8, 2019, our operations included 201 service stations, the distribution and sales of fuel at three airports and an LPG refueling plant. Our operations were sold to Paraguay Energy, a subsidiary of Copetrol Group. The sale agreement also included the licensing for the exclusive use of our brands by Nextar (the successor of Petrobras Paraguay Operaciones y Logística SRL) in service stations in Paraguay, for the initial term of five years.



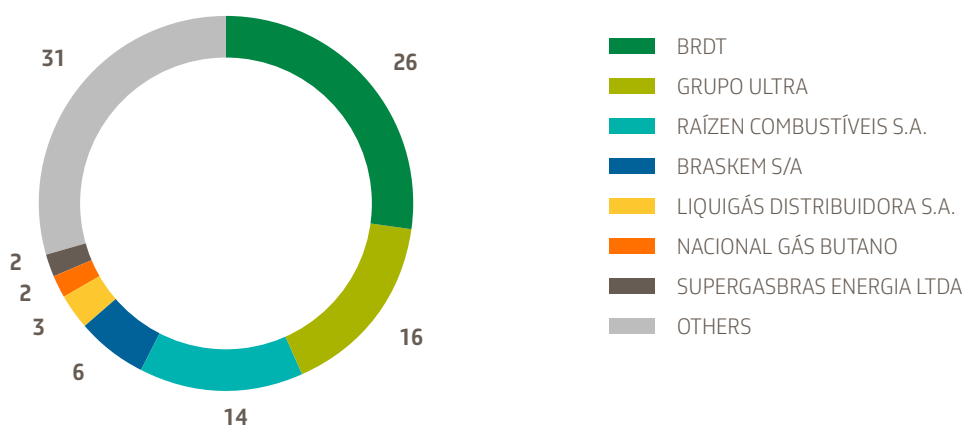
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Customers and Competitors

We interact with around 400 clients in Brazil, in regards to liquid oil products, seven of which account for 67% of the total volume sold.

Liquid oil products clients (% vol)



The sale of oil products to distribution companies is done by contracts executed in accordance with ANP regulations.

We offer a virtual commercial platform, called *Canal Cliente* to Brazilian market companies. The platform works 24 hours a day, seven days a week. Through this online platform, clients can place orders for products, schedule withdrawals and track the entire business process up to the payment phase.

According to information provided by the ANP, we have a dominant participation in the Brazilian market for refining. We own and operate 14 refineries in Brazil, including a shale industrialization unit (“SIX”). SIX is presented in the Shale Industrialization section in this annual report.

In June 2019, we signed a commitment with CADE which consolidates the understanding between the parties on the execution of divestment of refining assets in Brazil. The purpose of the agreement is to provide competitive conditions, encouraging new economic agents to enter

the downstream market, as well as suspending the administrative investigation opened by the CADE court to investigate alleged abuse of our dominant position in the refining segment. The agreement considers the divestment of approximately 50% of our refining capacity. We intend to divest from seven refining units (Reman, Lubnor, Rnest, Rlam, Regap, Repar and Refap) and a shale industrialization unit (SIX).

With respect to the trading of oil products in the Brazilian market, we face competition from importers, formulators, other domestic producers and petrochemical plants. In 2019, our participation in diesel and gasoline markets decreased compared to the previous year, mainly due to the increase in imports by third parties. In the specific case of gasoline, demand also reflected competition with a substitute product, hydrous ethanol, which recorded a sharp increase in consumption during 2019.



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Other Activities

Petrochemicals

We engage in the petrochemical sector through the following companies:

Our shareholding in petrochemical companies in Brazil

	Location	Nominal capacity (mmt/y)	Our shareholding	Other shareholders
Braskem:				
Ethylene		5.00		
Polyethylene	Bahia	4.11	36.15%	Odebrecht (38.32%); Others (25.53%)
Polypropylene		4.50		
DETEN Química S.A.:				
LAB ⁽¹⁾		0.22		
LABSA ⁽¹⁾	Bahia	0.12	27.88%	Petresa (69.78%); Others (2.34%)
METANOR S.A./COPENOR S.A.⁽²⁾:				
Methanol ⁽³⁾		0.00		
Formaldehyde	Bahia	0.09	34.34%	GPC – Grupo Peixoto de Castro (45,22%); Tesouraria (0.59%); Others (20.44%)
Hexamine		0.01		
FCC Fábrica Carioca de Catalisadores S.A.:				
Catalysts	Rio de Janeiro	0.04	50.00%	Albemarle (50.00%)
Additives		0.01		
PETROCOQUE S.A.:				
Calcined petroleum coke	São Paulo	0.55	50.00%	Universal Empreendimentos e Participações Ltda (50.00%)

(1) Feedstock for the production of biodegradable detergents.

(2) Copernor S.A. is a subsidiary of Metanor S.A.

(3) The company decided to stop the production of methanol in 2016. On October 18, 2019, the company sold the plant (equipment) to International Process Plants and Equipments Corporation.

Shale Industrialization

We operate shale processing through our shale industrialization unit (“SIX”), an operating unit with installed capacity of 5,880 t/d, located in São Mateus do Sul, Brazil.

We have developed a technology that covers all stages of the manufacturing process. The products obtained from shale processing are fuel oil, naphtha, fuel gas, liquefied gas, sulfur and paving inputs that are used by various industries, such as ceramics, oil refineries, cement plants, sugar mills and agricultural undertakings. The process also produces shale water, which is an input used to formulate foliar fertilizers.

Fuel oils obtained from shale are suitable for industrial consumption in urban centers because they are highly fluid, very easy to handle and eliminate the need for pre-heating. This allows for reductions in burning operating costs and, as such, is ideal for cold climates.

In conducting our operation, we work to repair mined areas

through an environmental program that consists of reforestation with native species and the return of fauna to rehabilitated land.

In line with our repositioning process, in June 2019, we signed a commitment with the Administrative Council for Economic Defense (“CADE”) which consolidates our understanding on the execution of divestment of refining assets in Brazil. We intend to divest from seven refining units (Reman, Lubnor, Rnest, Rlam, Regap, Repar and Refap) and SIX.

For more information on our partnerships and divestments, see “Portfolio Management” in this annual report.

Biofuels

We also operate in the production of biodiesel and ethanol through our wholly owned subsidiary Petrobras Biocombustível S.A. (“PBIO”), which manages our activities for the production, logistics and marketing of these products.

Brazil is a global leader in the use and production of biofuels. The anhydrous ethanol content requirement for gasoline sold in



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Brazil is 27%. Historically, Brazil has been a producer of ethanol and sugar and sold the exceeding electricity generated from burning sugarcane bagasse. PBIO currently holds a 8.4% stake in the Bambuí Bioenergia, an ethanol and power plant, located in the city of Bambuí in the state of Minas Gerais. However, there is an arbitration process in progress, and in parallel a divestment process of PBIO's equity interest in Bambuí Bioenergia.

There is mandatory blend of 11% biodiesel in all diesel sold in Brazil since September 2019, with gradual scheduled increases of 1% per year, until it reaches a mandated 15% in 2023. The ANP confirmed a mandatory blend of 12% for biodiesel deliveries for March 2020, when it announced the

auction for biodiesel acquisitions. PBIO has a 50% interest in the company BSBIOS Sul Brasil S.A. ("BSBIOS") which owns two biodiesel plants. The company RP Biocombustíveis S.A. owns the other 50% interest. PBIO has three biodiesel plants for its own operations. However, one of our directly owned units, the Quixada biodiesel plant, stopped operating in November 2016, as a result of its economic performance. The unit is currently in a restorative hibernation state. Our biodiesel production capacity in the other two in operation is 8.1 mbb/d. In 2019 we supplied 6% of Brazil's biodiesel demand, according to ANP.



Main Assets

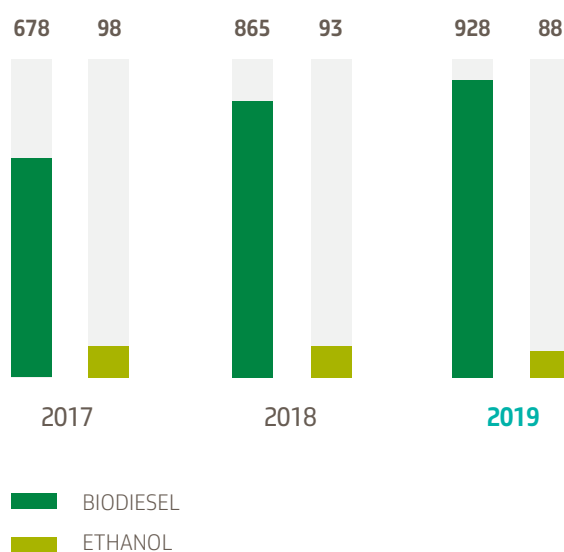
	2019	2018	2017
Biofuels			
Biodiesel production units	5 ⁽¹⁾	5 ⁽¹⁾	5 ⁽¹⁾
Biodiesel production capacity (mbbl/d)	22.1 ⁽¹⁾	18.2 ⁽¹⁾	18.2 ⁽¹⁾

(1) Includes total production capacity in two plants in which we have 50% interest through BSBIOS Sul Brasil, as well as the capacity of Quixadá, which is mothballing.

With respect to divestments, in November 2019 the sale of PBIO's 50% stake in Belém Bioenergia Brasil ("BBB"), to Galp Bioenergy B.V., which holds the other 50% stake in the company, was concluded. We also announced the sale of PBIO's 100% stake in Bioóleo Industrial e Comercial S.A. ("Bioóleo"). This stake represented 6.07% of Bioóleo shares, and was sold to 2H Participações Societárias EIRELI, which holds the other 93.93% stake in the company. In addition, PBIO is in the process of divesting its stake in BSBIOS. In January 2020, we announced the beginning of the non-binding phase related to the planned sale by PBIO, the wholly-owned subsidiary of BSBIOS, of all its BSBIOS shares. For more information on our divestments, see "Portfolio Management" in this annual report.

In accordance with our 2020-2024 Strategic Plan, we decided to exit the biodiesel and ethanol production market. Nevertheless, we are working to produce renewable diesel and BioQav, in response to the sustainability policies of the Brazilian energy matrix. We entered into several strategic transactions to this end.

Biofuels production* (thousand m³)



* Includes 100% of the volume of affiliates.



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Gas and Power

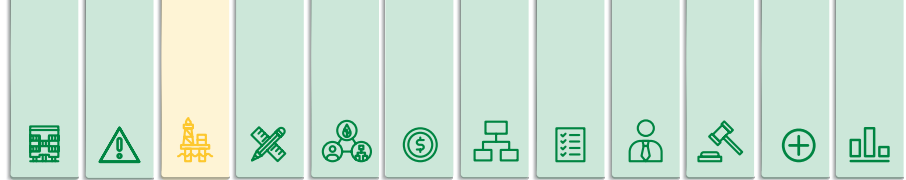
Overview

We process gas produced in our oil fields in our natural gas processing units (“UPGNs”) that have the capacity to treat 105.12 million m³/d of natural gas in Brazil. We market this natural gas, along with gas imported from Bolivia and LNG acquired in the global market, to several consumers and to the thermoelectric plants.

We also operate in the generation and sale of electric energy through thermal power plants fired by natural gas, diesel oil and fuel oil.

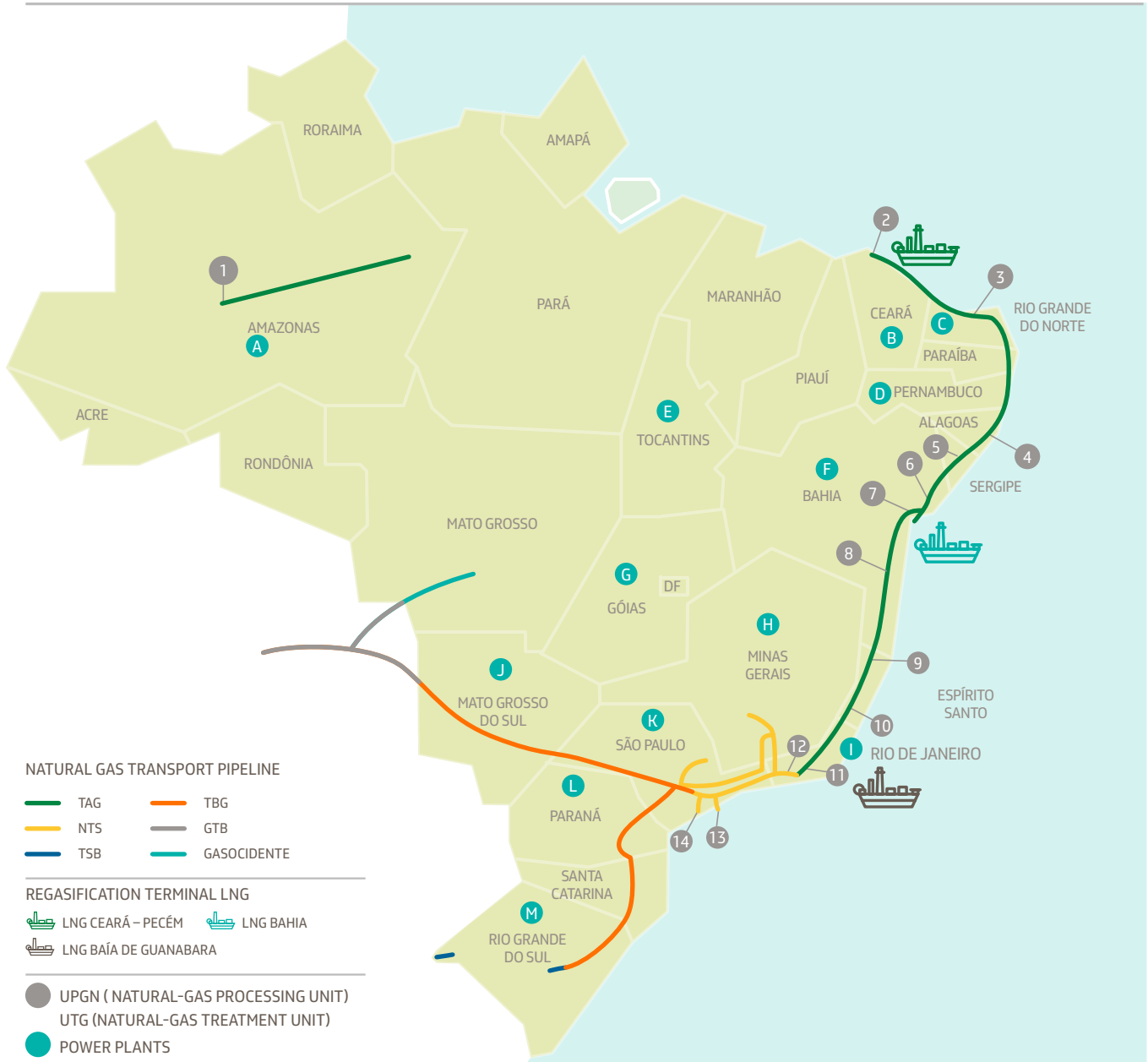


Main Assets	2019	2018	2017
	Natural gas		
Gas pipelines in Brazil (km)	9,190	9,190	9,190
Processing Units	22	23	23
Brazil	19	20	20
Bolivia	3	3	3
Processing capacity (million m ³ /day)	149	149	149
Brazil	105	105	105
Bolivia	44	44	44
Regasification terminals	3	3	3
Regasification capacity (million m ³ /day)	47	47	41
Power			
Number of thermal power plants	20	20	20
Installed capacity (thousand MW)	6.1	6.1	6.1



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NATURAL GAS TRANSPORT PIPELINE

- TAG
- TBG
- NTS
- GTB
- TSB
- GASOCIDENTE

REGASIFICATION TERMINAL LNG

- LNG CEARÁ – PECÉM
- LNG BAHIA
- LNG BAÍA DE GUANABARA

- UPGN (NATURAL-GAS PROCESSING UNIT)
- UTG (NATURAL-GAS TREATMENT UNIT)
- POWER PLANTS

- | | | | |
|--------------------------|-----------------|--------------------------|--------------------------|
| 1 UPGN URUCU (4 UNITS) | 5 UPGN ATALAIA | 9 UTGC (CACIMBAS) | 12 UPGN REDUC |
| 2 UPGN LUBNOR | 6 UPGN CATU | 10 UTGSUL (SUL CAPIXABA) | 13 UTGCA (CARAGUATATUBA) |
| 3 UPGN GUAMARÉ (3 UNITS) | 7 UPGN CANDEIAS | 11 UTGCAB (CABIÚNAS) | 14 UPGN RPBC |
| 4 UPGN PILAR | 8 EVF MANATI | | |

- THERMOELECTRIC
- WIND
- PHOTOVOLTAIC
- SMALL HYDROELECTRIC

- | | | | | |
|---|--|---|---|---|
| A JARAQUI NG
JARAQUI FO
TAMBAQUI NG
TAMBAQUI FO
MANAUARA | C VALE DO AÇU
PARQUE EÓLICO GUAMARÉ
MANGUE SECO 1
MANGUE SECO 2
MANGUE SECO 3
MANGUE SECO 5
ALTO DO RODRIGUES | E ÁGUA LIMPA
AREIA | G GOIÂNIA II | J TRÊS LAGOAS |
| B TERMOCEARÁ | D SUAPE II
TERMOCABO | F TERMOBAHIA
TERMOCAMAÇARI
BAHIA I
AREMBEPE
MURICY I | H IBIRITÉ
JUIZ DE FORA | K CUBATÃO
NOVA PIRATININGA
PIRATININGA |
| | | | I BAIXADA FLUMINENSE
SEROPÉDICA
TERMORIO
TERMOMACAÉ | L ARAUCÁRIA |
| | | | | M CANOAS |



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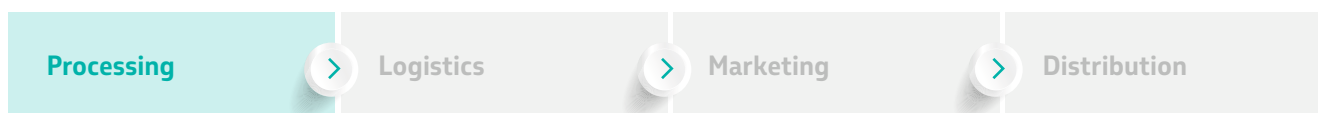
Natural Gas

Our Gas and Power segment comprises gas processing, transmission and distribution, LNG regasification (Ceará, Bahia and Rio de Janeiro), gas-fired, oil-fuelled and flex fuel power generation.

The Gas and Power segment strategy is:

- optimize our thermoelectric portfolio, prioritizing the self-consumption and commercialization of own natural gas;
- act in a competitive way, with a focus on the commercialization of own natural gas; and
- completely exit of natural gas distribution and transport business.

Processing of Natural Gas



Natural gas from our exploration and production activities needs to be processed in processing units, to be transformed into marketable products. These products serve as fuel and raw material for different uses, such as vehicular, industrial and residential uses, as well as uses in the fertilizer industry and thermoelectric power generation.

Our UPGNs are located in the states of Amazonas, Ceará, Rio Grande do Norte, Alagoas, Sergipe, Bahia, Espírito Santo, Rio de Janeiro and São Paulo in Brazil as well as in Bolivia, where we have the capacity to process natural gas in its gaseous and condensed forms.



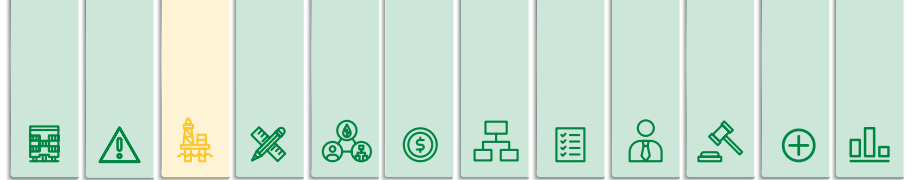
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The current processing capacity and production of our UPGNs in Brazil is:

Processing capacity and production of our UPGNs in Brazil

		2019					2018			2017		
Location	Number of units	2019 Processing capacity (million m ³ /d)	Unprocessed natural gas (million m ³ /d)	Processed natural gas (million m ³ /d)	LPG (thousand t/d)	Unprocessed natural gas (million m ³ /d)	Processed natural gas (million m ³ /d)	LPG (thousand t/d)	Unprocessed natural gas (million m ³ /d)	Processed natural gas (million m ³ /d)	LPG (thousand t/d)	
UTGCAB	Rio de Janeiro	1	24.60	23.37	0.71	22.15	17.85	0.61	23.42	18.68	0.78	
UTGCA	São Paulo	1	20.00	14.68	0.70	11.47	10.95	0.47	14.51	13.82	0.57	
UTGC	Espírito Santo	1	16.61	4.89	0.82	6.41	5.83	0.92	7.52	6.92	1.01	
UTGSUL	Espírito Santo	1	2.50	0.58	-	1.01	0.96	-	1.34	1.32	-	
REDUC	Rio de Janeiro	1	5.00	1.46	0.06	1.02	0.71	-	1.05	0.73	-	
RPBC	São Paulo	1	2.00	0.46	-	0.52	0.37	-	0.73	0.51	-	
LUBNOR	Ceará	1	0.35	-	-	-	-	-	-	-	-	
URUCU	Amazonas	4	12.10	12.10	1.21	12.32	11.45	1.26	11.64	10.84	1.16	
GUAMARÉ	Rio Grande do Norte	3	6.10	1.36	0.15	1.45	1.34	0.16	1.57	1.45	0.18	
PILAR	Alagoas	1	1.98	1.24	0.07	1.40	1.34	0.10	1.40	1.34	0.09	
ATALAIA	Sergipe	1	2.98	0.78	0.06	0.83	0.76	0.08	1.05	0.96	0.10	
CATU	Bahia	1	1.95	1.57	-	1.71	1.58	-	1.80	1.67	-	
CANDEIAS	Bahia	1	2.95	-	-	-	-	-	0.01	-	-	
EVF MANATI	Bahia	1	6.00	3.54	-	4.80	-	-	4.77	-	-	
TOTAL		19	105.12	66.33	53.95	3.78	65.09	53.16	3.60	70.81	58.25	3.89



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AVERAGE TOTAL VOLUME OF NATURAL GAS PROCESSED IN OUR UNITS
million m³/day



2019

66.3

2018

65.1

2017

70.7



2%

**higher than
2018**

After processing of natural gas the main products were:



PROCESSED
NATURAL GAS*
million m³/day

2019

54.0

2018

53.0

2017

58.1



LPG
thousand ton/day

2019

3.8

2018

3.6

2017

3.9

* In addition to the consumer market, a portion of the volume of processed gas is destined for reinjection in isolated areas and consumption in the processing units themselves.

In addition to the natural gas produced in Brazil, we also received natural gas from Bolivia through pipeline and liquefied natural gas, imported from other countries on special ships and regasified at terminals in Brazil.

The total average volume of natural gas imported from Bolivia:



2019

14.60

2018

17.02

2017

19.48



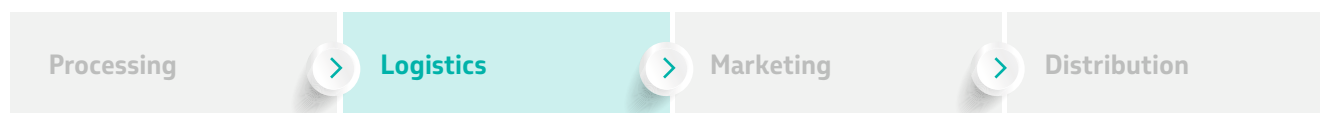
14% lower than 2018



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Logistics



We use a pipeline system to transport natural gas from processing plants, regasification terminals and the border with Bolivia, to the local distributors, as well as for the internal consumption of our units. Brazil has an integrated pipeline system centered around two main interlinked pipeline networks, a gas pipeline connection with Bolivia and an isolated pipeline in the northern region of Brazil (all together spanning over 9,190 km).

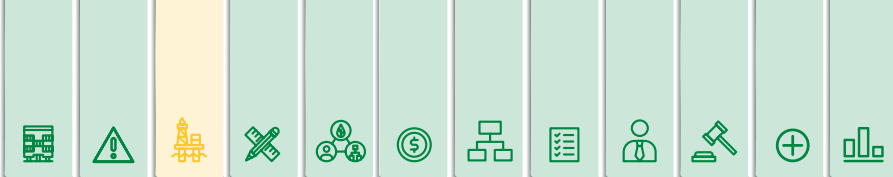
Our share in gas transportation companies in Brazil

Company	Gas pipeline extension (km)	Our shareholding	Other shareholders
Transportadora Brasileira Gasoduto Bolívia Brasil S.A. ("TBG")	2,593	51%	BBPP Holdings Ltda. (29%); YPFB Transporte S.A. (12%); GTB – TBG Holdings S.A.R.L. (8%)
Transportadora Associada de Gás S.A. ("TAG")	4,504	10%	Caisse de Dépôt et Placement du Québec (CDPQ) (31,50%); GDF International (GDI) (29,25%); Engie Brasil Energia S.A. (EBE) (29,25%)
Nova Transportadora do Sudeste S.A. ("NTS")	2,043	10%	Nova Infraestrutura Fundo de Investimento em Participações (FIP) (82,35%); Investimentos Itaú S.A. (Itaúsa) (7,65%)
Transportadora Sulbrasileira de Gás S.A. ("TSB")	50	25%	Ipiranga Produtos de Petróleo S.A. (25%); Total Gas and Power Brazil (25%); Tucunaré Empreendimentos e Participações Ltda. (25%)
TOTAL	9,190	-	

In June 2019, we sold 90% of our stake in Transportadora Associada de Gás S.A. ("TAG") to the group comprised of ENGIE and the Canadian fund Caisse de Dépôt et Placement du Québec ("CDPQ").

For more information on our divestments, see "Portfolio Management" in this annual report.

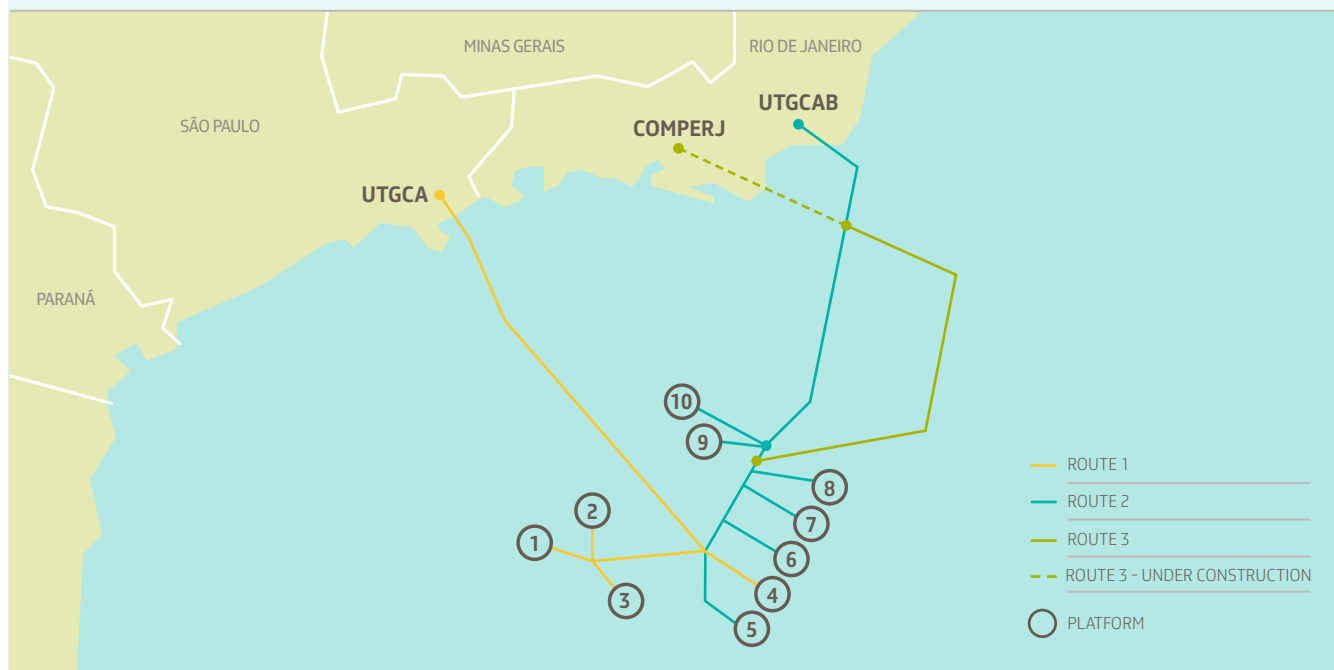
In addition, outside Brazil we hold an 11% stake in Gás Transboliviano S.A. ("GTB"), which is responsible for the Bolivian side of the Bolivia-Brazil gas pipeline, measuring 557 km.



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Gas from Pre-Salt



ROUTE 1 EXTENSION 359 Km CAPACITY 20 MM m³/d
AND GASMEX UTGCA

- 1 FPSO CIDADE DE CARAGUATATUBA LAPA
- 2 FPSO CIDADE DE ILHABELA SAPINHOÁ NORTE
- 3 FPSO CIDADE DE SÃO PAULO PILOTO SAPINHOÁ
- 4 FPSO CIDADE DE ANGRA DOS REIS PILOTO LULA

ROUTE 2 EXTENSION 401 Km CAPACITY 20 MM m³/d
UTGCAB

- 5 P-66 LULA SUL
- 6 FPSO CIDADE DE SAQUAREMA LULA CENTRAL
- 7 FPSO CIDADE DE MARICÁ LULA ALTO
- 8 FPSO CIDADE DE PARATY LULA NORDESTE
- 9 FPSO CIDADE DE MANGARATIBA IRACEMA SUL
- 10 FPSO CIDADE DE ITAGUAÍ IRACEMA NORTE

ROUTE 3 EXTENSION 355 Km CAPACITY 18 MM m³/d
UTGCOMPERJ

In order to derive natural gas from our production of the Santos Basin pre-salt pole, in addition to using part of the existing infrastructure, we invested in the construction of flow routes integrated with the processing units, which seek to optimize the use of natural gas. We have invested in the following flow routes:

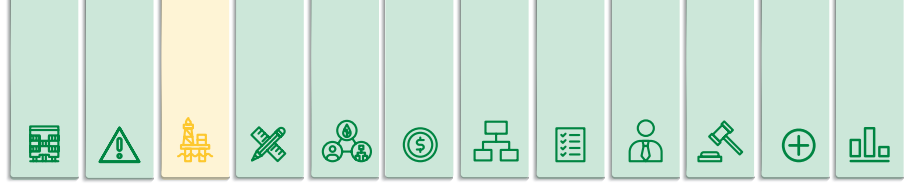
ROUTE 1 AND GASMEX: The 359 km pipeline consists of two stretches: Route 1, the Lula- Plataforma stretch of Mexilhão, with capacity to flow up to 10 million m³/d, and the stretch connecting GASMEX - the Mexilhão platform to the Monteiro Lobato Gas Treatment Unit, in the city of Caraguatatuba in the state of São Paulo, with capacity to flow up to 20 million m³/d of gas produced in the Santos Basin pre-salt. We own 65% of Route 1, Shell owns 25% and Petrogal owns the remaining 10%.

ROUTE 2: The 401 km pipeline links the Santos Basin pre-salt to the UTGCAB processing asset, in the city of Macaé in the state of Rio de Janeiro. It had an initial capacity to flow up to 13 million m³/d, then increased to 16 million m³/d. In July 2019, the ANP authorized the pipeline to operate with 20 million m³/d. We own 65% of Route 2 Lu-

la-Cernambi, Shell owns 25% and Petrogal owns the remaining 10%. We own 55% of Route 2 Cernambi-TECAB, Shell owns 25%, Petrogal owns 10%, and Repson owns the remaining 10%.

ROUTE 3: This 355 km gas pipeline will connect the pre-salt to the natural gas processing plant located in Itaboraí in the state of Rio de Janeiro, for the disposal of up to 18 million m³/d. Three hundred seven km of the pipeline will be offshore, and 48 km onshore. The natural gas processing plant will have two units with a total capacity of processing 21 million m³/d of natural gas, which will increase the supply of natural gas, LPG and natural gasoline (C5+) to the market. Route 3 is scheduled to start up in 2021. We own 100% of Route 3.

Recently installed and upcoming units in the Santos Basin pre-salt will be progressively connected to Route 2 (P-66, P-74, P-69, P-68, P-76) and to Route 3 once they become operational (P-67, P-75, P-77, P-70, FPSO Carioca and FPSO Almirante Barroso). All projects will be able to flow through any of the three flow routes once the system is fully implemented.



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Marketing



The volume of our natural gas consumption to industrial, gas-fired electric power generation, commercial and retail customers in 2019 was 76.5 million mm³/d, representing a small increase of approximately 1.5% compared to 2018. This increase is mainly attributable to a higher power generation from gas-fired power plants.

In 2019, the consumption of natural gas by our refineries and fertilizer plants decreased by 9% compared to 2018. This decrease is mainly attributable to the recent mothballing of our fertilizer factories.

Below we present our sources and consumption in 2019:

SOURCES

TOTAL OFFER
NATURAL GAS

50.4
million m³/d
originated from
Brazilian production

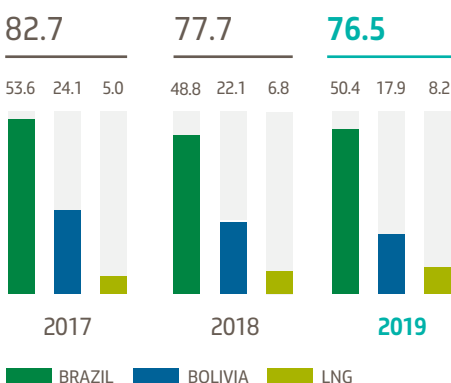
17.9
at 2019
million m³/day
Imported
from Bolivia

8.2
million m³/day
LNG imports were subject to
regasification at the LNG terminals in
Pecém (CE), at Baía de Guanabara (RJ)
and in Bahia (BA)

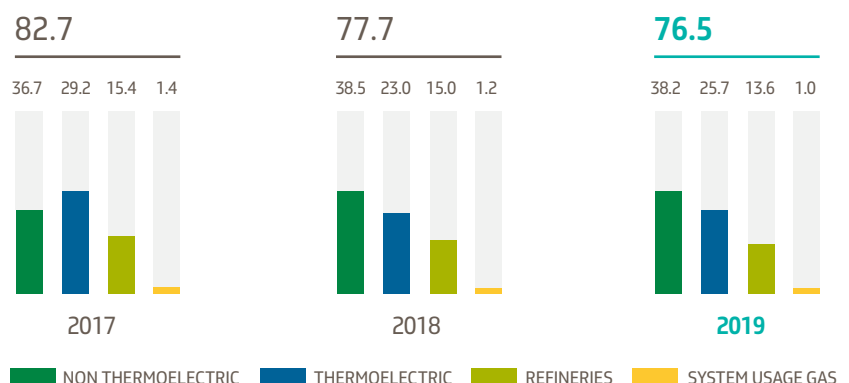
CONSUMPTION

WE SUPPLY million m ³ /d The average of 76.5 natural gas	WE SELL Through 38 agreements	TOTAL VOLUME DELIVERED million m ³ /d We delivered 23.7 to the thermoelectric market (includes our units and third party units)
13.6 for the internal consumption of our units	19 distribution companies	13.6 to the refinery units and fertilizer manufacturers
62.9 to the market	both for the thermoelectric segment, as for the non-thermal segment, including cogeneration units. Additionally, we serve two free consumers.	38.2 to the gas distributors for supplying the non-thermoelectric market
		1.0 was consumed by the natural gas carriers hired by us for the provision of transport service.

NATURAL GAS OFFER (million m³/day)



DEMAND FOR NATURAL GAS (million m³/day)





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Regarding changes in the Brazilian gas market, in July 2019, we signed an agreement with CADE, which consolidates our understandings between the parties on the promotion of competition in the natural gas industry in Brazil. This agreement includes the sale of shareholdings in gas transportation and distribution companies and, among other matters, increases the flexibility for third parties to have access to our processing plants and release capacity in certain gas transportation contracts to which we are part. The purpose of the agreement is to preserve and protect the competitive conditions, aiming to open the Brazilian natural gas market, encouraging new agents to enter this market, as well as suspending administrative procedures established by CADE court to investigate our natural gas business.

Opening the gas market

Full compliance with the commitments signed with CADE, anticipating the deadlines initially agreed

COMPLETED ACTIONS	ACTIONS IN PROGRESS 2020 AND 2021
<p>JUL/19 ○ End of exclusive natural gas transportation contracts</p>	
<p>SEP/19 ○ Execution of the Commitment Agreement with ANP within the scope of the TBG Public Call</p>	
<p>DEC/19 ○ Gas treatment units processing services contract draft made available</p> <p>○ Transition Agreement under the natural gas supply contract with YPFB</p> <p>○ Disclosure of the teaser to sell 10% stake in TAG</p>	<p> Leasing process of the Regasification Terminal in Bahia has started</p>
<p>JAN/20 ○ Appointment of independent member of the Board of Directors of TAG, TBG, Gaspetro, NTS and TSB</p> <p>○ Hiring a Monitoring Trustee to track compliance with the CADE terms</p>	<p> Sale of a 10% stake in TAG and NTS</p> <p> Definition of the model for full divestment in TBG</p>
<p>FEB/20 ○ Disclosure of the teaser for the full sale of our 51% equity stake in Petrobras Gás S.A. ("Gaspetro").</p>	<p> Negotiation of access to the gas flow for contracting of firm capacities</p>
<p>MAR/20 ○ Conclusion of negotiation with YPFB to change trade conditions regarding the acquisition of natural gas</p>	<p> Negotiation of access to gas treatment plants</p>

For more information on the agreement with the CADE, see "Portfolio Management" in this annual report.



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Natural gas sales contracts and long-term gas purchase and transportation commitments

We sell our gas primarily to local gas distribution companies and to gas-powered plants, generally based on standard take-or-pay, long-term supply contracts. This represents 70% of total demand volumes. The price formulas under these contracts are mostly aligned with Brent oil prices. Additionally, we have a number of sales contracts designed to create flexibility in matching customer demand with our gas supply capabilities. These include interruptible long-term gas sales contracts.

In 2019, we renegotiated some existing long-term natural gas sales contracts with local natural gas distribution companies in order to promote adjustments to commercial conditions tailored to specific market demands. We ultimately negotiated with 14 local distribution companies that represent 79% of the non-thermoelectric natural gas market and they were negotiated by the new gas policy. The renegotiations will continue in 2020 with four local distribution companies, using the same adjustments in commercial conditions adapted to specific market demands that we carried out with the other companies in 2019.

When we began construction of the Bolivia-Brazil pipeline (“GASBOL”) in 1996, we entered into a long-term Gas Supply Agreement (“GSA”), with the Bolivian state-owned company Yacimientos Petroliferos Fiscales Bolivianos (“YPFB”), to purchase certain minimum volumes of natural gas at prices linked to the global fuel oil price through 2019. The agreement may thereafter be extended until all contracted volume has been delivered by YPFB. At present, we estimate that the agreement will be extended at least through March 2024 under the existing terms.

In December 2019, we signed a transition agreement with YPFB under the GSA which sets a transition period (from January 1, 2020 to March 10, 2020), during which we will continue the ongoing negotiation process. Our purpose is to change certain commercial conditions according to the Brazilian natural gas market opening process and the new context of the Bolivian market.

Following the transition agreement, in March 2020 we and YPFB signed a new amendment to the GSA which refers to the volume of gas initially contracted that has not yet been delivered by YPFB until December 31, 2019. This amendment provides for the reductions of (i) the YPFB supply obligation to us from the current volume of 30.08 million m³/d to 20 million m³/d and (ii) our take-or-pay obligation from the current volume of 24.06 million m³/d (annual basis) to 14 million m³/d (daily basis), without any changes on the gas price formula, thus allowing the surplus volume of natural gas to be traded directly by YPFB with other market agents in Brazil.

Therefore, the execution of this amendment reaffirms Petrobras’ commitment to the opening of the Brazilian natural gas market, stimulating its competition by encouraging new agents to enter the market.

On the Bolivian side of GASBOL, while YPFB has shipper’s obligations, we agreed to pay, on behalf of YPFB, the amounts related to 24 million m³/d directly to GTB until 2019 and pre-paid 6 million m³/d until 2039.

On the Brazilian side of GASBOL, after 2020, there will be 12 million m³/d of remaining volume related to Bolivian gas imports and 5.2 million m³/d related to extra capacity between Paulínia, in the state of São Paulo, and Araucária, in the state of Paraná. Any additional capacity must be contracted through a public process conducted by the ANP, in accordance with Brazilian law. In December 2019, the ANP approved the resumption of the ANP Public Call January 2019 process, authorizing Transportadora Brasileira Gasoduto Bolívia-Brasil S.A. (“TBG”) to disclose the result of the guaranteed proposal stage and the signing of transport service contracts. TBG hired us for the years 2020 and 2021, respectively, 18 million m³/d and 8 mmm³/d.

Our volume obligations under the ship-or-pay arrangements entered into with GTB and TBG were originally designed to match our gas purchase obligations under the GSA through 2019. Because of the transition agreement under the GSA, the ship-or-pay arrangements entered into with GTB will last until March 10, 2020.



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The table below shows these contractual commitments under the above agreements for the five-year period from 2020 through 2024.

Future commitments under natural gas sales contracts, million m³/d

	2020	2021	2022	2023	2024
To local gas distribution companies:					
Related parties ⁽¹⁾	17.27	9.04	1.59	1.34	1.34
Third parties	21.33	18.66	8.17	7.35	7.33
To gas-fired power plants:					
Related parties ⁽¹⁾	2.80	2.96	2.99	3.26	3.02
Third parties	9.26	8.50	10.49	11.04	9.71
Total⁽²⁾	50.66	39.15	23.24	22.99	21.40
Estimated amounts to be invoiced (US\$ billion) ⁽³⁾⁽⁴⁾	5.07	4.46	2.28	2.01	1.79
Purchase Commitments					
Purchase commitments to YPFB					
Volume obligation (mmm ³ /d) ⁽⁵⁾	14.00	14.00	14.00	14.00	14.00
Volume obligation (mmcf/d) ⁽⁵⁾	495.00	495.00	495.00	495.00	495.00
Brent Crude Oil projection (US\$) ⁽⁶⁾	65.21	65.00	65.00	65.00	-
Estimated payments (US\$ million) ⁽⁷⁾	931,73	851,34	806,18	827,48	848,57
Transportation Commitments					
Ship-or-pay contract with GTB					
Volume commitment (mmm ³ /d)	6.00 ⁽¹²⁾	6.00	6.00	6.00	6.00
Volume commitment (mmcf/d)	211.89	211.89	211.89	211.89	211.89
Estimated payments (US\$ million) ⁽⁸⁾⁽⁹⁾	0.32	0.32	0.32	0.32	0.32
Ship-or-pay contract with TBG⁽¹¹⁾					
Volume commitment (mmm ³ /d) ⁽¹⁰⁾	51.71 ⁽¹³⁾	27.02 ⁽¹³⁾	11.20	11.20	11.2
Volume commitment (mmcf/d)	1,826.08	954.21	395.53	395.53	395.53
Estimated payments (US\$ million) ⁽⁸⁾	385.10	210.80	13.05	13.16	13.27
Ship-or-pay contract with NTS⁽¹¹⁾					
Volume commitment (mmm ³ /d)	158.21	158.21	158.21	158.21	158.21
Volume commitment (mmcf/d)	5,587.01	5,587.01	5,587.01	5,587.01	5,587.01
Estimated payments (US\$ million) ⁽⁸⁾	1,270.13	1,305.26	1,319.18	1,329.82	1,337.00
Ship-or-pay contract with TAG⁽¹¹⁾					
Volume commitment (mmm ³ /d)	74.28	73.58	73.58	73.58	73.58
Volume commitment (mmcf/d)	2,623	2,598	2,598	2,598	2,598
Estimated payments (US\$ million) ⁽⁸⁾	1,536.40	1,590.43	1,607.39	1,620.36	1,629.11

(1) For purposes of this table, "related parties" include all local gas distribution companies and power generation plants in which we have an equity interest and "third parties" refer to those in which we do not have equity interest.

(2) Estimated volumes are based on "take or pay and ship or pay" agreements in our contracts, expected volumes and contracts under negotiation (including renewals of existing contracts), not maximum sales.

(3) Estimates are based on outside sales and do not include internal consumption or transfers.

(4) Prices may be adjusted in the future, according to formula defined in contract, and actual amounts may vary.

(5) 23.95% of contracted volume supplied by Petrobras Bolivia.

(6) Brent Crude Oil price forecast based on our 2020-2024 Strategic Plan.

(7) Estimated payments are calculated using gas prices expected for each year based on our Brent Crude Oil price forecast. Gas prices may be adjusted in the future based on contract clauses and amounts of natural gas purchased by us may vary annually.

(8) Amounts calculated based on current prices defined in natural gas transport contracts.

(9) No estimated payments from 2020 due to Contract TCO-Bolivia prepayment.

(10) Includes ship-or-pay contracts relating to TBG's capacity increase.

(11) We undertook divestment processes for TAG in of 2019. The ship-or-pay contracts shown with TBG, NTS and TAG are not included in our audited consolidated financial statements, since such contracts are intercompany transactions.

(12) The TCQ Bolivia and TCX Bolivia Contracts were extended until March 20, 2020.

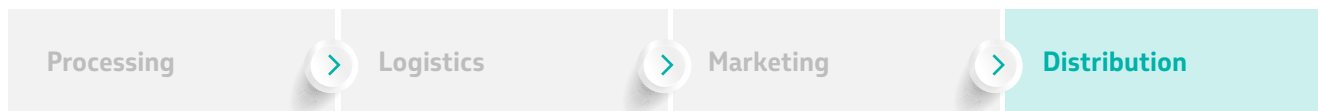
(13) The sum of legacy point-to-point contracts (TCO, TCX and CPAC) was considered with the new entry and exit contracts, object of public call No. 001/2019.



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Distribution



Distributors provide gas through their distribution networks to commercial establishments, residences, industries, vehicles and thermoelectric plants.

In February 2020 we have released the teaser for the full sale of our 51% equity stake in Petrobras Gás S.A. (“Gaspetro”). Gaspetro is a holding company that consolidates our equity interests in 19 of the 27 state natural gas distributors, and Mitsui holds the remaining 49% interest. In addition, we hold a 37.5% stake in Petrobras Distribuidora which operates the distribution of natural gas in the state of Espírito Santo. In 2019, of the total of 38.16 mmm³/d of gas sold to distributors, 46% was distributed through distributors which participation is partially held by Gaspetro.

In Uruguay, through Petrobras Uruguay S.A. de Inversión, we held, until September 2019, participation in two companies in the natural gas distribution business which are responsible for the distribution of natural gas throughout the Uruguayan territory. Due to the lack of economic viability, we returned the natural gas distribution concessions to the Uruguayan State through the transfer of shares of the distributors. In 2018, these two companies sold 162,000 m³/d to 59,000 customers. In the first three quarters of 2019, they sold 166,000 m³/d to 59,000 customers.

Power

Brazilian electricity needs are mainly met by hydroelectric power plants and other sources of energy (wind, coal, nuclear, fuel oil, diesel oil, natural gas used in thermoelectrics, and others). The Free Marketing Environment (“ACL”) and the Regulated Marketing Environment (“ACR”) are involved in the regulation of the electric energy market in Brazil.

Hydroelectric power plants are dependent on the annual level of rainfall. When rainfall is abundant, Brazilian hydroelectric power plants generate more electricity. As a result, under these circumstances, there is less demand for power generation by thermoelectric power plants.

We generate and sell electric power from a generator park consisting of 20 thermoelectric power plants that we own or lease, operating under the authorization regime as an

independent power producer. They are powered by natural gas, diesel or fuel oil, with a total installed capacity of 6,148 MW. These plants are designed to supplement power from the hydroelectric power plants.

In 2019, the total electricity generated in Brazil, according to the ONS, was 67,763 MWavg. Our thermoelectric power plants contributed 2,028 MWavg (2,205 MWavg in 2018 and 3,165 MWavg in 2017). This was due to the increase in storage of the reservoirs supplying the hydroelectric plants of the National Interconnected System (as a result of the favorable rainfalls throughout the year).

We also have plants with generation through renewable sources. In addition, we hold participation in other projects. This adds up to 316 MW to our electricity generation capacity.

Sales and generation of electricity⁽¹⁾

	2019	2018	2017
Electricity Sales (ACL) – average MW ⁽²⁾	1,168	1,231	1,212
Electricity Sales (ACR) – average MW	2,788	2,788	3,058
Electricity generation – average MW	2,028	2,205	3,165

(1) The generation value in the table above includes only the plants where we manage the operation.

(2) Includes electricity sales from the Gas and Power segment to other operating segments, service and other revenues from electricity companies.



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Electricity sales and commitments for future generation capacity

Under Brazil's power pricing regime, a thermoelectric power plant is only allowed to sell electricity that is certified by the MME and which corresponds to a fraction of its installed capacity. The certificate is granted to ensure a constant sale of commercial capacity over the course of years to each power plant, given its role within Brazil's system to supplement hydroelectricity power during periods of unfavorable rainfall. The amount of certified capacity for each power plant is determined by its expected capacity to generate energy over time.

The total capacity certified by the MME (*garantia física*) may be sold through long-term contracts in auctions to power distribution companies (standby availability), and through bilateral contracts executed with free customers and used to meet the energy needs of our own facilities.

In exchange for selling this certified capacity, the thermoelectric power plants must produce energy whenever requested ONS it. In addition to a capacity payment, thermoelectric power plants also receive a reimbursement for variable costs (declared to MME to calculate commercial certified capacity) incurred whenever they are requested to generate electricity.

In 2019, the commercial capacity certified by MME for all thermoelectric power plants we control was 3,770 MWavg. Our total generating capacity was 6,148 MWavg. Of the total 4,161 MWavg of commercial capacity available for sale in 2019, approximately 67% was sold as standby availability in public auctions in the regulated market (compared to 59% in 2018) and approximately 28% was committed under bilateral contracts and self-production, i.e. sales to related parties, compared to 26% in 2018.

Under the terms of standby availability contracts, we receive a fixed amount whether or not we generate any power. Additionally, whenever we have to deliver energy under these contracts, we receive an additional payment for the energy delivered that is set on the auction date and is revised monthly or annually, based on inflation-adjusted international fuel price indexes.

The table below shows the evolution of our installed thermoelectric power plants' capacity, our purchases in the free market and the associated certificated commercial capacity.

Installed power capacity and utilization

	2019	2018	2017
Installed capacity (MW)	6,148	6,148	6,148
Certified commercial capacity (Mwavg)	3,770	3,900	4,040
Purchases in the free market (Mwavg)	391	821	888
Commercial capacity available (Lastro) (Mwavg)	4,161	4,720	4,928



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The table below shows the allocation of our sales volume between our customers and our revenues for each of the past three years:

Volumes of electricity sold (MWavg)

	2019	2018	2017
Total sale commitments	3,958	4,020	4,270
Bilateral contracts	812	832	788
Internal consumption	356	399	424
Public auctions to distribution companies	2,788	2,788	3,058
Generation volume	2,028	2,205	3,165
Revenues (US\$ million)⁽¹⁾	2,334	3,066	4,162

(1) Includes electricity sales revenues from the Power segment to other operating segments, service and other revenues from electricity companies.

Our power assets and their respective locations are listed in the table below.

Our power assets (MW)

	Type	Region	Power Plant	Fuel	Installed Capacity	Shareholding or PIE	Petrobras Capacity	Partners
Petrobras Management (own, lease or controlled)	UTE	Southeast / Midwest	Ibirité	NG	226	100%	226	-
			Baixada Fluminense	NG	530	100%	530	-
			Seropédica	NG/DO	386	100%	386	-
			Cubatão	NG	219	100%	219	-
			Nova Piratininga	NG	386	100%	386	-
			Piratininga	NG	190	100%	190	-
			Termorio	NG	1,058	100%	1,058	-
			Juiz de Fora	NG/ET	87	100%	87	-
			Três Lagoas	NG	386	100%	386	-
			Termomacaé	NG	923	100%	923	-
		South	Canoas	DO/NG	249	100%	249	-
		Termobahia	NG	186	100%	186	-	
		Vale do Açú	NG	323	100%	323	-	
		Termocamaçari	NG	138	100%	138	-	
		Northeast	Termo Ceará	NG/DO	220	100%	220	-
		Bahia I	FO	32	100%	32	-	
		Arembepe	FO	150	100%	150	-	
		Muricy I	FO	147	100%	147	-	
		North	Jaraqui NG	NG	76	93.66%	71	Breitener Jaraqui S.A. and Breitener Tambaqui S.A. 100% owned by Breitener Energética – Petrobras: 93.66%; GGR Participações S.A.: 3.34%; Alcântara, Mendes & Cia: 1%
		Jaraqui FO	FO	81	93.66%	76		
		Tambaqui NG	NG	93	93.66%	87	Arcadis Logos Energia S.A.: 1%; Ortegn Equipamentos e Sist. Ltda: 1%.	
		Tambaqui FO	FO	63	93.66%	59		
UTEs Petrobras Management					6,148	100%	6,128	
21	WIND	Northeast	Parque Eólico Guamaré		2	100%	2	-
22	PV	Northeast	Solar Alto do Rodrigues		1	100%	1	-
Subtotal Petrobras Management					6,151		6,131	



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	Type	Region	Power Plant	Fuel	Installed Capacity	Shareholding or PIE	Petrobras Capacity	Partners
Petrobras Shareholdings	UTE	Southeast / Midwest	Goiânia II		145	30%	44	Enegen Participações S.A.: 70%; Petrobras: 30%
		South	Araucária	GN	484	18.80%	91	Copel: 20,3%; Copel GeT: 60,9%; Petrobras: 18,8%
		Northeast	Suaape II	OC	381	20%	76	Savana SPE Incorporação Ltda.: 80%, Petrobras: 20%
			Termocabo	OC	50	12%	6	Brasympe Energia S.A.: 60% (Petrobras has 20% of shareholding at Brasympe); EBRASIL S.A.: 24%; SZF Participações Ltda: 14%; OZ&M Incorporação Participação Ltda: 2%
		North	Manauara	GN/OC	85	52%	44	Petrobras: 40%; TEP: 60% (Petrobras has 20% of shareholding at TEP)
	WIND	Northeast	Mangue Seco 1		26	49%	13	Alubar Energia S.A.: 51%; Petrobras 49%
			Mangue Seco 2		26	51%	13	Eletrobrás: 49%; Petrobras: 51%
			Mangue Seco 3		26	49%	13	Wobben Windpower Industria e Comércio Ltda: 51%; Petrobras: 49%
			Mangue Seco 5		26	49%	13	Wobben Windpower Industria e Comércio Ltda: 51%; Petrobras: 49%
	PCH	Southeast / Midwest	Água Limpa		14	14%	2	TEP: 70% (Petrobras has 20% of shareholding at TEP); RPE - Produtora de Energia Elétrica Ltda: 30%
			Areia		11	14%	2	TEP: 70% (Petrobras has 20% of shareholding at TEP); RPE - Produtora de Energia Elétrica Ltda: 30%
Subtotal Petrobras Shareholdings					1,275		316	
Total					7,426		6,447	

Note: NG - Natural Gas; FO - Fuel Oil; DO - Diesel Oil; ET - Ethanol; PIE - Independent Power Producer; UTE - Thermoelectric Power Plant; PCH - Small Hydroelectric Plant; PV - Photovoltaic.

Contracts of our thermoelectric power plant at Regulated Marketing Environment (or "ACR") and their respective contracted power and contract expiration date are listed in the table below.

Our contracts at regulated marketing environment (ACR)

Region	Power plant	Contracted power (MWavg)	Contract expiration date
Southeast / Midwest	Baixada Fluminense	416.4	2033
	Seropédica	336.0	2019 (58MW), 2023 (278MW)
	Cubatão	197.0	2019 (56MW), 2024 (141MW)
	Termorio	957.0	2019 (253MW), 2022 (352MW), 2024 (352MW)
	Três Lagoas	334.0	2019 (207MW), 2023 (127MW)
	Termomacaé	200.0	2025
Northeast	Termo Ceará	141.0	2023 (64MW) e 2024 (77MW)
	Bahia I	5.0	2025
	Arembepe	101.0	2023
	Muricy I	101.0	2023



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We also have invested, independently and in partnership with other companies, in renewable power generation sources in Brazil, including wind. We hold indirect interests in two small hydroelectric power plants (Areia and Água Limpa) through our associate Termoelétrica Potiguar S.A. (“TEP”). We also own a solar power plant unit, Unidade Fotovoltaica de Alto Rodrigues. Additionally, we participate in joint ventures in four wind power plants (Mangue Seco 1, 2, 3 and 4), two of them (Mangue Seco 1, 2) in divestment process. Our strategy is to maximize value through active portfolio management, maintaining investments in research and development in renewable energy. In order to invest in such areas in the future, we are planning to invest US\$70 million/year in R&D for decarbonization and renewables. The power generation capacity we have (alone and through the equity interests we hold in renewable energy companies) is as follows:

- 3.6 MW of hydroelectric capacity,
- 1.1 MW of solar capacity; and
- 51.5 MW wind capacity, corresponding to 49.5% of the 104 MW of Mangue Seco 1, 2, 3 and 4.

We and our partners sell energy from these plants directly to the Brazilian federal government through auctions.

Furthermore, we signed in 2018 a Memorandum of Understanding (“MoU”) with the Norwegian company Equinor ASA (“Equinor”), to evaluate a joint business development in the offshore wind energy industry in Brazil.

The MoU with Equinor has evolved to jointly evaluate a future wind project in the Campos Basin, using R&D funding.

For more information on our divestment process, see “Portfolio Management”.



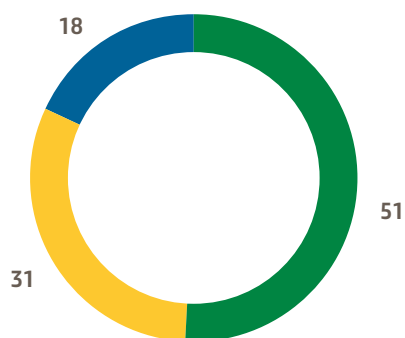
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Customers and Competitors

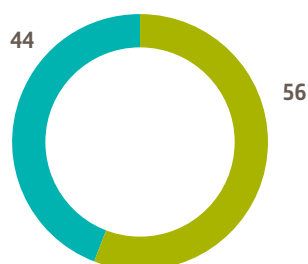
Natural gas is marketed to 22 clients, most of which are distributors. The entire demand for natural gas includes our non-thermoelectric, thermoelectric, refining and fertilizer segments, as well as the consumption by natural-gas carriers contracted by us for the provision of transportation services.

Gas clientes
(% vol)



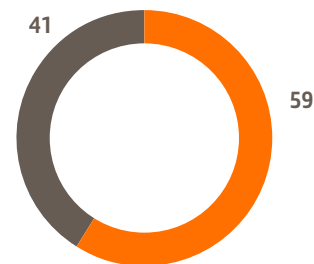
- NON-THERMOELECTRIC SEGMENT
- THERMOELECTRIC SEGMENT
- REFINING AND FERTILIZER

Non-Thermoelectric segment
(% vol)



- DISTRIBUTORS
- DISTRIBUTORS WITH PARTICIPATION OF PETROBRAS (BY GASPETRO)

Thermoelectric segment
(% vol)



- THIRDY PARTY PLANTS
- OWN PLANTS

In the energy segment, we operate in the regulated market (energy distributors) and free market (marketers and free consumers/large consumers). We have 142 clients, of which 41 are distributors, 48 are marketing companies, and 53 are free consumers. All contracts are registered at the Electricity Trading Chamber, a sector agent responsible for the settlement and accounting of these contracts.

In the commercialization of natural gas, we act as importers and domestic producers who can directly sell our product to the distributors or thermoelectric plants. We expect an increase in competition due to new regulation under discussion which aims to improve the regulatory framework of the natural gas sector and to establish guidelines for a new design of the market that allows the entry of new agents in the sector in order to promote competition.

The transportation of natural gas also consists of a monopoly of the Brazilian federal government. There is no competition since the area of activity of the carriers is divided by region across the national territory.

In the natural gas distribution segment we operate through indirect participation in state companies, where each distributor has a monopoly for its concession area, and there is no

competition, since the Brazilian federal constitution provides that the natural-gas distribution segment can only be exercised through concession by public authorities of each state.

As mentioned before, in July 2019, we signed an agreement with CADE, which consolidates understandings between the parties on the promotion of competition in the natural gas industry in Brazil. This agreement includes the sale of shareholdings in gas transportation and distribution companies and, among other matters, increase the flexibility for third parties to have access to our processing plants and release capacity in certain gas transportation contracts to which we are a part. The purpose of the agreement is to preserve and protect the competitive conditions, aiming to open the Brazilian natural gas market, encouraging new agents to enter this market, as well as suspending administrative procedures established by CADE court to investigate our natural gas business.

In the energy segment, we operate in generation and sale. In generation, we compete with third-party thermoelectric plants, as well as other generators with other energy sources (hydro, wind, solar). In terms of commercialization, we compete with other energy marketers.



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Fertilizers

We have two fertilizer plants in Brazil, one located in the state of Bahia, ("FAFEN-BA"), and other in the state of Sergipe ("FAFEN-SE"), and one subsidiary located in Paraná, Araucaria Nitrogenados S.A. ("ANSA"). Their main products are ammonia and urea. Together these plants have an installed capacity of 1.852 million t/year of urea, 1.406 million t/y of ammonia, 319,000 t/y of ammonium sulfate and 800,000 tons/y of ARLA-32. The ammonium sulfate unit in Sergipe, however, did not operate in 2019. Most of our ammonia production is used to produce urea, and the excess production is mainly sold in the Brazilian market.

We continue to pursue our strategy of leaving the fertilizer segment and focusing on assets that generate greater financial return and are more adherent to our business. In 2019, we mothballed our plants located in Bahia and Sergipe and, after that, we signed lease agreements with Proquigel Química S.A. ("Proquigel Química"), a company of the Unigel Group, leasing FAFEN-BA and FAFEN-SE for a total amount of R\$177 million. The agreements have an initial term of 10

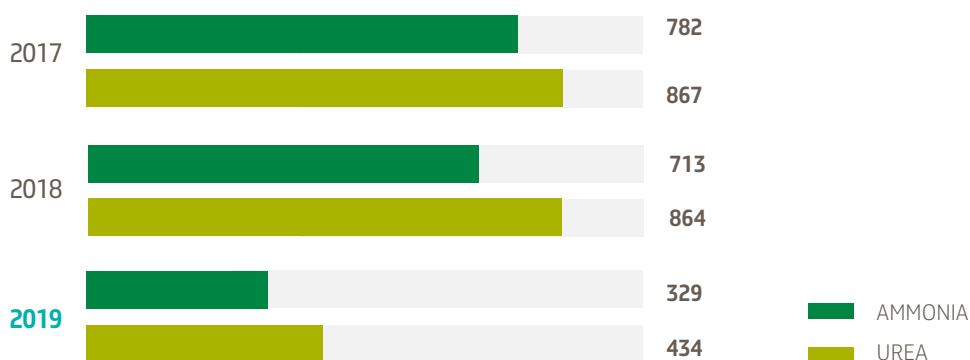
years and may be extended for additional 10 years. Leases will become effective upon approval by CADE and issuance of mandatory operation permits for Proquigel Química.

In January 2020, following our attempts to sell ANSA, we approved the mothballing of this fertilizer plants. With this decision, we continue our strategy of leaving the fertilizer segment and focusing on assets that generate value.

In February 2020, we announced the beginning of the non-binding phase related to the sale of all our equity stake in the Nitrogen Fertilizer Unit (UFN-III). UFN-III is a nitrogen fertilizer industrial project located in Três Lagoas, in the state of Mato Grosso do Sul, Brazil. The construction of UFN-III began in September 2011, but was interrupted in December 2014, with a physical advance of about 81%.

After completion, UFN-III will have a projected urea and ammonia production capacity of 3,600 t/d and 2,200 t/d, respectively. The completion of UFN-III will be the responsibility of the potential buyer.

Fertilizer production (thousand tons)



Main Assets

	2019	2018	2017
Fertilizers			
Fertilizer plants	3 ⁽¹⁾	3	3
Urea production capacity (thousand ton/year)	1,852 ⁽¹⁾	1,852	1,852
Ammonia production capacity (thousand ton/year)	1,406 ⁽¹⁾	1,406	1,406

(1) Includes FAFEN-BA, FAFEN-SE and ANSA capacity, although in November 2019, we signed lease agreements leasing two of our nitrogen fertilizer plants (FAFEN-BA e FAFEN-SE) to third parties and in January 2020 we are mothballing ANSA's plant.



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Portfolio Management

Our active portfolio management, part of our 2020-2024 Strategic Plan, is the key driver of our partnerships and divestments, which aim to improve our operating efficiencies and returns on capital, and generate additional cash to reduce our debt, while supporting best investment opportunities. Currently, our partnerships and divestments comprise the sale of minority, majority or entire participations in certain of our subsidiaries, affiliates, and assets to strategic or financial investors or by means of public offerings.

In line with the TCU, guidelines and current legislation, the following stages of our divestment projects are disclosed to the public:

<p>OPPORTUNITY DISCLOSURE (TEASER)</p> <p>▼</p>	<p>This is when the intention of divestment is made public, and potential interested parties are invited to take part in the bidding process.</p>
<p>BEGINNING OF THE NON-BINDING PHASE (WHEN APPLICABLE)</p> <p>▼</p>	<p>Optional step, held to identify and select the participants who are really interested in the acquisition and that see greater value in the assets/companies.</p>
<p>BEGINNING OF THE BINDING PHASE</p> <p>▼</p>	<p>Step where the selection of the best offer made by the potential interested parties takes place, in order to maximize the value of sales.</p>
<p>GRANTING EXCLUSIVITY IN THE NEGOTIATION (WHEN APPLICABLE)</p> <p>▼</p>	<p>Optional step, which occurs when exclusivity is formally granted to a potential buyer, after the binding phase.</p>
<p>TRANSACTION APPROVAL BY SENIOR MANAGEMENT (EXECUTIVE BOARD AND BOARD OF DIRECTORS) AND SIGNING OF AGREEMENTS</p> <p>▼</p>	<p>Step containing the signing of purchase and sale (or assignment of rights) agreements containing the conditions of the transaction, including the conditions precedent for the closing.</p>
<p>CLOSING OF THE TRANSACTION</p>	<p>Step where the transaction is concluded with the fulfillment of the conditions precedent set forth in the agreement.</p>



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From January 1, 2019 through March 16, 2020, we completed, among others, the following divestitures.

Signing date	Closing date	Main transactions	Transaction nominal value ⁽¹⁾ (US\$ billion)
June 27, 2018	March 8, 2019	Full sale of stake in Petrobras Paraguay Distribuição Limited ("PPDL UK"), Petrobras Paraguay Operaciones y Logistics SRL ("PPOL") and Petrobras Paraguay Gas SRL ("PPG").	0.38
January 30, 2019	May 1, 2019	Sale of all the shares held by PAI in the companies that encompass Pasadena's entire refining operations system: PRSI and PRSI Trading LLC ("PRST").	0.56
April 25, 2019	June 13, 2019	Sale of 90% of stake in the TAG.	8.72 ⁽²⁾
July 23, 2019	July 26, 2019	Sale of 33.75% of Petrobras Distribuidora's capital stock through the secondary public offering of shares.	2.55 ⁽³⁾
March 8, 2019	Sept. 10, 2019	Sale of our full stake in the Maromba field	0.09
Nov. 28, 2018	Oct. 8, 2019	Sale of stake in the fields of Pargo, Carapeba and Vermelho, the so-called "Polo Nordeste", located in shallow waters off the coast of Rio de Janeiro state.	0.37
August 8, 2019	Nov. 1, 2019	Sale of 50% of stake in Belem Bioenergia Brasil ("BBB").	0.006 ⁽⁴⁾
April 25, 2019	Dec. 9, 2019	Sale of full stake in 34 onshore production fields, located in the state of Rio Grande do Norte.	0.38
April 25, 2019	Dec. 27, 2019	Sale of 50% working interest in Tartaruga Verde field (BM-C-36 Concession) and Module III of Espadarte field.	1.29
Oct. 31, 2018	Jan. 14, 2020	Sale of entire 50% interest in PO&G.	1.53
Total			15.88

(1) Considering agreed amounts at the signing of the transaction.

(2) The transaction was negotiated in reais in the amount of R\$33.5 billion. Thus, for purposes of table composition, the amount was translated at the exchange rate R\$3.84 per US Dollar on the closing day (June 13, 2019). The total amount includes US\$0.536 billion destined to settle TAG's debt with BNDES.

(3) The transaction was negotiated in reais in the amount of R\$9.6 billion. Thus, for purposes of table composition, the amount was translated at the exchange rate R\$3.77 per US Dollar on the closing day (July 26, 2019). The amount includes the full exercise of overallocation option also known as a "Greenshoe Option".

(4) The transaction was negotiated in reais in the amount of R\$24.7 million. Thus, for purposes of table composition, the amount was translated at the exchange rate R\$3.97 per US Dollar on the closing day (November 1, 2019). Despite the completed transaction, the amount will be retained by Galp Bioenergy B.V until December 2020 to offset potential indemnity payments.

From January 1, 2018 through March 16, 2020, we have signed agreements for transactions that are currently pending closing. Completion of such transactions is subject to compliance with certain contractual and legal conditions precedent.

Signing date	Main transactions	Transaction nominal value ⁽¹⁾ (US\$ billion)
Dec. 21, 2018	Assignment of 10% rights from the Lapa field to Total, in Block BM-S-9. Exercise of the option to sell the remainder of our interest, as provided for in the agreement signed in January 2018, when Total acquired 35% of our stake, within the scope of the strategic partnership.	0.05
July 24, 2019	Sale of 100% of interest in the Pampo and Enchova clusters, located in shallow waters in the Campos Basin.	0.851
July 24, 2019	Sale of 100% of interest in the Baúna field (awarded area BM-S-40), located in shallow waters in the Santos Basin.	0.665
Sept. 8, 2019	Sale of entire working interest in a set of onshore and maritime producing fields in the Potiguar Basin, denominated Macau Cluster, located in the state of Rio Grande do Norte, Brazil.	0.191
Sept. 30, 2019	Sale of stake in the onshore fields of Ponta do Mel and Redonda, located in the state of Rio Grande do Norte, Brazil.	0.007
Oct. 11, 2019	Sale of entire working interest in the onshore fields of the Lagoa Parda Cluster, located in Espírito Santo state, Brazil.	0.009
Nov. 19, 2019	Sale of 100% stake in Liquigás Distribuidora S.A.	0.879 ⁽²⁾
Nov. 28, 2019	Sale of 30% stake in the Frade concession, located in the Campos Basin, north coast of the state of Rio de Janeiro, Brazil.	0.100
Mar. 9, 2020	Sale of all participations in four onshore fields, located in Bahia, jointly called Polo Tucano Sul	0.003
Total		2.76

(1) Agreed amounts subject to adjustment at the closing of the transaction.

(2) The transaction for this operation was negotiated in reais. Thus, for purposes of table composition, the amount was translated at the exchange rate R\$4.208 per US Dollar the signing day (November 19, 2019).



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Our divestment process is aligned with TCU and subject to judicial review by Brazilian authorities.

In 2019, the Brazilian Federal Supreme Court (“STF”) understood that the sale of subsidiaries of state-owned companies does not require prior legislative authorization and public bidding, confirming the legality of the procedure

we currently adopt to sell our shareholding in other companies. For more information on judicial proceedings related to our divestments, see “Legal and Tax – Legal Proceedings – Other Legal Proceedings – Legal Proceedings and Preliminary Procedure on TCU – Divestments” in this annual report.



Agreements with CADE

In 2019, we signed two agreements with CADE, which consolidates understandings between the parties related to (i) the execution of divestment of refining assets, and (ii) promoting competition in the natural gas industry in Brazil.

Refining agreement

With the execution of refining agreement, among other related commitments, we are committed to divesting approximately 50% of our refining capacity, which represents the full sale of seven refineries (REPAR, REFAP, RLAM, RNEST, REGAP, LUBNOR, REMAN) and a shale industrialization unit (SIX) with their associated logistics.

The agreement also provides that, of the following subgroups (i), (ii) and (iii), the companies listed may not be acquired by the same buyer or by companies of the same economic group, as the companies listed in each subgroup are considered competitors with one another: (i) RLAM and RNEST; (ii) REPAR and REFAP; and (iii) REGAP and RLAM. An external agent that we contract, according to specifications to be established by mutual agreement, will accompany the schedule and compliance with the commitments assumed with CADE.

Natural gas agreement

The agreement includes the sale of our shareholding participation in companies of the gas transportation and distribution segments:

- (i) 10% stake in NTS;
- (ii) 10% stake in TAG;
- (iii) 51% stake in TBG; and
- (iv) indirect participation in gas distribution companies, either by selling our 51% stake in Gaspetro, or by selling indirect participation in distribution companies.

In transportation, we undertake to indicate in the transportation systems the maximum injection and withdrawal volumes at each receiving point and delivery area, for further adjustments to the current transportation service contracts, so that transportation companies, under the supervision of the ANP, can offer the remaining capacity to the market, thus enabling other companies to use the transportation network not used by us. Furthermore, we are committed to other actions to allow greater competitiveness in the natural gas market, such as: (i) negotiating access to outflow and processing assets, (ii) refraining from purchasing new gas volumes from partners/third parties, except in certain situations provided for in the agreement, and (iii) leasing of the regasification terminal in the state of Bahia.

The purpose of the agreement is to preserve and protect the competitive conditions, aiming to open the Brazilian natural gas market, encouraging new agents to enter this market, as well as suspending administrative procedures established by CADE to investigate our natural gas business.



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In addition, we have in our portfolio other projects in their structuring phase, and believe in a strategy for our portfolio management that focuses on core assets, in order to improve our capital allocation, enable debt and capital cost reduction, and ultimately increase value generation for us and our shares.

We have disclosed the teasers, non-binding and binding phases related to the following assets that are currently part of our divestment portfolio.

Phase	Summary scope of main transactions ⁽¹⁾
Teaser	Sale of the entire stake in the Papa-Terra field, located in deepwaters in the Campos Basin.
	Sale of the entire stake in Merluza and Lagosta fields, located in shallow waters in the Santos Basin.
	Sale of the totality of participation in two sets of maritime concessions in deep waters in the post-salt, called Polo Golfinho and Polo Camarupim, located in the Espírito Santo Basin.
	Full sale of stakes in the wind power companies Eólica Mangue Seco 1, Eólica Mangue Seco 2, Eólica Mangue Seco 3 and 4.
	Sale of the totality of participation in our fuel and lubricant distribution company in Colombia, named Petrobras Colombia Combustibles (PECOCO)
Non-binding	Sale of the entire stake (100%) in the fertilizer unit UFN-III (Unidade de Fertilizantes Nitrogenados III).
	Sale of the totality of our 51% equity stake in Petrobras Gas S.A. (Gaspetro).
	Full sale of interest in Petrobras Uruguay Distribución S.A. (PUDSA).
	Sale of the remaining stake (10%) in Transportadora Associada de Gás S.A. (TAG).
	Sale of assets in refining and associated logistics in the country: Gabriel Passos Refinery (REGAP) in Minas Gerais, Isaac Sabbá Refinery (REMAN) in Amazonas, Northeast Lubricants and Petroleum Derivatives (LUBNOR) in Ceará and SIX in Paraná, as well as their corresponding logistics assets.
	Sale of assets in refining and associated logistics in the country: Abreu e Lima Refinery (RNEST) in Pernambuco, Landulpho Alves (RLAM) in Bahia, Presidente Getúlio Vargas (REPAR) in Paraná and Alberto Pasqualini (REFAP) in Rio Grande do Sul and its corresponding logistics assets.
	Full disposal of 34% interest in the Company MEGA S.A.
Binding	Total assignment of two land concessions, including drainage facilities, called Polo Cupiúba and Carapanaúba, located in the state of Amazonas.
	Sale of all stakes in nine onshore fields, located in Bahia, jointly called Polo Miranga.
	Sale of all stakes in eight onshore exploration and production concessions, located in the state of Bahia, jointly called Polo Rio Ventura.
	Sale of all shares in 14 onshore exploration and production concessions, located in the state of Bahia, jointly known as the Polo Recôncavo.
	Total assignment of rights in 27 mature onshore fields, located in Espírito Santo, jointly called Polo Cricaré.
	Total assignment of rights in four sets of onshore fields (totaling 12 concessions), in Ceará and Sergipe.
	Sale of all stakes in the Peroá production fields, and in the BM-ES-21 concession, located in the Espírito Santo Basin.
Sale of partial participation of up to four exploration and production blocks in deep waters concessions, located in the states of Sergipe and Alagoas.	
Sale of all stakes in 11 production fields located in shallow waters in the Campos Basin, jointly called Polo Garoupa.	

(1) Information updated as of March 20, 2020.



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External Business Environment

We are subject to external variables that can impact the performance of our business and the way we plan for the future. We describe key variables in 2019 below.

Global Economy

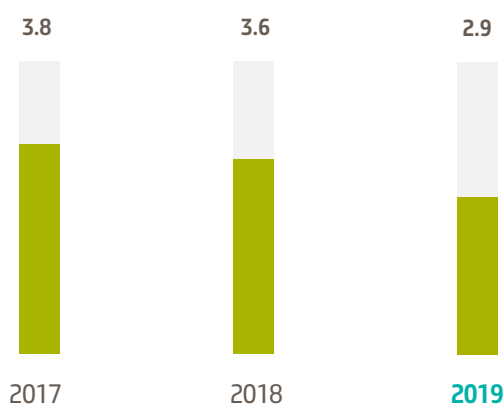
Growth of the global economy slowed from 3.6% in 2018 to 2.9% in 2019, according to the World Economic Outlook published by the International Monetary Fund (“IMF”) in January 2020. The year was marked by the escalation of the trade war between the U.S. and China, which increased the uncertainty and risk aversion in global markets. During the year, the U.S. set importing tariffs of over US\$550 billion on Chinese products. China in turn retaliated on over US\$185 billion in American exports.

The main impact of the trade war was in the global trade, which slowed from a 3.6% growth in 2018 to 1.1% in 2019, according to data from the IMF. Consequently, the two main world economies suffered a deceleration in the GDP in the last year. The U.S. fell from a growth closer to 3% to around 2%, and the Chinese economy, from a growth of around 6.7% to approximately 6%, according to data from the U.S. Bureau of Economic Analysis and the National Bureau of Statistics of China. The slowdown was mainly due to the worsening of exports performance.

The deceleration in the growth of the world economy and, in particular, of the U.S. economy, caused the American monetary authority to stop increasing the policy interest rate, or the Fed Funds Rate (“FFR”). During the year, the Federal Open Market Committee (“FOMC”) made three cuts in the FFR, causing the rate, which began the year at 2.50% p.a., to reach 1.75% p.a. in December.

The downward movement in U.S. interest rates was accompanied by other regions and countries. Thus, overnight interest rates in the United Kingdom, Europe

GDP global growth rate (%)



Source: IMF, 2019

and Japan also fell over the year. The higher liquidity in global markets encouraged an increase in stock exchanges around the world. In the U.S., the Standard & Poor’s 500 (S&P 500) reached its historical maximum (monthly average) in December 2019.

In the end of 2019 and beginning of 2020, two new factors affected growth expectations for this year. On the one hand, there were advances in the negotiations between China and the U.S. for the resolution of the trade war. The two countries signed what was called “phase one of the agreement. On the other hand, the coronavirus epidemic, originating in China, has negatively influenced growth projections due to its potential impact on the circulation of people and products worldwide.



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Global Oil & Gas Market

2019

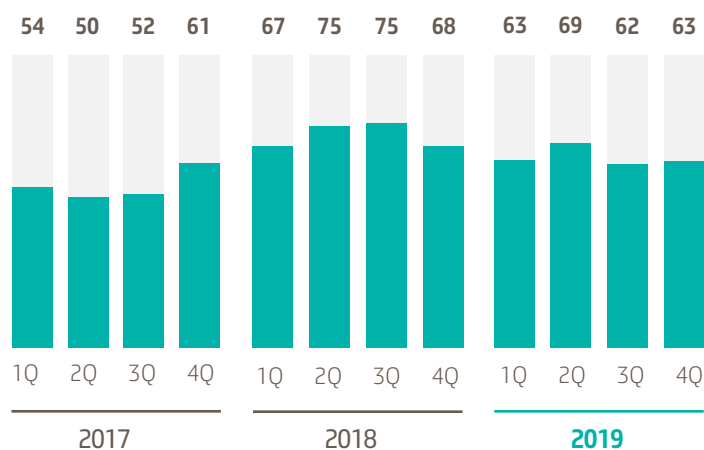
In the beginning of 2019, the anticipation of the “OPEC+ agreement” between the Organization of the Petroleum Exporting Countries (“OPEC”) and non-OPEC groups, which contemplated a total cut of 1.2 million bbl/d compared to the October 2018 level, triggered prospects of crude oil supply constraints in the global market. In addition, there was pressure from sanctions imposed on Iran, as the U.S. indicated that it would not renew the waivers granted in November 2018 for the imports of Iranian oil by some oil-importing countries. As a result, the first quarter of 2019 saw a consistent rise in oil prices, which had been on a downward trend since September 2018. This was due to the bearish market outlook for growth in oil products demand and upward revisions in tight oil supply in the U.S.

In mid-2019, the trade war between the U.S. and China escalated and feelings of uncertainty about the dynamics of the world economy were reflected in the market, resulting in the reversal of the upward trajectory of oil prices. Crude oil prices fell again during the month of June to levels near those of the beginning of the year, causing the Brent average price in the first half of 2019 to be 7% below the same period in the previous year.

On September 14, 2019, an attack on Saudi Arabian oil facilities led to a sharp rise in oil prices. Brent increased by US\$8 per barrel at the closing of the first working day after the bombing, reversing a downward trend in prices throughout the year. However, the rapid re-establishment of the Saudi supply defied market expectations, again driving the price down to US\$64 per barrel on the annual average. In December 2019, the OPEC+ group decided to carry out an additional cut of 500,000 bbl/d, increasing its total cut to 1.7 million bbl/d in comparison to the October 2018 level. Furthermore, Saudi Arabia announced that it would voluntarily cut another 400,000 bbl/d from its production, increasing the adjustments to 2.1 million bbl/d.

LNG international benchmark prices fell significantly in 2019. Henry Hub fell by 17% and NBP by 35%. Among the main reasons are new supply projects that came onstream, demand slowdown and high inventory levels during the whole year, including winter periods.

Brent – crude oil price (US\$/bbl)



Source: Bloomberg, 2019

2020

2020 begins with high volatility on the supply side. On January 3, 2020, the United States carried out an air strike on the Baghdad airport in Iraq, killing Iran’s top military leader, Qasem Soleimani. The attack increased tensions between Washington and Tehran, as well as in the international oil market. In response, Brent’s volatility increased and its price rose to levels near US\$70/bbl during the first week of January. However, as the United States announced that it would not pursue new military action against Iran, opting for trade sanctions instead, market tensions subsided. In the second week of January, the price of oil stabilized around US\$64 per barrel, near the average price of 2019.

Over the first weeks of 2020, the spread of coronavirus infections in China led the government to isolate cities affected by the epidemic. The cancellation of commercial flights, the closing of the border with Russia and the constraints on the supply and demand of goods and services in the country resulted in a sharp reduction in the consumption of oil products. In the face of this new constraint, the oil price fell to US\$58 per barrel in the last week of January, which represented a drop of 14% in comparison with the first week of the year. The potential for damage to oil markets lies in the fact that China is currently the main driver of global oil demand growth. Between 2010 and 2018, Chinese oil demand and imports grew by 44% and by 94%, respectively, according to IHS Markit.

In March, the OPEC+ meeting failed to reach the expected outcome of increasing the oil production cuts until December



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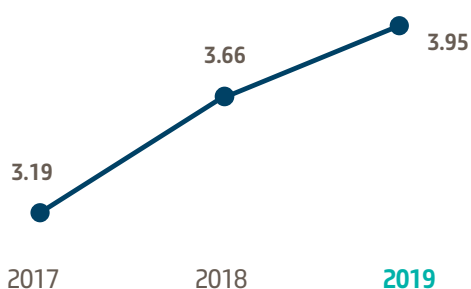
2020 by 1.5 million bbl/d, which would have brought the total reduction to 3.6 million bbl/d (OPEC+ agreed on a cut of 2.1 million bbl/d in December 2019). The disagreement between the leading members of OPEC+, Saudi Arabia and Russia, led to the non-renewal of the production cuts in force, thus allowing participating countries to produce without limits after April 1, 2020.

In response to all these shocks, oil prices fell, reaching levels of US\$32 per barrel (on March 9, 2020). The perspective of Russia and Saudi Arabia not agreeing on new oil production cuts and the uncertain evolution of the economic shock associated to the spread of the COVID-19 bring volatility to the oil price outlook.

Brazilian Economy

The Brazilian economy grew 1.2% in 2019, according to the Brazilian Institute for Geography and Statistics (“IBGE”). Despite the ongoing reforms and more accommodative monetary policy, the results were hindered by the fiscal consolidation in place and the smaller growth in the world economy and in the global trade, which increased risk aversion for emerging markets. The Argentinian crisis also affected the Brazilian economy, as Brazilian exports to Argentina fell by 35% in 2019, according to Foreign Trade Studies Center Foundation (“Funcex”).

Exchange rate (BRL/USD, average)



Source: Central Bank of Brazil

The modest growth was driven by domestic demand, especially private consumption and investment. Driven by the recovery of the construction sector, the industry sector grew 0.5% in 2019, while the service sector grew by more than 1%.

In this context of moderate economic activity, there were no relevant demand pressures on price levels. The national

consumer price index (IPCA) variation ended the year at 4.3%, according to the IBGE, giving room to a more accommodative monetary policy. SELIC ended 2019 at 4.25% p.a., the lowest historical level, according to the Central Bank of Brazil.

The exchange rate recorded a devaluation of 7.9%, reaching an average of R\$/US\$ 3.95 in 2019, compared to the 2018 average of R\$/US\$ 3.66. This trend was not limited to the Brazilian economy as there was a wide movement of appreciation of the U.S. dollar in the global market. The dollar index, the dollar exchange rate relative to a basket of the main international currencies, recorded an increase of 4.1% in 2019, according to Bloomberg.

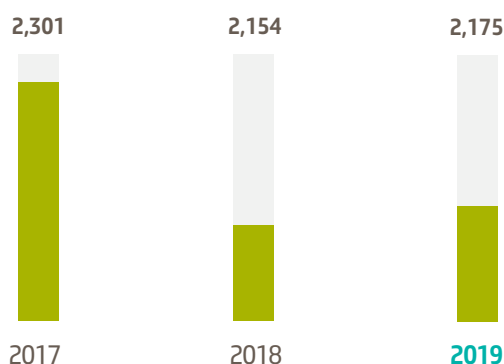
In addition, there was a reduction in the risk assessment of the Brazilian economy in 2019, measured by EMBI+ (-22.5%) and CDS (-20.3%), indicating an optimistic expectation about the ongoing reforms and the fiscal consolidation in place (Bloomberg).

Brazilian Oil and Gas Market

Oil and oil products demand

For the last three years, the Brazilian economy has been growing slowly. This is reflected in oil products consumption by the economic segments (i.e. industry and services segments). The market for oil products in 2019 was about 1% greater than in 2018. In specific terms, the volume of gasoline is diminishing due to the substitution of gasoline by hydrous ethanol, which is motivated by the competitive prices of hydrous ethanol compared to fossil fuel. Additionally, vehicles fueled exclusively by gasoline are being replaced by flex fuel automobiles.

Brazil oil products demand (mmbbl/d)



Source: Petrobras and EPE, 2019



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Fuel oil is undergoing a process of substitution by other sources, especially natural gas. In the case of thermoelectric demand, there were fewer dispatches using fuel oil, negatively affecting its sales. Bunker fuel represents an important part of fuel oil sales in Brazil and it has been positively impacted by IMO 2020 since October 2019. From January 2020, the International Maritime Organization (IMO) will ban ships from using fuels with a sulphur content above 0.5%. In this timeframe, bunker fuel price has surpassed Brent price by more than 10%.

The development of diesel demand is being slowed due to the mandatory increase of the biodiesel percentage in the fuel blend that is delivered to the final consumer. However, diesel sales increased in 2019, following the growth of the Brazilian GDP.

LPG sales were reduced in 2019, due to higher average temperatures and weaker industrial production.

By its turn, jet fuel demand suffered impacts from the exchange rate devaluation, improvements in airplanes' energy efficiency and the reduction of available seat-kilometers due to the judicial recovery from an airline company.

Natural gas demand, according to the Ministry of Mines and Energy interannual data until November 2019, has declined by 3.1%, from an average of 80.35 million m³/d to 77.85 million m³/d, due to the reduction of industrial consumption (-6.9%) and to the slight reduction in power generation (-1.2%). This effect was partially offset by an increase of 3.8% in the natural gas vehicle consumption.

Technology and alternative sources

The Brazilian energy mix (i.e. different types of primary energy sources) is going through transformations, especially in terms of power generation. These transformations are influenced by the development of renewable sources, such as wind and solar photovoltaic power that have become less costly in the recent years.

The Brazilian energy and power mixes have one of the largest share of renewables in the world.

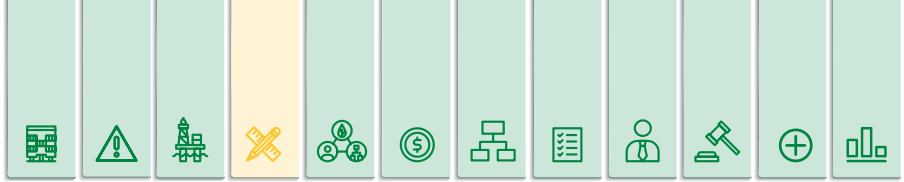
In terms of motorization, there was a trend towards more efficient-consumption vehicles, influenced by Inovar-Auto and the introduction of the first hybrid flex fuel vehicle manufactured in Brazil. Today, the government program Rota 2030 implies further investments in energy efficiency and vehicles safety, resulting in less taxes for automobile manufacturers.

Regulation

In June 2019, we signed a commitment with CADE which consolidates the understanding between the parties on the execution of divestment of refining assets in Brazil. The purpose of the agreement is to provide competitive conditions, encouraging new economic agents to enter the downstream market, as well as suspending the administrative investigation opened by CADE court to investigate alleged abuse of our dominant position in the refining segment. The agreement considers the divestment of approximately 50% of our refining capacity.

In July 2019, we also signed an agreement with CADE which consolidates understandings between the parties on the promotion of competition in the natural gas industry in Brazil. This agreement includes the sale of shareholdings in gas transportation and distribution companies and, among other matters, increases the flexibility for third parties to have access to our processing plants and release capacity in certain gas transportation contracts to which we are a part. The purpose of this agreement is to preserve and protect competitive conditions, aiming to open the Brazilian natural gas market, encouraging new agents to enter this market, as well as to suspend administrative procedures established by CADE to investigate our natural gas business.

For more information related to our commitment with CADE, see "Portfolio Management" in this annual report.



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STRATEGIC PLAN



2020 – 2024 Strategic Plan

Our 2020-2024 Strategic Plan (the “Strategic Plan” or “2020-2024 Strategic Plan”) consists of the continuous evaluation of the business environment and the implementation of the plan, allowing adjustments to be made in a more efficient way. The Plan is focused on oil and natural gas exploration and production, notably in the Brazilian pre-salt area, which is one of our greatest strengths and sources of value creation. Digital transformation has gained strength as an important instrument for adding value to our business in a competitive environment. Another highlight of our Strategic Plan is adopting economic value added (EVA[®], referred to herein as “EVA”) as a management tool for our company.

Our 2020-2024 Strategic Plan, “Mind the Gap”, provides for a transformational agenda that aims to bridge the performance gap that separates us from other global oil and gas companies and create shareholder value. In addition, our Strategic Plan is consistent with the five strategic pillars we have defined:

				
<p>MAXIMIZE RETURNS ON CAPITAL EMPLOYED</p>	<p>REDUCTION OF COST OF CAPITAL</p>	<p>RELENTLESS SEARCH FOR LOW COSTS</p>	<p>MERITOCRACY</p>	<p>PEOPLE, ENVIRONMENT AND SAFETY</p>
<ul style="list-style-type: none"> > Focusing on assets in which we are the natural owner 	<ul style="list-style-type: none"> > Continuing the deleveraging path > Transparency and liability management 	<ul style="list-style-type: none"> > Cost cutting and resilience to low-price scenarios 	<ul style="list-style-type: none"> > Merit-based variable compensation program > EVA[®] implementation 	<ul style="list-style-type: none"> > People’s empowerment > Safety culture > Decarbonizing oil production

We are in a moment of cultural and digital transformation and seeking an effective return on capital employed by our shareholders. Thus, we decided to incorporate the new management tool into our Strategic Plan: the EVA[®]. The indicator represents the beginning of performance evaluation focused on value generation, transforming our culture through clear incentives for management and other professionals.

We aim to be a company with an operational return greater than our capital cost, positioned in world-class assets, with operations focused on oil and gas, advancing in the exploration and production of the Brazilian pre-salt, with an efficient refining system. In relation to renewable energy sources, we will engage in research to acquire skills to position ourselves in the long term in the wind and solar energy segments.

Our Strategic Plan has three top metrics focused on safety of people, debt reduction and value creation:

 TRI*	 NET DEBT/EBITDA**	 Δ EVA[®]***
< 1.0	1.5x	US\$ 2.6 BILLION
AMBITION: ZERO FATALITIES		

* TRI: Total Recordable Injuries; ** NET DEBT/EBITDA: Net Debt / LTM adjusted EBITDA (including IFRS16); *** EVA: Economic Value Added



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In 2019 we were able to reduce our gross debt by US\$24 billion, reaching US\$87 billion as compared to our gross debt as of 2018 applying the effects of IFRS 16. We maintain our target to achieve a ratio of Net Debt/Adjusted EBITDA (a non-GAAP measure, as defined below in “Net Debt/

Adjusted EBITDA Metric” in this annual report) of 1.5x in 2020.

Our strategies were adjusted by defining our actions by strategic segment, in view of our focus on the core business and shareholders value generation:



EXPLORATION AND PRODUCTION "E&P"

- (i) maximize portfolio value, focusing on deep and ultra-deepwaters, seeking operational efficiency, recovery factor optimization and partnerships; and
- (ii) grow sustained by world-class oil and gas assets in deep and ultra-deepwaters.



GAS AND POWER "G&P"

- (i) act competitively in the trading of our own gas;
- (ii) optimize the thermoelectric portfolio focusing on self-consumption and trading of our own gas; and
- (iii) withdraw from gas distribution and transport completely.



REFINING, TRANSPORTATION AND MARKETING "RTM"

- (i) operate competitively in refining, logistics and oil products trading activities with focus on Southeastern operations;
- (ii) withdraw from fertilizers, LPG and biodiesel businesses completely; and
- (iii) act competitively in global oil trading.



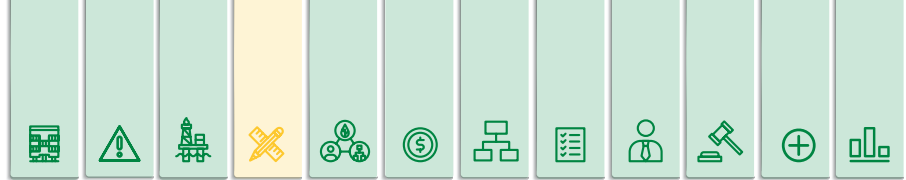
RENEWABLES

- (i) develop research aimed at long-term operations in renewable energy businesses focused on wind and solar segments in Brazil; and
- (ii) make renewable diesel and BioQav commercially viable as a response to the sustainability policies of the Brazilian energy matrix.



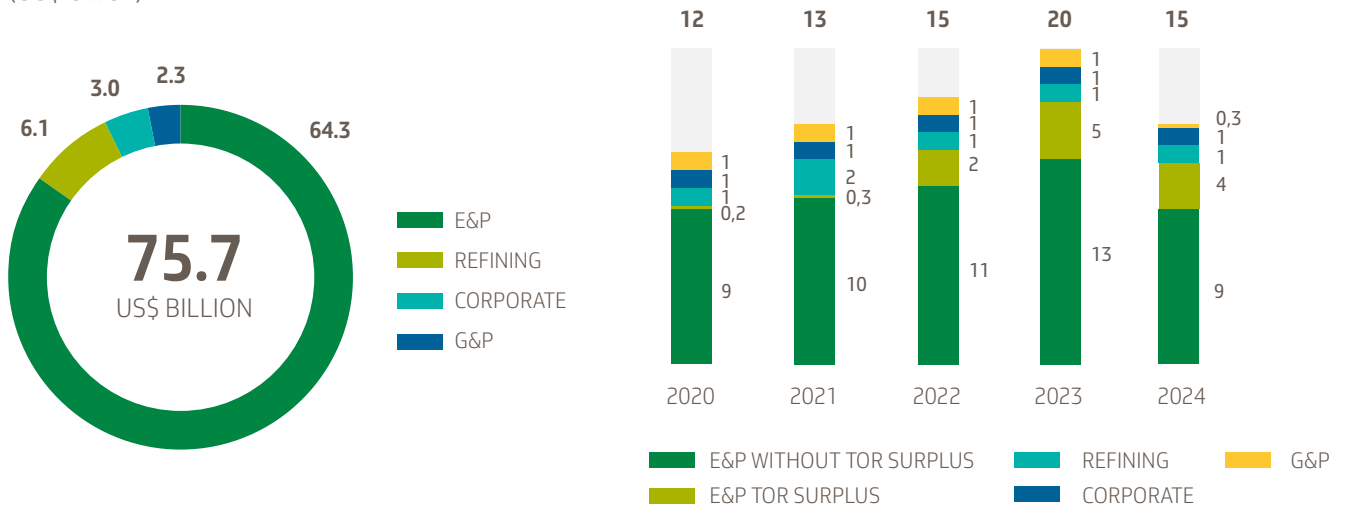
TRANSVERSAL STRATEGIES

- (i) transform us digitally by delivering solutions to challenges, empowering our employees, generating value, and increasing operational safety;
- (ii) develop critical skills and a high-performance culture to meet the new company challenges using economic value added as a management tool;
- (iii) constantly pursue a competitive and efficient cost and investment structure with a high safety standard and respect for the environment; and
- (iv) strengthen our credibility and reputation.



Our projected capital expenditures for the next five years is US\$75.7 billion, of which 85% is allocated to the E&P segment.

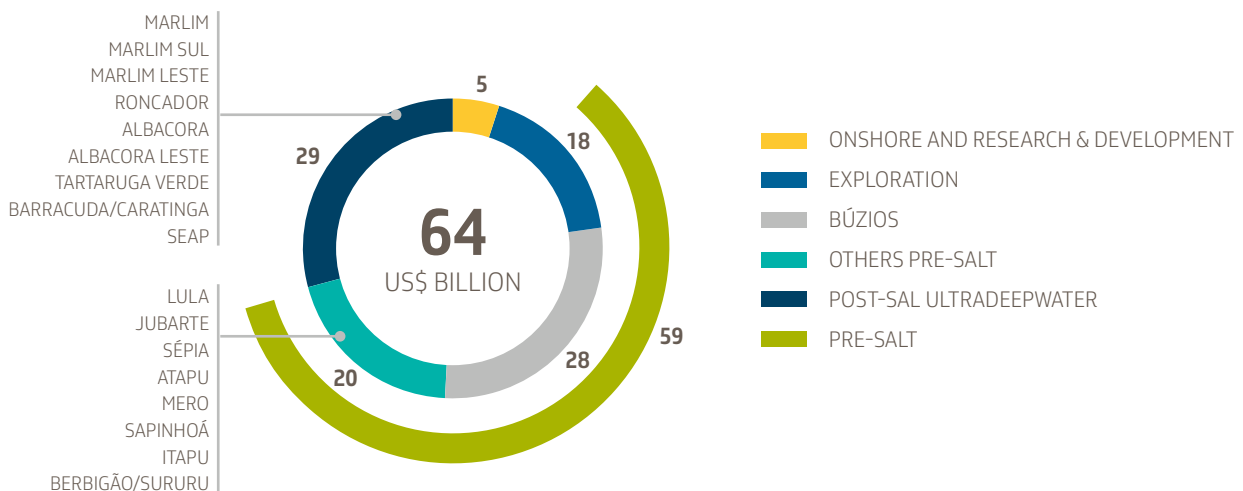
Projected investments 2020-2024
(US\$ billion)

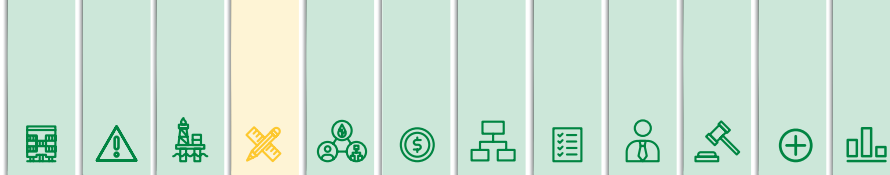


Our Strategic Plan presents a repositioning of our E&P portfolio focusing on deepwater and ultra-deepwater activities, where the extraction cost is lower, providing higher returns. Thus, we expect 59% of our investments in the

segment for the 2020-2024 period will be directed to pre-salt assets and projects, in particular on the Búzios field, which is expected to be allocated 28% of the total investment planned for the E&P segment.

Projected E&P investments 2020 - 2024 (%)

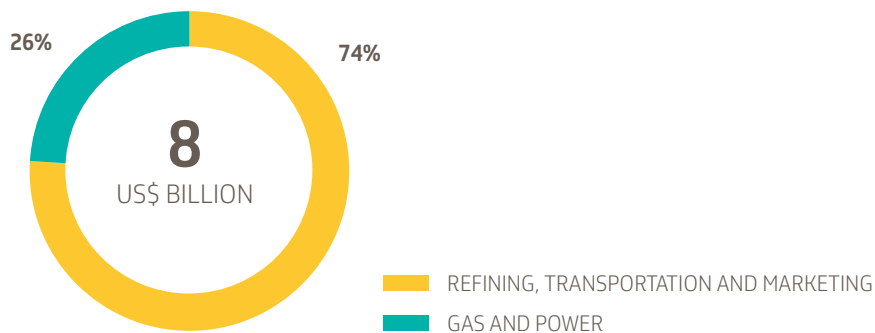




In the Refining segment, our efforts are focused on investments in maintenance (refining and logistics), hydrotreatings (“HDTs”) in REPLAN (Paulínea), REDUC (Duque de Caxias) and RPBC (Presidente Bernardes), and hydrocracking (“HCC”) in REDUC (Duque de Caxias) to produce high quality lubricants.

In the Gas and Power segment, our investments are focused on Route 3 and natural gas processing unit to enable natural gas outflow from pre-salt production. In addition, we plan to invest in R&D in solar and wind power.

Projected Refining,
Gas and Power
Investments
2020 – 2024



We continue to pursue deleveraging by means of cash generation and divestment. In 2020, our major cash needs are expected to meet our budgeted Capital Expenditures for the year, amounting to US\$12 billion, and to make principal and interest payments of US\$6.8 billion on our debt.

The divestments forecasted in our Strategic Plan are between US\$20-30 billion for the 2020-2024 period, with the highest concentration expected in the years 2020 and 2021. In addition to divestments already announced by us, we are

currently evaluating the potential sale of thermoelectrics, gas pipelines in the pre-salt area and other E&P assets, in addition to the sale of our shareholding in BR Distribuidora and Braskem. Nonetheless, our evaluation is still ongoing, and there is no corporate decision by our management with respect to the structure or implementation of the potential sale of such assets, which may depend on market and strategic conditions.



Production of Oil, NGL and Natural Gas

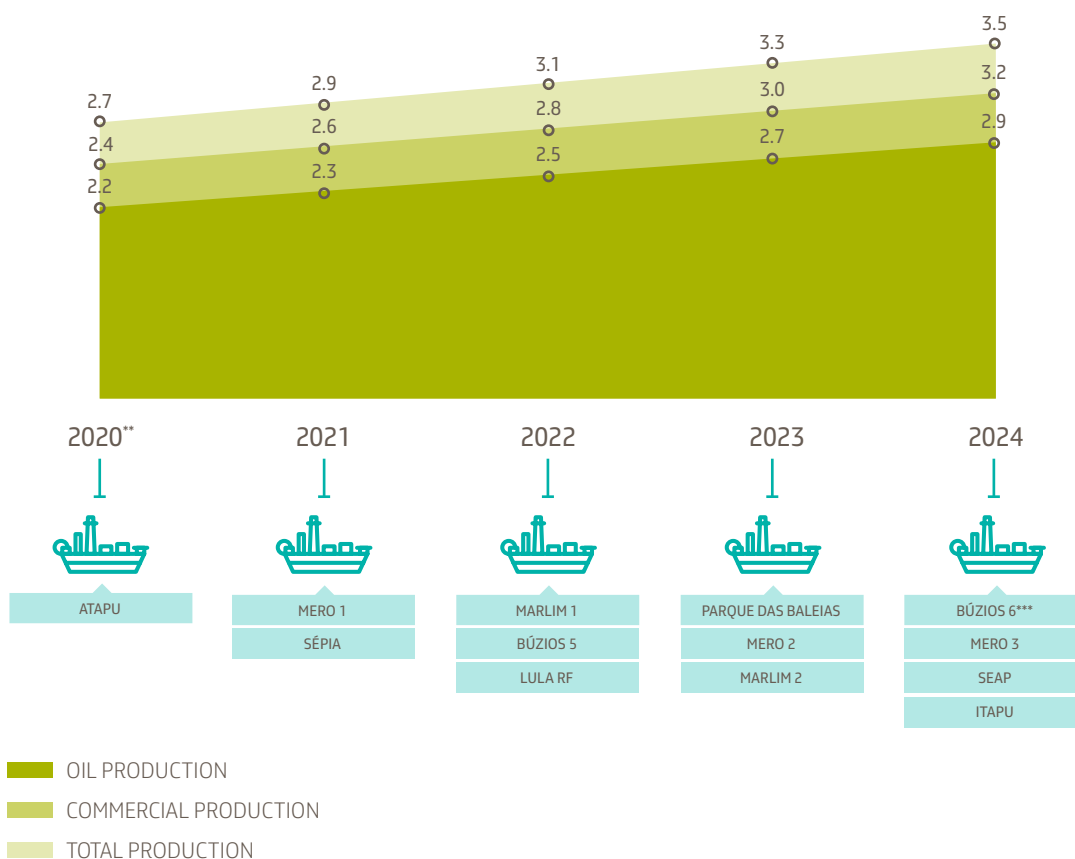
The oil and gas production curve estimated in our Strategic Plan indicates a continuous growth path. During the 2020-2024 period, 13 new production systems are expected to begin operation, all of which are allocated to deepwater and ultra-deepwater projects.

We decided to present a commercial production vision in order to represent the financial impact of production on our results, deducting from our natural gas production the volumes of gas reinjected into the reservoirs, consumed in E&P facilities and burned in production processes. In addition, the production curve does not include divestments, except for approximately 100 mboed, relating to the Nigerian fields and the Tartaruga Verde field, which sale transactions were concluded on January 14, 2020 and December 27, 2019, respectively.

The production curve estimated in our Strategic Plan is presented below.

Estimated oil and gas production*

(mmboed)



* Does not consider divestments, except from Nigerian assets and Tartaruga Verde (~100 kbpd of total production)

** 2020 figures include +/- 2.5%

*** Regarding to the sixth production system of the Búzios field (chronological order) to be installed in the Module 7 area

For the 2020 production target, we consider a variation of plus or minus 2.5%. The oil production in this year mainly reflects losses in volumes related to natural decline of mature fields and higher concentration of production stoppages to increase the integrity of the systems, partially offset by the ramp-up of new platforms. In the long term, the growth path is supported by new production systems, particularly in the pre-salt, with higher profitability and value generation and by the Campos Basin production stability.



Crude Oil Price and Exchange Rate

Future calculations have been carried out assuming an average Brent Crude Oil price of US\$65 per barrel and an average nominal exchange rate of R\$3.93 to US\$1.00 for the 2020-2024 period.

Operational Costs

Our Strategic Plan includes cost optimization and reduction initiatives, which includes a reduction in corporate expenses (costs and expenses excluding raw materials).

The 2020-2024 Strategic Plan includes initiatives to optimize and reduce costs, with cost reduction targets of 10% and a 15% reduction in corporate spending in 2020.

Financing

Our cash generation will be the result of higher expected efficiency, greater cost control and financial resources due to active portfolio management. This will allow for a gradual reduction in gross debt, with a consequent reduction in interest expenses and an increase in estimated dividend distribution amounts through our new dividend policy.

In addition, by anticipating cash flow through divestments of assets, we will make our investments, looking for reducing our indebtedness, without the need for new net fundraising in our Strategic Plan horizon.

Low Carbon and Sustainability Commitments

So far, we have already advanced with a series of carbon emission reduction actions in our processes, which involve reducing the flaring of natural gas, reinjection of CO₂ and gains in energy efficiency. We maintain our commitment to reducing carbon emissions of our processes and products, with a carbon resilience and efficiency action plan.

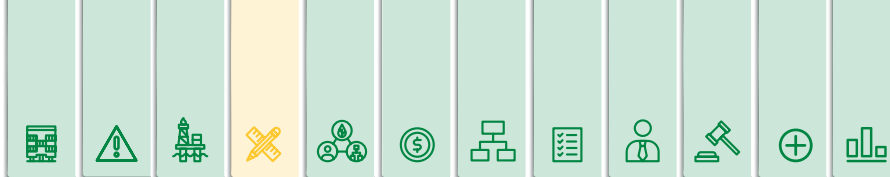
Accordingly, we have established 10 commitments for the low carbon and sustainability agenda:

1. Zero growth in absolute operating emissions by 2025*;
2. Zero routine flaring by 2030;
3. Re-injection of approximately 40 MM ton CO₂ up to 2025 in carbon capture, utilization and storage projects;
4. 32% reduction in carbon intensity in the E&P segment by 2025;
5. 30% to 50% reduction in methane emission intensity in the E&P segment by 2025;
6. 16% reduction in carbon intensity in refining segment by 2025;
7. 30% reduction in freshwater capture in our operations with focus on increasing reuse by 2025;
8. Zero increase in residues generation by 2025;
9. 100% of our facilities with biodiversity action plan by 2025; and
10. Maintenance of investments in socio-environmental projects.

* Carbon commitments related to 2015 base. Other commitments based on 2018.

We also intend to invest US\$100 million per year in decarbonization and US\$70 million per year in R&D for decarbonization and renewables.

With the execution of our Strategic Plan, we reaffirm our commitment to be a financially competitive company with an efficient capital structure focused on a world-class oil and gas assets base, low indebtedness, conscious of the safety of people and the environment and oriented toward ethical principles and transparency.



Digital Transformation

We believe that it is important to be prepared for a competitive environment that is increasingly influenced by digital technologies. In September 2019, we created the “Digital Transformation and Innovation Executive Office” to develop a more consistent and synergic journey, aligned with our strategic pillars.

In order to accelerate our digital transformation and innovation pursuits, generate value and increase operational safety and efficiency, we are working on the following initiatives:

-  **Go Digital:** Focuses on technology platforms boosting digital evolution.
-  **Be Digital:** Focuses on digital and agile innovation – practices, mindset and cultural change.
-  **Lean Petro:** Focuses on optimizing and automating processes.
-  **Innovating and R&D:** Focuses on value creation, time to market, growth engine and business models.
-  **Protect:** Focuses on information security as an innovation enabler.

Go Digital

We are opening the path to digital solutions by offering integrated data platforms and up-to-date technologies, such as artificial intelligence.

In 2019, our information technology advances led to several improvements in our work performance, including (i) reductions in downstream operational costs, (ii) significant improvements to our upstream high-performance computing capabilities, which has tripled from 3 to 9 PFLOPS during 2019, and should exceed 30 PFLOPS by the end of 2020, and (iii) adoption of cloud-based solutions to enhance our make vs buy strategy and to transform the way we work.

Among the programs at the corporate level, Future ERP (“SAP S/4 HANA”), stands out with potential to foster agility and analytics-based decisions. The program makes use of advanced digital technologies such as “internet of things” and “machine learning.” Due to its innovative characteristics, transactional and analytics features and its ability to provide company-wide coverage, we think that SAP S/4 HANA will enable a wide range of opportunities for our digital transformation. We hope that the program will result in an increase in productivity through process redesign and will facilitate our business activities, including our mergers & acquisitions endeavors, making the use of digital technologies simple, accessible and agile.

Be Digital

In order to explore new technologies and navigate the ever-growing complexity of the digital world, we must implement a culture of collaboration and adaptability. Adaptable and efficient methods can be a key factor in making our business more resilient, empowering teams and increasing creativity and effectiveness to deliver end-user demands. We are also working with all business units to build digital agendas that bring focus to our investments, ensuring our digital efforts will help us overcome our strategic challenges.

In partnership with our information technology team, we have launched an internal startups program. As part of this program, entrepreneurs present proposals on how digital technology can have strategic impact and deliver exponential returns to a panel composed of a board of business executives. Teams then develop the selected proposals to deliver value in a short period of time.

An example of a winning proposal that is already being implemented is the project titled “Trip Detector.” This project uses artificial intelligence to run a platform to predict system failures. The program also interprets process data and suggests actions to avoid automatic shutdown events. The first implementation achieved a prediction



success rate of 70%. This solution will be implemented for other equipment and facilities, generating exponential results through efficiency and safety.

Lean Petro

We work to optimize and digitize processes all over our organization using technological tools such as Robot Process Automation (“RPA”), Enterprise Service Management (“ESM”) and Business Process Management Suite (“BPMS”). Those tools help us promote several goals, including (i) an integrated management for a process digitization center of excellence; (ii) the innovation and incorporation of technologies across business processes; and (iii) the mapping, redesign and simplification of processes and structures. This allows us to pursue cost optimization and improve our efficiency.

In 2019, we began restructuring our processes to implement the SAP 4 HANA, which will be a major driver for process reengineering. During the year, approximately 3,000 processes and procedures were simplified or reduced, continuing an effort started in 2016 that brought about a reduction of around 18,000 of our procedures.

Innovating and R&D

We have a history of successfully developing and implementing innovative technologies, mainly with respect to drilling, completing and producing wells in increasingly deep water. Our efforts received four OTC awards, recently in 2019 for the technologies we developed for the Libra Long Term Test. In 2020, the award recognizes the set of innovations developed to enable production in the Búzios field, in the Santos Basin pre-salt. To make this project a reality, the company developed a series of technologies for a scenario that combines challenging conditions, such as ultra-deepwaters and reservoirs located below the salt layer, subjected to high pressure levels, as well as a high presence of carbon dioxide. The innovations cover the technical areas of reservoirs, wells, elevation and flow, as well as subsea technologies and surface installations. One of the main highlights of the development was the installation of four FPSO type vessels (floating oil production, storage and

transfer unit) in a period of just 11 months in a single production field.

Our research and development center (“Cenpes”) is one of the largest facilities of its kind in the energy sector and one of the largest in the Southern Hemisphere. The Cenpes facility has a total area of 308,000 m², and includes 147 laboratories and more than 8,000 pieces of equipment, with cutting edge technology. The facility’s laboratories are dedicated in particular to pre-salt technologies, which is our main source of value. Cenpes’ mission is to “imagine, create and make today the future of Petrobras.” As of December 31, 2019, this facility had 1,358 employees, 89.5 % of which are dedicated to research and development. This employee group includes 12 employees with postdoctoral degrees, 261 with doctorates and 420 with masters in science. We also have several semi-industrial scale prototype plants throughout Brazil that are located near our industrial facilities and are aimed at fast prototyping and scaling up new industrial technologies at reduced costs.

As we pursue valuable results in research and development, we are exploring new ways to innovate through disruptive technologies, digital transformation and start-up engagement. The innovation ecosystems are key to unlocking the full potential of emerging technologies and can speed up innovation. We currently work with technological partnerships to leverage our human capital. We have already started to improve our connections with innovation ecosystems by adopting new open innovation practices with start-ups. The first step was an innovation challenge in cooperation with SEBRAE (a non-profit private entity with the mission of promoting the sustainable and competitive development of small businesses in Brazil) through a call for start-ups and small companies for projects aiming to improve technology readiness and implementation rates. It is among our research and development priorities to provide technologies for the deep and ultra-deepwaters, to seek operational efficiency and optimization of the recovery factor, and to provide technologies for downstream, gas and energy, as well as renewable energies aimed at long-term wind and solar operations. For instance, our program “PROD1000” has the ambition to reach 1,000 days between field discovery and beginning of production, compared to



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current average for pre-salts of 3,000 days (PROD1000). Our intention is to combine PROD1000 with “EXP100”, a program with the ambition to increase the chance of discovering oil to 100% in drilling exploratory wells, reducing project risks and

costs by expediting production development. The result would be earlier starts of the production development stage, which would boost the full-cycle capital efficiency.

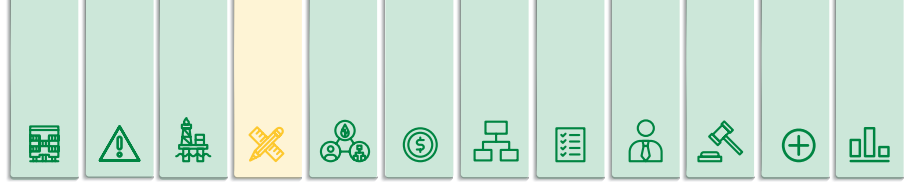
Research and development investment (US\$ million)



Currently, about 30.7% of our R&D portfolio includes digital technologies such as big data, high performance computing and artificial intelligence, in order to support the development of our business.

Additionally, in the 3-year period ended December 31, 2019, our research and development operations were awarded 214 patents in Brazil and 113 overseas. Our patents portfolio covers all of our areas of activities.

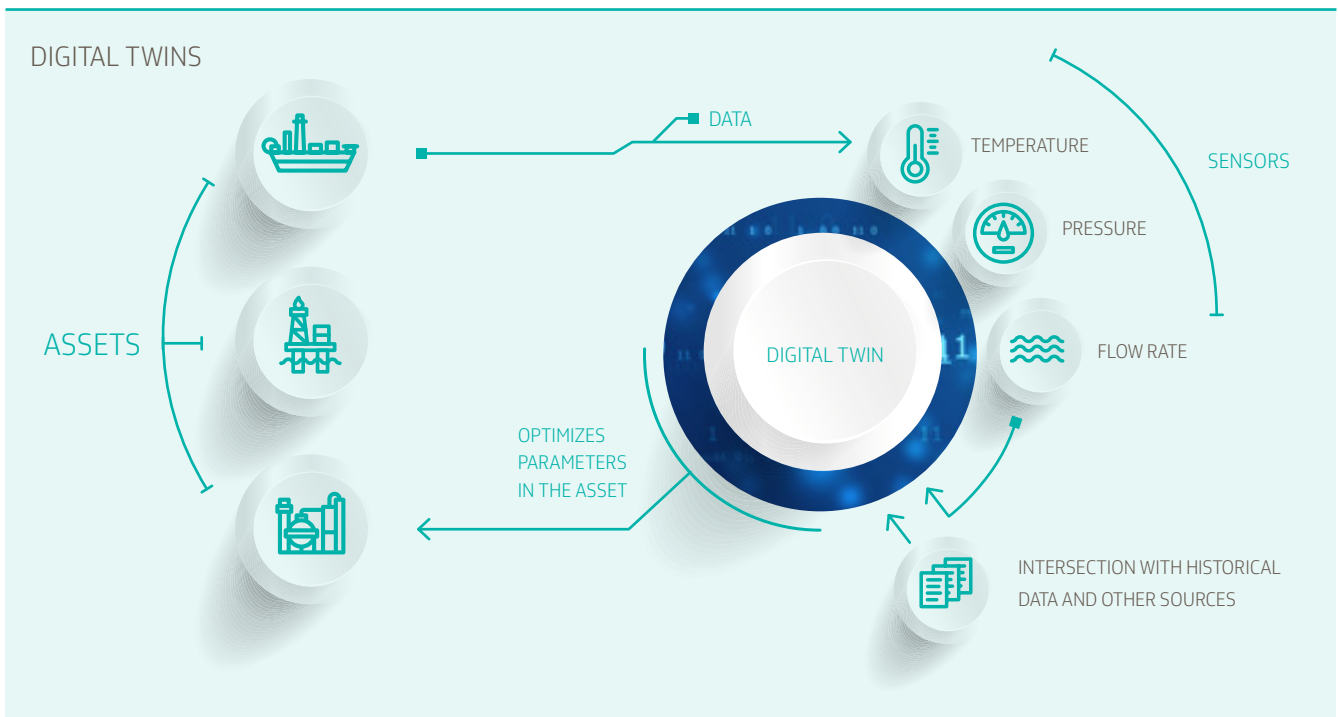
In 2019, we engaged in several activities relating to research and development. We conducted joint research projects with universities and research centers in Brazil and abroad. We also participated in technology exchange and assistance partnerships with several oilfield service companies, technology companies and other operators and start-ups that benefited from our acceleration initiatives.

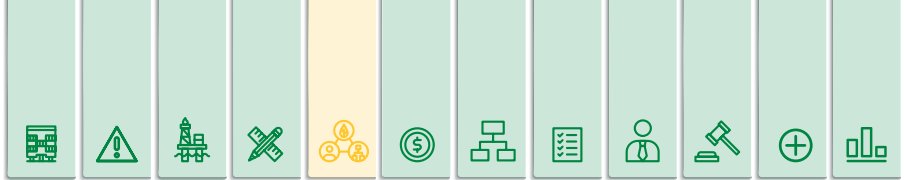


Protect

Information security plays an important role in our day-to-day operations and is considered an innovation enabler in our journey of digital transformation. In 2019, we conducted several initiatives related to information security, continuous awareness, threat intelligence platforms, adoption of cybersecurity frameworks, data loss prevention solutions and security of industrial control systems, in order to improve information security maturity levels. In 2019, there were no reported cybersecurity incidents that could have compromised the confidentiality, integrity or availability of information technology resources supporting our financial statements.

An important example concerning the integration of all the initiatives above – Go Digital; Be Digital; Lean Petro; Innovating and R&D and Protect – is the deployment of “digital twins.” These are digital representations of our operating facilities – such as a platform, an oil reservoir, a submarine system, a critical equipment or a refinery – that have the potential to contribute to the reduction of operating costs and the increase in efficiency and safety in our operations.



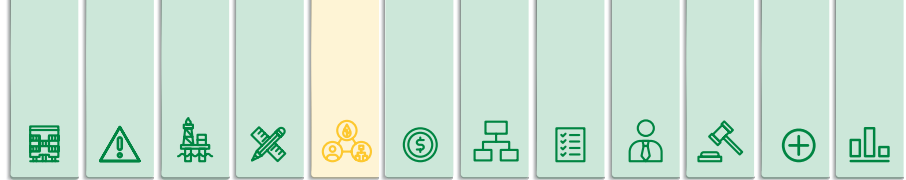


— ENVIRONMENT, SOCIAL
— AND GOVERNANCE

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ENVIRONMENT, SOCIAL
AND GOVERNANCE



ENVIRONMENT, SOCIAL AND GOVERNANCE

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Environment

The protection of human health and the environment is one of our primary concerns and is essential to our success.

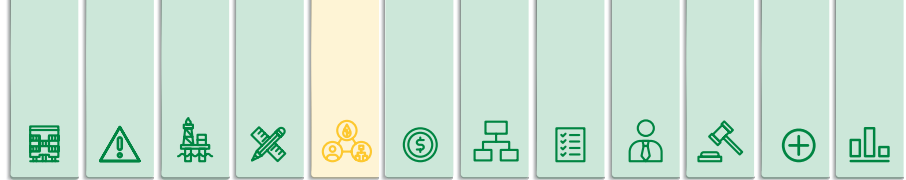
Each year, we maintain a set of initiatives focused on the prevention of accidents and the preservation of life and the environment. To this end, we launched the Commitment to Life Program (the “Program”), which aims to strengthen guidelines and standardize safety practices at all stages of our operations. The Program was launched in 2016. It is currently in its fourth cycle, 2019-2020, and supports the implementation of the Total Recordable Injury (“TRI”) safety indicator, which is one of our top metrics.

We structured these initiatives under our Program keeping in mind (i) the results of our Health, Safety and Environment (“HSE”) management assessments, (ii) the root causes of accidents identified in accident investigations and (iii) environmental scenarios in recent years and future perspectives.

The main initiatives of the Program for the 2019-2020 cycle are the following:

Commitment to Life Program CYCLE 2019-2020

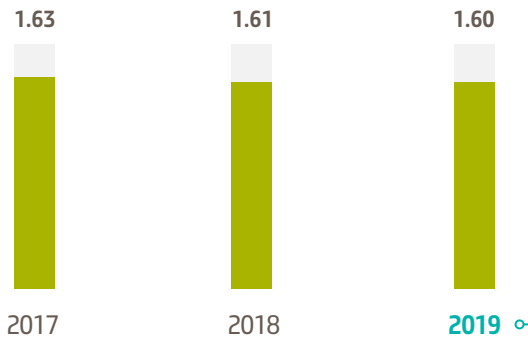




ENVIRONMENT, SOCIAL AND GOVERNANCE

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HSE investments (US\$ billion)



Our HSE investments are directed towards: our operations, reduction of emissions and waste from industrial processes, management of water and effluent use, repair of impacted areas, implementation of new environmental technologies, modernization of our pipelines and improvement of our capacity to respond to emergencies. In addition, we support several socioenvironmental projects.

The relationship with our suppliers also includes environmental aspects. Our new commitments formalized in 2019 consider environmental criteria. Contracted companies must present evidence and certifications related to compliance with HSE standards and confirm that they comply with all applicable requirements, laws and regulations.

In 2019, we became the first company to achieve ASCM Enterprise Certification, which is the first-of-its-kind corporate level designation that demonstrates supply chain excellence and transparency – a growing value for consumers as they become more educated about supply chain supporting ethical and sustainable business practices. The certification is valid for three years, with the annual requirement to demonstrate adherence to ASCM defined standards for certificate maintenance throughout the validity period. By obtaining the certification, we reinforce our commitment to improving how we manage our goods and services supply processes, contributing to the company’s increased credibility in a competitive market.

Total Recordable Injury

Safety is one of our core values. The total recordable injury per million man-hour frequency rate (“TRI”) is one of the metrics monitored by our senior management for matters of health and safety. The evolution of the TRI reflects the implementation of several initiatives for the promotion of our safety culture, trainings and our HSE management assessment program.

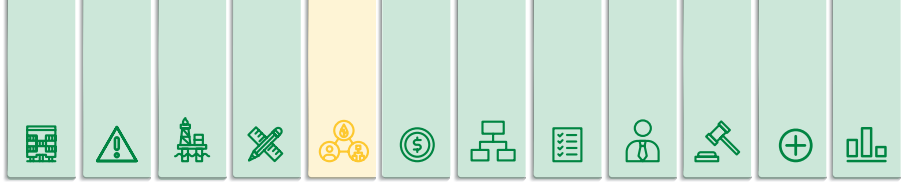
After obtaining a TRI result of 0.76 in 2019, in the 2020–2024 Strategic Plan we established an alert threshold for TRI below 1.00 for the year 2020. We expect this result to place us among top oil and gas companies in terms of safety.

Eliminating fatal accidents and achieving top-notch performance when it comes to the prevention of injuries to our employees and to third parties are the two key important goals of our HSE management. In 2019, we trained more than 40,000 employees on the issues of process safety, HSE aspects in contracts, behavioral auditing and human factors.

Total recordable injury rate – TRI*



* TRI below the peer group’s historical benchmark (0.80). Benchmark from comparative information obtained in the Sustainability Reports of BP, Shell, Equinor, Total and Exxon.



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We expect training 180 thousand employees and contractors in safety risks until 2021.

Although we develop prevention programs in all of our operating units, we recorded two fatalities involving our own and contractors' employees in 2019 (compared to six fatalities in 2018). Our procedure is to investigate all incidents reported in order to identify their causes and take preventive and corrective actions. These actions are regularly monitored once they are adopted. In case of serious accidents, we send company-wide alerts to enable other operating units to assess the probability of similar events occurring in their own operations.











Environmental impacts

Main Impacts

 <p>EMISSIONS million tons CO₂ e</p> <p>60 million tons CO₂ e in 2019 62 million tons CO₂ e in 2018 67 million tons CO₂ e in 2017</p>
 <p>BIODIVERSITY AND ECOSYSTEMS</p> <p>Events with a confirmed or probable impact on fauna, flora or habitat.</p> <p>17 events in 2019 31 events in 2018 20 events in 2017</p>
 <p>WASTE thousand tons</p> <p>Hazardous solids generated in industrial processes.</p> <p>119 thousand tons in 2019 120 thousand tons in 2018 113 thousand tons in 2017</p>
 <p>EFFLUENTS millions m³</p> <p>271.6 millions m³ in 2019 289.1 millions m³ in 2018 293.2 millions m³ in 2017</p>
 <p>SPILLS m³</p> <p>415.3 m³ in 2019 18.5 m³ in 2018 35.8 m³ in 2017</p>

impacts of our activities on the environment. In 2019, we invested US\$891 million in environmental projects, compared to US\$842 million in 2018 and US\$790 million in 2017. These investments continued to be primarily directed at reducing emissions and waste from industrial processes, managing water use and effluents, remediating impacted areas, implementing new environmental technologies, upgrading our pipelines and improving our ability to respond to emergencies.

We have established ten commitments in our 2020-2024 Strategic Plan, ten commitments for the low carbon and sustainability agenda:

 <p>Zero growth in absolute operating emissions by 2025*</p>	 <p>Zero routine flaring by 2030</p>
 <p>Re-injection of approximately 40 MM ton CO₂ up to 2025 in carbon capture, utilization and storage projects</p>	 <p>32% reduction in carbon intensity in the E&P segment by 2025</p>
 <p>16% reduction in carbon intensity in refining segment by 2025</p>	 <p>30% to 50% reduction in methane emission intensity in the E&P segment by 2025</p>
 <p>30% reduction in freshwater capture in our operations with focus on increasing reuse by 2025</p>	 <p>Zero increase in residues generation by 2025</p>
 <p>100% of our facilities with biodiversity action plan by 2025</p>	 <p>Maintenance of investments in socio-environmental projects</p>

* Carbon commitments related to 2015 base. Other commitments based on 2018.

We are an energy company focusing on oil and gas. We therefore use natural resources and impact the ecosystem through our activities. However, we seek to reduce the

For more information, see "2020-2024 Strategic Plan" in this annual report.



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Spills and Environmental Remediation Plans

Oil and oil product spills totaled 415.3 m³ in 2019, compared to 18.5 m³ in 2018. The increase in leakage is mainly due to the occurrence of two events: (i) the rupture of the offload hose during the transfer of oil from the P-58 platform to the relief vessel, generating a leakage of 251.8 m³ of oil into the sea; and (ii) the loss of water/oil interface in the production separator of P-53, resulting in oil dragging into the produced water system and consequent disposal of water with a high oil content into the sea (generating a leakage of 122 m³). In both cases, immediate remediation procedures were implemented in order to minimize the impacts generated by spills, and the causes were investigated for prevention purposes.

We are constantly seeking to improve our standards, procedures and leakage response plans, which are structured at the local, regional and corporate levels.

In 2019, we set up a plan called “Mar Azul,” with the aim of identifying and addressing what could cause loss of containment. This plan consists of investments for improving the management of processes and for ensuring the integrity of our equipment and installations.

As part of our environmental plans, procedures and efforts, we maintain detailed response and remediation contingency plans to be implemented in the event of an oil spill or leak from our offshore operations. The Brazilian Institute of the Environment and of Renewable Natural Resources (IBAMA) audits, approves and authorizes the execution of these programs.

In order to respond to these events, we have dedicated oil spill recovery vessels fully equipped for oil spill control and firefighting, support boats and other vehicles, additional support and recovery boats available to fight offshore oil spills and leaks, containment booms, absorbent booms and oil dispersants, among other resources. These resources are distributed in Environmental Defense Centers, located in strategic areas, in order to ensure rapid and coordinated response to onshore or offshore oil spills.

We have approximately 300 trained workers available to respond to oil spills 24 hours a day, seven days a week, and we can mobilize additional trained workers for shoreline

cleanups on short notice from a large group of trained environmental agents in the country. While these workers are located in Brazil, they are also available to respond to an offshore oil spill outside of Brazil.

Since 2012, we have been a member of the Oil Spill Response Limited (“OSRL”), an international organization that brings together over 160 corporations, including major, national and independent oil companies, energy related companies as well as other companies operating elsewhere in the oil supply chain. OSRL participates in the Global Response Network, an organization composed of several other companies dedicated to fighting oil spills. As a member of the OSRL, we have access to all resources available through that network, and also subscribe to their Subsea Well Intervention Services, which provide swift international deployment of response-ready capping and containment equipment. The capping equipment is stored and maintained at bases worldwide, including Brazil.

In 2019, we conducted 15 emergency drills of regional scope with the Brazilian Navy, the civil defense, firefighters, the military police, environmental organizations and local governmental and community entities.

We continue to evaluate and develop initiatives to address HSE concerns and to reduce our exposure to HSE risks on capital projects and operations.

At the request of IBAMA, in 2019 we supported emergency response actions in the northeast region of Brazil, by furnishing the performance of our supplying equipment and materials for the operational fronts. We will receive reimbursement of the costs we incurred in providing support for responding to this emergency. As part of our support efforts, we mobilized two specialized vessels (Oil Spill Response Vessels – OSRV), two readiness aircraft and 4,000 meters of oil containment barriers.

Air Emissions and Transition to Low Carbon

Our climate strategy focuses on the decarbonization of our operations and aims to ensure a superior carbon performance and to strengthen the resilience of our oil and gas business. We have a company-wide carbon mitigation program, with an allocated budget. We also implement strategies to consider carbon emissions and financially



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quantify the carbon risk in our decision-making process. In addition, we work to strengthen our long-term options by focusing on R&D and assessing opportunities in selected low-carbon businesses that offer a competitive advantage and have synergies with our activities. Examples of such businesses include renewable aviation fuels and offshore wind developments.

We have launched a comprehensive set of carbon targets and goals for the medium-term, covering the 2015–2025 decade. Our “no emissions growth” targets 100% of operated assets in all our businesses (including power generation), for all greenhouse gases (“GHG”). We include direct (Scope 1) and indirect GHG emissions from the acquisition of electric and/or thermal energy produced by third parties (Scope 2). We also established specific intensity targets for our refining and upstream businesses and we linked a short-term 2019 internal target to the remuneration of executives, including selected board members, across the related areas.

In 2019, our performance in terms of GHG emissions was as follows:

- Total emissions of GHG of 60 million tCO₂e, well under our target of no growth, provided that zero growth considers our absolute emissions in 2015, which totaled 78 million tons of CO₂e. Our commitment is not to exceed 78 million tons of CO₂e in any year until 2025, unless there is a strong pressure for electricity generation from thermal plants due to national water stress events;
- Carbon intensity in E&P of 17.3 kgCO₂e/boe (the kg CO₂e / boe indicator considers gross oil and gas production

(“wellhead”) in its denominator), on track for achieving the medium-term target of 15 kgCO₂e/boe in 2025;

- Carbon intensity in refining of 42.5 kgCO₂e/CWT* on track for achieving the medium-term target of 36 kgCO₂e/CWT in 2025.

Our carbon intensity targets (E&P and Refining) represented a coverage of 74% of emissions from activities operated by us in 2019.

Our strategy also focuses on collaboration and we have continued to partner with other companies and with the science, technology and innovation community.

We highlight, for instance, our participation in the Oil & Gas Climate Initiative and our support for the World Bank’s “Zero Routine Flaring by 2030” initiative. In our program on Connections for Innovation – Startups Module, conducted in partnership with the Brazilian Micro and Small Business Support Service (“SEBRAE”), the topic of low carbon solutions was one of the topics selected. In fact, one of the winning companies, Pam Selective Membranes, worked in the carbon capture technology arena.

In addition, we announced updates to our Climate Change Supplement, an internal guide which will be available on our website. The Climate Change Supplement details our contributions to reducing the carbon intensity of our energy supply and how we aim to remain competitive in an evolving context.

*The kg CO₂/CWT indicator was developed by Solomon Associates specifically for refineries and was adopted by the European Emissions Trading System (EU Emissions Trading System, EU ETS) and by CONCAWE (association of European oil refining and distribution companies and gas). A refinery’s CWT (Complexity Weighted Tonne) considers the potential for GHG emissions, in equivalence to distillation, for each process unit. Thus, it is possible to compare emissions from refineries of various sizes and complexities.

We monitor the kg CO₂/CWT indicator, according to our original identity.

We also monitor an adapted indicator: kg CO₂e / CWT, to enable the inclusion of emissions from other GHG (for example methane), which, however, represent a small portion of our refining emissions.



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Social Responsibility

Human Rights

A commitment to human rights is key to the sustainability of our business. Several documents governing our activities detail our approach to human rights, as follows:

- **Code of Ethics:** addresses issues such as respect for diversity, equal opportunities, fair labor relations, health and safety assurance for workers and the right to free association.
- **Human Resources Policy:** states that we must provide employees with a good working environment that promotes diversity and relationships based on trust and respect, without tolerating any form of harassment or discrimination.
- **Social Responsibility Policy:** seeks to prevent and mitigate negative impacts on our direct activities, supply chain and partnerships. It is based on respect for human rights and seeks to combat discrimination in all its forms, setting forth standards related to social risk management, community relations and social investment present in the guidelines related to these subjects.
- **Sustainability Report:** we conform our reported indicators and actions with the Sustainable Development Goals outlined in the sustainability report: Correlation with Global Reporting Initiative (GRI) Indicators, Sustainable Development Goals (SDGs) and Global Compact Principles.

Our respect and defense of human rights commitments also occurs through initiatives in favor of gender equity, racial equality and the protection of early childhood. We list below our main human rights initiatives.

2003	2005	2010	2015	2018	2019
UN global compact	Gender and ethnic pro-equity program	Women's empowerment principles Corporate statement addressing sexual violence against children and adolescents	National pact for slave labour eradication	Business initiative for ethnic equality Open letter companies for human rights	Early childhood national network

In 2010, we adhered to the seven UN Women Empowerment Principles (“WEPs”), which address the promotion of gender equality in the labor market and in society. Over time, our internal gender equity promotion policies have secured recognition in the 2019 WEPs Brazil Award, an award organized by a partnership between UN Women, the International Labor Organization and the European Union, geared towards companies promoting gender equity and women’s empowerment.

In November 2018, we joined the Business Initiative for Equality, put forward by the NGO Afrobras and Zumbi dos Palmares College. Through its 10 commitments, the initiative

aims to promote racial equality, equal opportunities and fair treatment for all. In 2018, we also signed the Open Letter Companies for Human Rights, in which we pledged, among other things, to adopt a policy of communication, investigation of complaints and sanctions, in order to suppress practices that contradict our Code of Ethics.

We also promote a commitment to human rights issues with our suppliers. We annually award a prize to our best suppliers. In 2019, we created a special category to value best practices in gender equity, the Special Equity Award 2018.



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Through our partnership with Zumbi dos Palmares College, in 2019 we also held the first Petrobras Equity Forum, where our main suppliers participated.

In August 2019, we launched the Petrobras Early Childhood Initiative. In 2020, the program will implement a series of intersectoral programs in 15 Brazilian municipalities aimed at protecting and boosting children's development in their first six years of life. In December 2019, we signed the National Pact for Early Childhood, a commitment signed by several sectors to protect children in Brazil, which aims to strengthen public institutions dedicated to guaranteeing rights provided for in Brazilian legislation and to promote the improvement of the necessary infrastructure to protect children's interests.

In November 2019, through our partnership with InPACTO, we promoted a workshop with representatives from the Social Responsibility, Legal, Supplies and Transpetro areas to discuss the prevention and combat of contemporary slave labor in the supply chain.

Across all of our activities, we carry out social risk assessments, where we seek to identify and mitigate potential human rights impacts in the supply chain. The assessment leads to recommendations including review of emergency response plans through the lens of community relationships, monitoring of community occurrences and complaints, disclosure of projects and operational activities and inclusion of social responsibility clauses in service contracts, among others.

Community Relationship

We are committed to maintaining a long-term community relationship based on dialogue and transparency. To achieve this, we seek to know the dynamics of the communities that neighbor the sites where we operate and their leaders, and to develop relationship plans which we monitor and evaluate.

In that vein, we seek to foster the development of collaborations to strengthen ties, promote networking

and generate mutual benefits, allowing for respect for communities' social, environmental, territorial, and cultural rights. We promote committees, meetings, lectures, visits, and investments in social and environmental programs and projects, which aligns with the objectives of our business and contributes to the conservation of the environment and improvement of the living conditions of the communities where we operate.

In 2019, our relationship plans realized 364 events in communities, such as regular meetings with community leaders through community committees, community visits and lectures on the operational units' activities and on topics related to HSE.

Additionally, we strengthen our work with communities, civil society organizations, the public sector and universities through our social-environmental program, namely *Petrobras Socioambiental*. This initiative contributes to environmental conservation and the improvement of living conditions where we operate. The program is aligned with our social responsibility policy, which aims to provide energy, respect human rights and the environment, manage our relationship with nearby communities responsibly and overcome sustainability challenges.

In 2019, our voluntary social investment totaled US\$29 million, 21% more than our social investment in 2018 (US\$24 million). This increase takes into consideration the exchange rate variation of real compared to the US dollar between 2018 and 2019. Thus, the percentage increase is 21% reported in U.S. dollars and 33% reported in *reais*. This investment supports 144 social and environmental projects.

We have also incorporated guidelines in our decision-making process related to capital investment projects, such as incorporating a social risk analysis, including human rights violations, by a multidisciplinary group. In 2019, 18 projects have been assessed for social risks, compared to 19 projects in 2018.



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Governance

Since 2015, we have been implementing a series of governance improvements.

As one of the key actions, we have established a new corporate governance model and created a set of rules and procedures that seek to ensure that our decisions are aligned with good governance:

Petrobras main governance improvements

BOARD OF DIRECTORS	PUBLIC INTEREST	TRANSACTIONS WITH THE GOVERNMENT	IMPROVEMENTS IN THE DECISION-MAKING PROCESS	WHISTLEBLOWER CHANNEL	GOVERNANCE & COMPLIANCE DEPARTMENT
<ul style="list-style-type: none"> > Independent members > Technical experience > Background check > Barrier for political appointments 	<ul style="list-style-type: none"> > Definition > Disclosure on the Financial Statements > Government compensation 	<ul style="list-style-type: none"> > Minority Committee and Audit Committee approval > Qualified Board approval 	<ul style="list-style-type: none"> > Board Advisory Committees > Shared authorization 	<ul style="list-style-type: none"> > External & Independent Whistleblower Channel 	<ul style="list-style-type: none"> > Report directly to the Board; > Qualified dismissal > Level 2 – B3

Law 13.303/16 requires that our Board of Directors be formed by at least 25% of independent members. Our Bylaws extended the requirement to 40%. Technical criteria for the selection of members of a Board of Directors and executive officers set forth in Law 13.303/16 and in our Bylaws banned the appointment of ministers, secretaries and others in certain positions of public administration. Our Bylaws also provided additional requirements in addition to those of Law 13.303/16 for assessing the reputation of the administrators and members of the Fiscal Council.

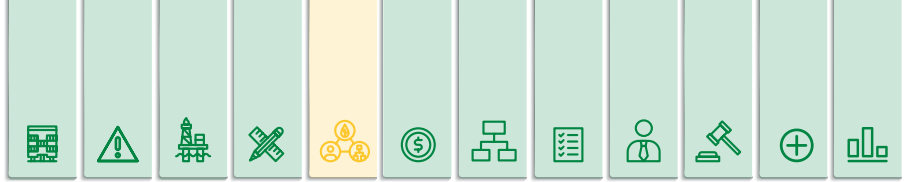
As we are a mixed-capital company, the Brazilian federal government can guide our activities, with the purpose of contributing to the public interest that justified our creation, aiming to guarantee the supply of oil products throughout the national territory. However, this contribution to the public interest must be compatible with our corporate purpose and with market conditions, and cannot jeopardize our profitability and financial sustainability.

Thus, if providing for the public interest calls for conditions different from those of any other private sector company

operating in the same market, as explained in our Bylaws, the obligations or responsibilities that we assume must be defined in rules or regulations and outlined in a specific document, such as a contract or agreement, widely publicized and with disclosure in such instruments of detailed costs and revenues, including in the accounting plan. Then, the Brazilian federal government will compensate us, each fiscal year, for the difference between market conditions and the operating result or economic return of the assumed obligation.

Transactions with the Brazilian federal government that require our Board of Directors approval and occur outside the normal course of business must have been previously reviewed by the minority committee and approved by two-thirds of the board. The minority committee is formed by two members of our Board of Directors appointed by minority common shareholders and preferred shareholders, as well as one independent member, according to our Bylaws.

We have made improvements in our governance decision-making process as well. Our Bylaws already define the board



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advisory committees that review all matters submitted to the Board of Directors prior to a decision. In order to ensure transparency in our most relevant decisions, we have implemented a shared authorization model, where at least two people must come to a decision (the four-eyes principle).

Our whistleblower channel is an independent, confidential and impartial tool. It is available to external and internal audiences of Petrobras and our controlled companies to register denouncements of fraud, corruption, money laundering, harassment, discrimination, HSE and others issues.

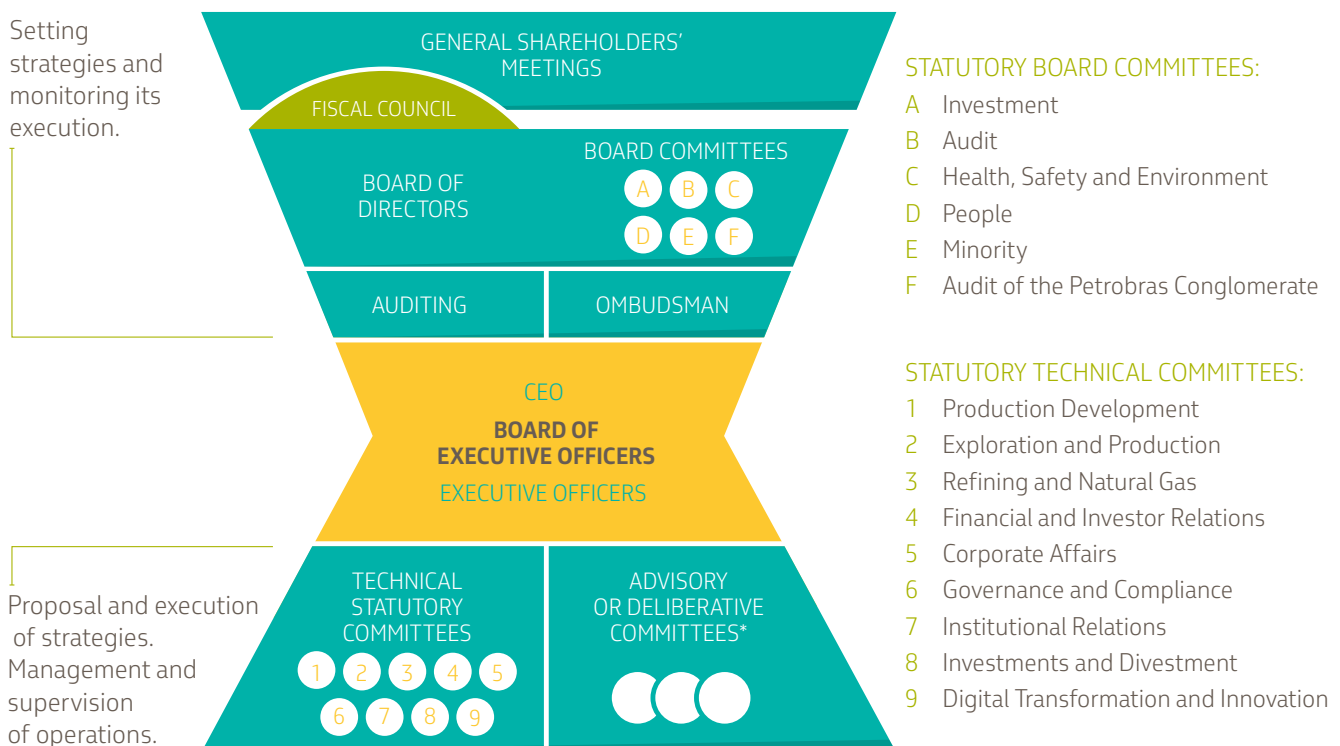
Our Board of Director nominates the chief governance and compliance officer. The majority of the board must approve the dismissal of such an officer, with the vote of at least one of the directors elected by minority shareholders.

We are part of the special Level 2 corporate governance listing segment of the B3, which demands compliance with differentiated governance regulation and the improvement of the quality of the information we provide. This voluntary move to Level 2 of the B3 reinforces our advances in corporate governance and ratifies our commitment to the continued improvement of processes and to our alignment with market best practices.

Possible initiatives related to changes for governance improvements require formality and transparency of process. In most cases, a shareholders' meeting is required if the proposed change is to a governance rule provided for in our Bylaws, or stems from a legislative amendment if relates to a Law 13.303/16 provision.

Governance Structure

Our corporate governance structure consists of general shareholders' meetings, our audit committee and Fiscal Council, Board of Directors and its committees, internal and external audits, general ombudsman office, Board of Executive Officers and its committees.



*THE BOARD OF EXECUTIVE OFFICERS MAY CREATE ADVISORY OR DELIBERATIVE COMMITTEES ACCORDING TO THE RELEVANCE OF TOPICS AND SUBJECTS.



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Our Code of Best Practices gathers our main governance policies and aims to improve and strengthen our governance mechanisms, guiding the performance of our directors, executive officers, managers, employees and collaborators.

Shareholders' Meeting


The shareholders' meetings must take place on an ordinary or extraordinary basis. An ordinary shareholders' meeting must take place once a year in order to approve our accounts and profits. In addition to the matters provided for by law, an extraordinary shareholders' meeting must take place if called to decide on matters of our best interest, as defined in our Bylaws.

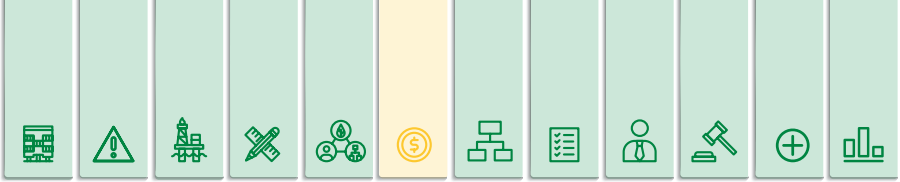
For more detailed information on our shareholders' meetings, see "Shareholder Information" in this annual report.



Our Code of Best Practices

We have a Code of Best Practices, which is an instrument approved by our Board of Directors that brings together our main governance policies (available at our website), as listed below:

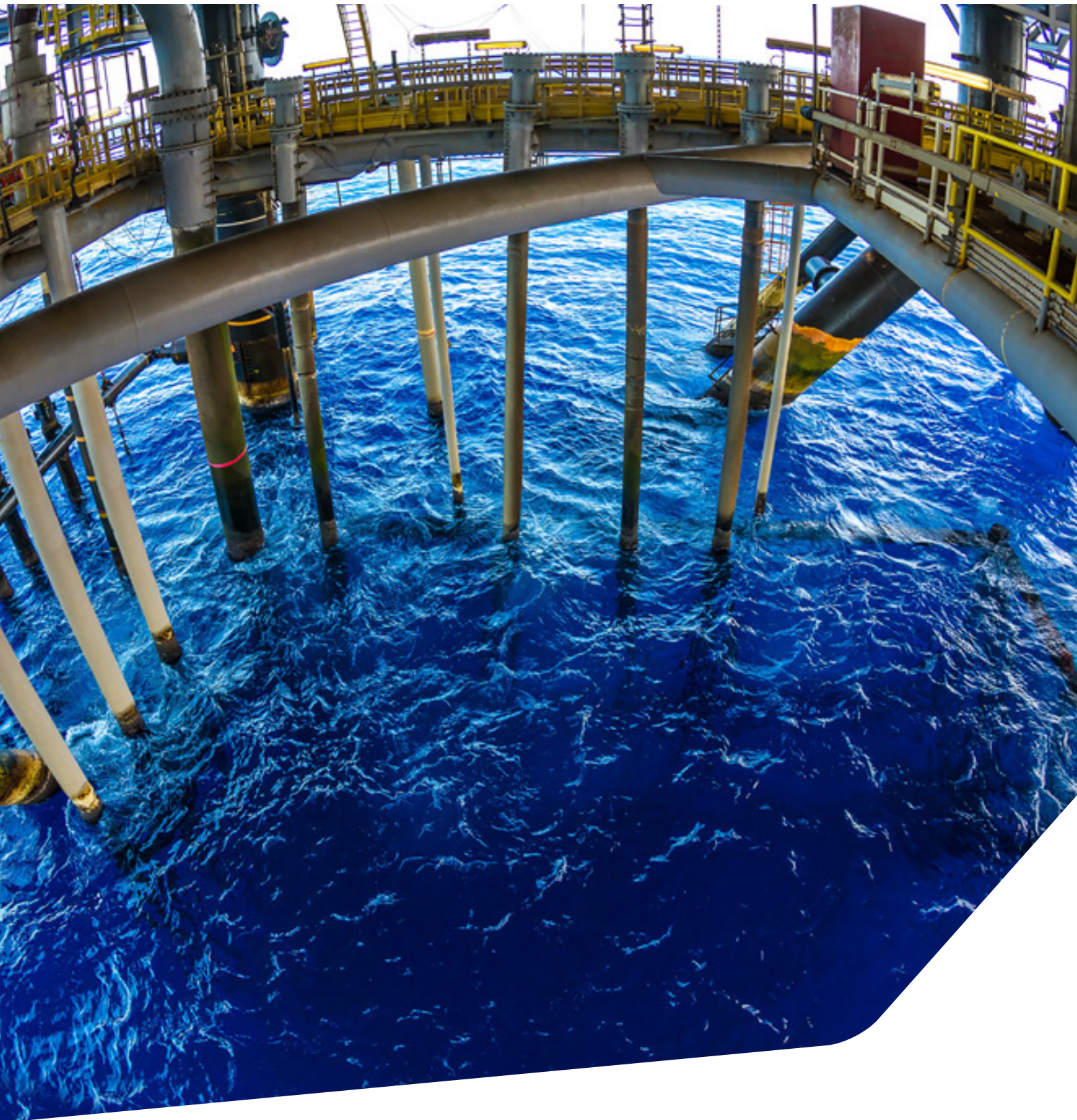
-  **Relevant Act or Fact Disclosure and Negotiation of Securities Policy**
-  **Compliance Policy**
-  **Business Risk Management Policy**
-  **Ombudsman Function Policy**
-  **Shareholders Compensation Policy**
-  **Appointment Policy for Members of the Audit Committee, Board of Directors, Executive Office and Officers in the General Structure of Petrobras and Petrobras System Companies**
-  **Communication Policy**
-  **Related Party Transactions Policy**
-  **Corporate Governance Policy**



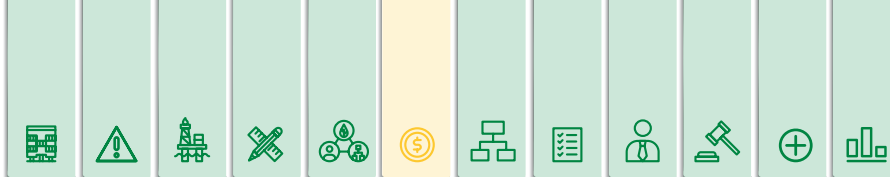
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Group Financial Performance

We presented solid results in 2019, based on a transformational agenda supported by five pillars:

(i) maximization of the return on capital employed, (ii) reduction in the cost of capital, (iii) relentless search for low costs, (iv) meritocracy and respect for people and (v) the environment and focus on the safety of operations.

We achieved Net cash provided by operating activities of US\$25.6 billion, a Free cash flow of US\$18.4 billion and Adjusted EBITDA (a non-GAAP measure defined below) of US\$32.7 billion.

Operating income¹ in 2019 was US\$20.6 billion, 22.8% higher than 2018 due to gains from assets sales, reduction in production costs and lower contingencies. This positive result was achieved even with lower Brent prices and higher abandonment, selling expenses and higher impairment, alongside the reduction of margins for oil products.

Net income attributable to our shareholders in 2019 was US\$10.2 billion, a 41.5% increase compared to 2018, mainly as a result of capital gains on divestments (primarily TAG, BR Distribuidora and E&P assets), partially offset by higher financial expenses associated with liability management, higher impairments and lower Brent prices.

In 2019, we sold the control of Petrobras Distribuidora through a secondary public offering. This transaction was the first privatization of a state-owned company via capital markets in the history of Brazil, carried out in a transparent manner and contributing to the development of the capital markets. Accordingly, pursuant to IFRS 5 – Non-current Assets Held for Sale and Discontinued Operations, our investment became a discontinued operation, since it represented a separate major line of business. The consolidated statements of income and cash flows for 2019 present net income, operating, investing and financing cash flows relating to this investment in separate line items, as “discontinued operations.” Additionally, the consolidated statements of income and cash flows for 2018

and 2017 were adjusted in a similar manner, in accordance with IFRS 5.

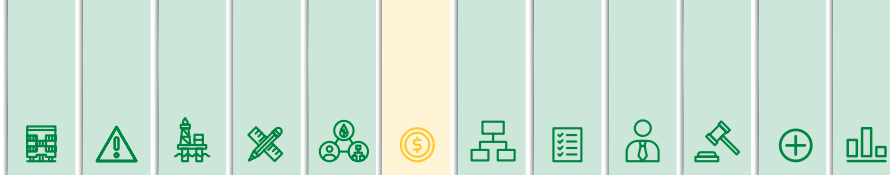
Fluctuations in our financial condition and results of operations are driven by a combination of factors, including:

- the volume of crude oil, oil products and natural gas we produce and sell;
- changes in international prices of crude oil and oil products (denominated in U.S. dollars);
- changes in the domestic prices of oil products (denominated in *reais*);
- fluctuations in the *real* vs. U.S. dollar exchange rates and other currencies, as discussed in Note 34.2 to our audited consolidated financial statements;
- the demand for oil products in Brazil;
- the recoverable amounts of assets for impairment testing purposes; and
- the amount of production taxes from our operations that we are required to pay.

Exchange rate variation impacts

As we are a Brazilian company and most of our operations are carried out in Brazil, we prepare our financial statements primarily in *reais*, which is our functional currency and that of all of our Brazilian subsidiaries. We also have entities that operate outside Brazil which functional currency is the U.S. dollar. We have selected the U.S. dollar as our presentation currency in this report to facilitate the comparison with other oil and gas companies and to translate the audited consolidated financial statements from *real* into U.S. dollar, we have used criteria set forth in IAS 21 – “The effects of changes in foreign exchange rates.” Based on IAS 21, we have translated (i) all assets and liabilities into U.S. dollars at the exchange rate as of the date of the statement of financial position; (ii) all accounts in the statements of income, other comprehensive income and cash flows at the average rates on a quarterly basis and (iii) equity items at the exchange rates prevailing at the dates of the transactions.

¹ Equivalent to ‘Income before finance income (expense), results in equity-accounted investments and income taxes’ in our audited consolidated financial statements.



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In order to isolate the foreign exchange translation effect on our results of operations, the table presents a reconciliation of our statement of income to financial information on a constant currency basis, assuming the same exchange rates between each quarter for translation. In 2019, the results

on a constant currency basis were computed by converting the 1Q19, 2Q19, 3Q19 and 4Q19 results from reais into U.S. dollars based on the same average exchange rates used in 1Q18, 2Q18, 3Q18 and 4Q18 (3.3238, 3.8558, 4.009 and 3.8748, respectively).

Consolidated Statement of Income and effect of foreign exchange translation

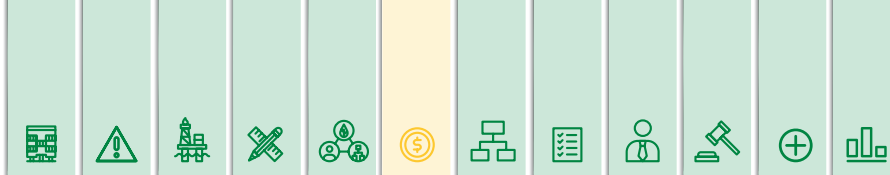
	As reported				Financial information on a constant currency basis			
	Jan-Dec		Variation		Jan-Dec2019		Variation ⁽¹⁾	
	US\$ million				US\$ million			
	2019	2018	Δ	Δ(%)	Foreign exchange translation effects	Results on a constant currency basis	Δ	Δ(%)
Sales revenues	76,589	84,638	(8,049)	(10)	(6,359)	82,948	(1,690)	(2)
Cost of sales	(45,732)	(52,184)	6,452	12	3,856	(49,588)	2,596	5
Gross profit	30,857	32,454	(1,597)	(5)	(2,503)	33,360	906	3
Selling expenses	(4,476)	(3,827)	(649)	(17)	347	(4,823)	(996)	(26)
General and administrative expenses	(2,124)	(2,239)	115	5	183	(2,307)	(68)	(3)
Exploration costs	(799)	(524)	(275)	(52)	74	(873)	(349)	(67)
Research and development expenses	(576)	(641)	65	10	46	(622)	19	3
Other taxes	(619)	(670)	51	8	49	(668)	2	-
Impairment of assets	(2,848)	(2,005)	(843)	(42)	184	(3,032)	(1,027)	(51)
Other income and expenses	1,199	(5,760)	6,959	121	(134)	1,333	7,093	123
Operating income	20,614	16,788	3,826	23	(1,753)	22,367	5,579	33
Net finance income (expense)	(8,764)	(6,484)	(2,280)	(35)	694	(9,458)	(2,974)	(46)
Results of equity-accounted investments	153	523	(370)	(71)	(16)	169	(354)	(68)
Income before income taxes	12,003	10,827	1,176	11	(1,075)	13,078	2,251	21
Income taxes	(4,200)	(4,256)	56	1	325	(4,525)	(269)	(6)
Net income from continuing operations for the period	7,803	6,571	1,232	19	(750)	8,553	1,982	30
Net income from discontinued operations for the year	2,560	843	1,717	204	(38)	2,598	1,755	208
Net income for the year	10,363	7,414	2,949	40	(788)	11,151	3,737	50

(1) Variation after isolating foreign exchange translation effects between periods used for translation. The amounts and respective variations presented in constant currency are not measures defined in accordance with IFRS (they are non-GAAP measures). Our calculation may not be comparable to the calculation of other companies and it should not be considered as a substitute for any measure calculated in accordance with IFRS.

For more information regarding our functional and presentation currency, see “About Us” and Note 2.2 to our audited consolidated financial statements.

Additionally, fluctuations in exchange rate have multiple effects on our results of operations in *reais*.

In 2019, the average *real* depreciated 8.2% against the U.S. dollar, compared to a depreciation of 14.4% in 2018 and an appreciation of 8.3% in 2017. Through March 18, 2020, the *real* has depreciated by 26.8% against the U.S. dollar, when compared to December 31, 2019.



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Exchange and inflation rates

	2019	2018	2017
Year-end exchange rate (reais/US\$)	4.03	3.87	3.31
Appreciation (depreciation) during the year ⁽¹⁾	(4.1)%	(16.9)%	(1.5)%
Average exchange rate for the year (reais/US\$)	3.95	3.65	3.19
Appreciation (depreciation) during the year ⁽²⁾	(8.2)%	(14.4)%	8.3%
Inflation rate (IPCA)	4.31%	3.75%	2.95%

(1) Based on year-end exchange rate

(2) Based on average exchange rate for the year

When the Brazilian *real* appreciates against the U.S. dollar, the effect is to generally increase both revenues and expenses when expressed in U.S. dollars. When the Brazilian *real* depreciates against the U.S. dollar, as it did in 2019, the effect is to generally decrease both revenues and expenses when expressed in U.S. dollars.

Exchange rate fluctuations may affect the results of variables such as the following:

- Margins: The relative pace at which our total revenues and expenses in *reais* increase or decrease with the exchange rate, and its impact on our margins, is affected by our pricing policy in Brazil. Absent changes in the international prices of crude oil, oil products and natural gas, when the *real* appreciates against the U.S. dollar, and we do not adjust our prices in Brazil, our margins generally improve. Absent changes in the international prices of crude oil, oil products and natural gas, when the *real* depreciates against the U.S. dollar and we do not adjust our prices in Brazil, our margins generally decline. However, it is our goal to sell our products in Brazil at parity with international product prices. For further information on our prices, see “Sales Volumes and Prices” in this annual report.

- Debt service: The depreciation of the *real* against the U.S. dollar also increases our debt service in *reais*, as the amount of *reais* necessary to pay principal and interest on foreign currency debt increases with the depreciation of the *real*. A devaluation of the *real* also increases our costs to import oil and oil products, imported goods and services necessary for our operations and our production taxes. Unless the depreciation of the *real* is offset by higher prices for our products sold in Brazil, that is the practice under our currently pricing policy, a devaluation increases our debt

service relative to our cash flows while also reducing our operating margins. As our net debt denominated in other currencies increases, the negative impact of a depreciation of the *real* on our results and net income when expressed in *reais* also increases, thereby reducing the earnings available for distribution.

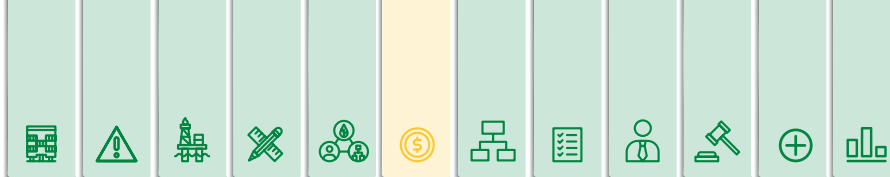
- Retained earnings available for distribution: Exchange rate variation also affects the amount of retained earnings available for distribution by us when expressed in U.S. dollars. Amounts reported as available for distribution in our statutory accounting records are calculated in *reais* and prepared in accordance with IFRS. They may increase or decrease when expressed in U.S. dollars as the *real* appreciates or depreciates against the U.S. dollar.

We designated hedging relationships to account for the effects of the existing hedge between a foreign exchange gain or loss from portions of our long-term debt obligations (denominated in U.S. dollars) and foreign exchange gain or loss of our highly probable U.S. dollar denominated future export revenues, so that gains or losses associated with the hedged transaction (the highly probable future exports) and the hedging instrument (debt obligations) are recognized in the statement of income in the same periods.

For more information about our cash flow hedge, see Notes 4.8 and 36.2(a) to our audited consolidated financial statements.

For information about our related foreign exchange exposure related, see “Operating and Financial Review and Prospects – Exposure to Interest Rate and Exchange Rate Risk” in this section.

For more information about our foreign exchange exposure related to assets and liabilities, see Note 36.2(e) to our audited consolidated financial statements.



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Sales Revenues

2019 compared to 2018

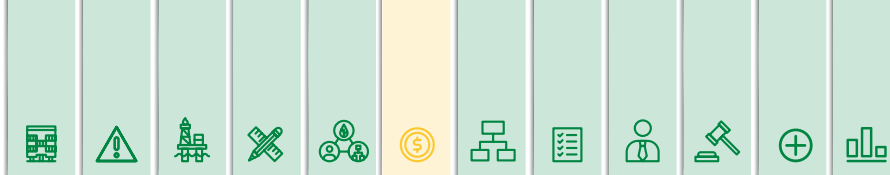
Sales revenues were US\$76,589 million in 2019, a 10% decrease (US\$8,049 million) when compared to US\$84,638 million in 2018, mainly due to:

- Decrease in domestic revenues (US\$6,591 million), mainly as a result of:
 - a) Decrease in oil products revenues (US\$5,797 million) primarily reflecting a decrease in the average prices of diesel, gasoline and naphtha when expressed in U.S. dollars, following lower international prices, as well as lower sales of gasoline (mainly due to higher third-party imports and to the higher portion of ethanol in fuel market), decreased sales of naphtha to Braskem, lower sales of diesel (mainly due to higher imports by other players, increased average content of biodiesel, partially offset by the trucker strike in May 2018 and by higher economic growth) and decreased fuel oil sales (as a result of lower sales to thermoelectric plants);
 - b) Lower electricity revenues, basically reflecting the decrease of difference settlement prices (US\$705 million); and
 - c) These effects were partially offset by higher natural gas revenues (US\$504 million), following contract price adjustments mainly.
- Increased export revenues (US\$2,672 million), mainly driven by higher crude oil export volumes, following increased domestic crude oil production, and by higher oil product export volumes, mainly gasoline and fuel oil; and
- Decreased revenues from operations abroad (US\$4,130 million) mainly due to the disposal of the Pasadena refinery, to the sale of E&P assets of PAI and the distribution companies in Paraguay.

2018 compared to 2017

Sales revenues increased by 9% to US\$84,638 million in 2018 from US\$77,884 million in 2017, driven primarily by:

- Increase in domestic revenues, in the amount of US\$2,797 million, mainly as a result of:
 - a) Increase in oil products revenues (US\$6,260 million), primarily reflecting an increase in the average prices of diesel, gasoline and other oil products, as a result of the increase in international prices, as well as an increase in diesel sales volume due to lower imports from competitors. These effects were partially offset by the decrease in sales volume mainly for gasoline, due to a higher portion of ethanol in the domestic fuel market, as well as lower sales of naphtha to Braskem; and
 - b) Decrease in electricity revenues, in the amount of US\$1,589 million, as a result of lower prices when expressed in U.S. dollars.
- Increase in export revenues, in the amount of US\$2,736 million, driven by an increase in international prices of crude oil and oil products and by higher volume of gasoline exports due to the higher market share of ethanol in the Brazilian market, partially offset by the decrease in crude oil volume exported due to lower production; and
- Increase in revenues from operations abroad, in the amount of US\$1,221 million following higher international prices.



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Sales volumes and prices

As a vertically integrated company, we process most of our crude oil production in our refineries and sell the refined oil products primarily in the Brazilian market. Therefore, the price of oil products in Brazil tends to have a more significant impact on our financial results than crude oil prices. International oil product prices vary over time as the result of many factors, including the price of crude oil. We intend to sell our products in Brazil at par with international product prices. After the announced divestment plan in refineries and oil production growth take place, we expect that crude oil prices will tend to gain importance.

The average price of Brent Crude Oil (as reported by Bloomberg, an international benchmark of oil prices) was US\$64 per barrel in 2019, US\$71 per barrel in 2018 and US\$54 per barrel in 2017. In December 2019, Brent Crude Oil prices averaged US\$66 per barrel.

During 2019, 73.1% of our sales revenues were derived from sales of oil products, natural gas and other products in Brazil, compared to 73.9% in 2018 and 76.8% in 2017.



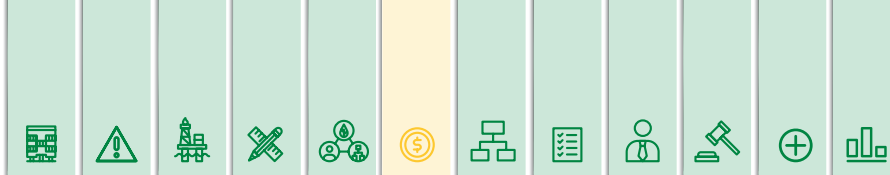
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For the year ended December 31	2019			2018			2017		
	Volume (mbbl, except as otherwise noted)	Net Average Price (US\$) ⁽²⁾	Sales Revenues (US\$ million)	Volume (mbbl, except as otherwise noted)	Net Average Price (US\$) ⁽²⁾	Sales Revenues (US\$ million)	Volume (mbbl, except as otherwise noted)	Net Average Price (US\$) ⁽²⁾	Sales Revenues (US\$ million)
Diesel ⁽¹⁾	264,462	87.00	23,007	266,706	93.23	24,865	235,436	83.43	19,642
Automotive gasoline	137,928	71.12	9,810	146,681	79.70	11,690	165,456	73.92	12,231
Fuel oil (including bunker fuel)	14,408	71.21	1,026	16,846	73.19	1,233	24,304	58.39	1,419
Naphtha	29,942	55.74	1,669	35,296	69.55	2,455	48,880	53.95	2,637
Liquefied petroleum gas	83,486	49.82	4,159	84,371	53.22	4,490	85,949	46.53	3,999
Jet fuel	43,528	88.04	3,832	44,731	94.07	4,208	41,789	78.11	3,264
Other oil products	60,453	56.41	3,410	57,380	65.68	3,769	60,904	53.49	3,258
Subtotal oil products	634,207	73.97	46,913	652,011	80.84	52,710	662,718	70.09	46,450
Natural gas (boe)	127,583	46.47	5,929	125,787	43.13	5,425	131,882	37.92	5,001
Ethanol, nitrogen products, renewables and other non-oil products	2,621	93.48	245	6,156	59.45	366	35,149	99.52	3,498
Electricity, services and others	-	-	2,907	-	-	4,084	-	-	4,839
Total Brazilian market	764,411	-	55,994	783,954	-	62,585	829,749	-	59,788
Exports	268,344	67.39	18,085	216,838	71.08	15,413	240,388	52.74	12,677
International sales	36,885	68.05	2,510	85,815	77.38	6,640	88,358	61.33	5,419
Total global market	305,229	-	20,595	302,654	-	22,053	328,745	-	18,096
Consolidated sales revenues	1,069,640	-	76,589	1,086,608	-	84,638	1,158,494	-	77,884

(1) In 2018, this line item includes revenues related to the Diesel Price Subsidy Program, described in Note 37 to our audited consolidated financial statements.

(2) Net average price calculated by dividing sales revenues by the volume for the year.



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Cost of Sales

2019 compared to 2018

Cost of sales was US\$45,732 million in 2019, a 12% decrease (US\$6,452 million) compared to US\$52,184 million in 2018, mainly due to:

- Lower production costs and lower costs from operations abroad, following the disposal of E&P assets of PAI, the sale of distribution companies in Paraguay and the disposal of the Pasadena refinery;
- Decreased electricity costs due to lower thermoelectric demand; and
- Partially offset by higher import costs and increased domestic crude oil acquisitions, generating higher share of crude oil imports on feedstock processed and of natural gas, following increased prices.

2018 compared to 2017

Cost of sales increased by 2% to US\$52,184 million in 2018, compared to US\$51,198 million in 2017, mainly due to:

- Higher production tax expenses and import costs of crude oil, oil products and natural gas, due to higher international prices. Production taxes were also impacted by increased production in fields with higher special participation rates;
- Increased costs from operations abroad, as a result of higher international prices; and
- Higher share of crude oil imports on feedstock processed and of LNG on sales mix, due to lower production.

Foreign exchange translation effects partially offset the aforementioned factors due to the decrease of the average cost of sales when expressed in U.S. dollars, reflecting the depreciation of the average *real*.

Selling Expenses

2019 compared to 2018

Selling expenses were US\$4,476 million in 2019, a 17% increase (US\$649 million) compared to US\$3,827 million in 2018, mainly due to higher transportation charges, as a result of the payment of tariffs for the use of third-party gas pipelines following the sale of TAG in June 2019, and also increased oil product and crude oil export volumes.

2018 compared to 2017

Selling expenses increased by 6% to US\$3,827 million in 2018 from US\$3,614 million in 2017, mainly due to increased impairment of trade and other receivables, primarily relating to companies from the electricity sector, higher expenses with LNG regasification terminals and coastal navigation services (cabotage), as well as higher transportation charges. Selling expenses also increased due to the payment of tariffs for the use of third party gas pipelines, following the sale of Nova Transportadora do Sudeste (NTS) in April 2017.

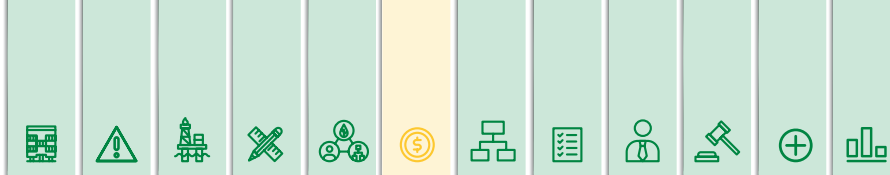
General and Administrative Expenses

2019 compared to 2018

General and administrative expenses were US\$2,124 million in 2019, a 5% decrease (US\$115 million) compared to US\$2,239 million in 2018, mainly due to foreign exchange translation effects that resulted in decreased average general and administrative expenses, reflecting the depreciation of the average Brazilian *real*, partially offset by higher personnel expenses following wage increases from the collective bargaining agreement in the 4Q18 and from higher wages and promotion of employees, as well as actuarial review of health care and pension plans.

2018 compared to 2017

General and administrative expenses decreased by 16% to US\$2,239 million in 2018 from US\$2,656 million in 2017. This decrease mainly reflects lower expenses with outsourced consulting, IT and administrative services, following financial discipline of controlling expenses.



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Exploration Costs

2019 compared to 2018

Exploration costs were US\$799 million in 2019, a 52% increase (US\$275 million) compared to US\$524 million in 2018, mainly due to higher exploration expenditures written-off with projects without commercial feasibility and increased geological and geophysical expenses.

2018 compared to 2017

Exploration costs decreased by 35% to US\$524 million in 2018 from US\$800 million in 2017, mainly due to a decrease in exploration expenditures written off on projects without commercial feasibility, in the amount of US\$192 million and to a decrease of US\$61 million in provisions related to contractual penalties arising from local content requirements. A breakdown of our exploration costs by type is set forth in Note 26 to our audited consolidated financial statements.

Impairment of Assets

2019 compared to 2018

We recognized impairment of assets in the amount of US\$2,848 million in 2019 mainly for E&P and Refining assets (US\$1,956 million and US\$697 million, respectively), mainly due to significant reduction in the prices of oil and natural gas projected for the 2020-2024 period and the increase in the provision for the dismantling of areas, due to the reduction in risk-free discount rates, and to changes in the schedule for removal and treatment of oil and gas production facilities. The higher estimates of decommissioning costs of E&P fields in Brazil are notably in cash generating units of Papa-Terra, in Campos Basin, in the Uruguá group (Uruguá and Tambaú fields), in Santos Basin, in the Canapu and Golfinho fields and in the Espírito Santo Basin, partially offset by the effects of reversals relating to the disposal of producing fields in Brazil. In addition, we accounted for impairment losses in 2019 due to the postponing of a project to conclude the second refining unit of RNEST, and also due to the writing-off of UFN-III, following our decision to forego the conclusion of this plant. In 2018, we recognized impairment of assets in the amount of US\$2,005 million mainly for E&P and Refining assets (US\$1,391 million and US\$442 million, respectively),

primarily driven by higher estimates of decommissioning costs in producing properties in Brazil, the sale of production fields in Gulf of Mexico and lower freight rate forecasts pertaining to transportation assets.

2018 compared to 2017

Impairment of assets in the amount of US\$2,005 million were recognized in 2018 mainly for E&P and Refining assets (US\$1,391 million and US\$442 million, respectively), primarily driven by higher estimates of decommissioning costs in producing properties in Brazil, the sale of production fields in Gulf of Mexico and lower freight rate forecasts pertaining to transportation assets. In 2017, impairment charges of US\$1,191 million were mainly related to Refining and Gas and Power assets (US\$781 million and US\$446 million, respectively), mainly due to higher costs of raw materials and the lower refining margin projection, as well as the lower expectation of a successful sale of fertilizers and nitrogen products plants.

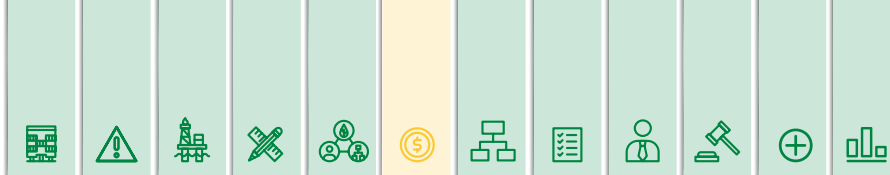
Impairment losses in 2018 were 68% higher when compared to 2017. See Notes 4.2, 4.3 and 25 to our audited consolidated financial statements for more information about the impairment of our assets.

Other Income and Expenses

2019 compared to 2018

Other income and expenses totaled income of US\$1,199 million in 2019, compared to an expense of US\$5,760 million in 2018, mainly due to:

- Higher net gains on the sale and write-off of assets (US\$5,630 million), as a result of:
 - . Gain from the disposal of TAG (US\$5,458 million);
 - . Gain on the sale of Pargo, Carapeba and Vermelho fields, mainly with the write-off of provision for abandoned areas, as a result of the assumption by the buyer of expenses for the decommissioning of areas related to the fields (US\$787 million);
 - . Gain on the sale of Riacho da Forquilha Complex (34 onshore producing fields on Potiguar Basin) (US\$221 million);



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- . Gain on the sale of distribution companies in Paraguay (US\$141 million);
- . Gains in 2018, on sale of Lapa and Iara fields (US\$689 million) and by the contingent payment received for the sale of Carcará area (US\$300 million); and
- . Loss on the sale of Tartaruga Verde field and Module III of Espadarte field (US\$74 million).
- Lower expenses in 2019 with the Employee Career and Compensation Plan – PCR (a US\$2 million expense in 2019 when compared to a US\$293 million expense in 2018);
- Lower equalization of expenses related to production individualization agreements, which provide for equalization of expenses and production volumes related to Sapinhoá, Lula, Tartaruga Verde, Berbigão and Sururu fields (a US\$2 million income in 2019 when compared to a US\$279 million expense in 2018); and
- A lower provision for legal, administrative and arbitration proceedings (a US\$1,520 million expense in 2019 when compared to a US\$2,283 expense in 2019), mainly due to:
 - . Unitization agreements with ANP related to the Parque das Baleias complex entered into in 4Q18 (US\$928 million);
 - . Agreement to settle Lava Jato Investigation with U.S. authorities (US\$895 million) in the 3Q18;
 - . Arbitration in the United States for drilling service agreement related to Titanium Explorer (Vantage) drillship in 2018 (US\$698 million);
 - . Lower foreign exchange losses over class action liability exposure in U.S. dollar, as a result of decreased depreciation of the Brazilian *real* against the U.S. dollar between the years, with definitive termination of the agreement in September 2019 (US\$336 million);
 - . Provision related to the arbitration of Sete Brasil quotaholders in 2019 (US\$740 million);
 - . Reversal of disputes involving state taxes after joining Rio de Janeiro State Tax Amnesty Program in the 4Q18 (US\$319 million); and
 - . Provision due to the environmental accident in the State of Paraná with the OSPAR pipeline in the 3Q19 (Santa Catarina – Paraná Pipeline – US\$155 million).

These gains were partially offset by:

- Higher expenses with decommissioning of returned/abandoned areas (a US\$155 million expenses in 2019 compared to a US\$621 million reversal of expense in 2018);
- Lower amounts recovered from Lava Jato investigation (a US\$220 million income in 2019 when compared to a US\$457 million income in 2018); and
- Higher expenses with the Voluntary Separation Program, or PDV (a US\$198 million expense in 2019 when compared to a US\$2 million reversal of expenses in 2018).

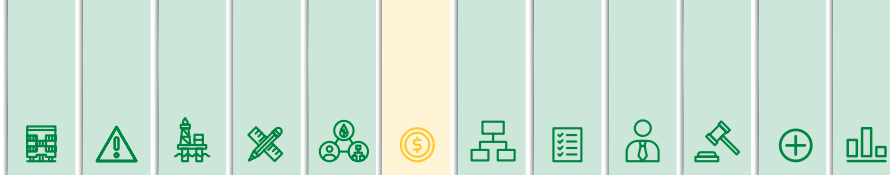
2018 compared to 2017

Other income and expenses totaled US\$5,760 million of expenses in 2018, a 4% increase compared to 2017, when totaled US\$5,511 million of expenses, mainly reflecting:

- The agreement to settle Lava Jato with U.S. authorities (US\$895 million) in the third quarter of 2018;
- An increase of US\$1,422 million in provision for legal, administrative and arbitration proceedings, mainly affected by: (i) unitization agreements with the ANP related to the Parque das Baleias complex entered into in the fourth quarter of 2018 (US\$928 million); and (ii) arbitration in the United States for drilling service agreement related to Titanium Explorer (Vantage) drillship, also in the fourth quarter of 2018 (US\$698 million). These factors were partially offset by reversal of disputes involving state taxes after joining Rio de Janeiro state tax amnesty program in the 4Q18 (US\$319 million); and
- Losses on the fair value of commodities put options related to the hedge of part of crude oil production (US\$416 million) that were made in 2018.

These increases in other expenses were partially offset by:

- Expenses in 2017 that did not recur in 2018, related to the agreement to settle the class action in the United States (US\$3,449 million); and
- Decrease in the net gain on the sale and write-off of assets, in the amount of US\$1,079 million, mainly driven by the US\$1,952 million gain on sale of interests in NTS recognized in 2017, when compared to the gains in 2018, on sale of Lapa and Iara field (US\$689 million) and by the contingent payment received for the sale of Carcará area (US\$300 million).



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Net Finance Income (Expense)

2019 compared to 2018

Net finance expense was US\$8,764 million in 2019, a 35% increase (US\$2,280 million) when compared to the expense of US\$6,484 million in 2018, mainly due to:

- Increased unwinding of discount on lease liabilities, due to the effects of the adoption of IFRS 16 (US\$1,504 million);
- Decreased gains from signed agreements in the electric sector (a US\$79 million gain in 2019 when compared to a US\$724 million gain in 2018);
- Higher net costs on repurchase of debt securities (US\$527 million);
- Lower capitalized borrowing costs, as a result of decreased balance of assets under construction (US\$482 million);
- Higher unwinding of discount on the provision for decommissioning costs (US\$143 million), as a result of higher balance to be abandoned; and
- Partially offset by lower interest on finance debt (US\$1,073 million), mainly due to lower average debt, generating decreased interest expenses.

2018 compared to 2017

Net finance expense decreased by 33% to US\$6,484 million in 2018 from US\$9,719 million in 2017, due to:

- Lower interest expenses (US\$765 million) following pre-payment of debt;
- Finance income recognized in 2018 based on the agreements reached and conclusion of the privatization process of companies in the electricity sector (US\$724 million); and
- Finance expenses in 2017 following our decision to benefit from Brazilian federal settlement programs (US\$837 million).

Results in equity-accounted investments

2019 compared to 2018

We experienced positive results in equity-accounted investments of US\$153 million in 2019, a 71% decrease (US\$370 million) compared to US\$523 million in 2018, mainly as a result of the decreased result in Braskem, due to legal proceedings related to activities at the rock salt mining in Alagoas, partially offset by the positive result of BR Distribuidora, as a result of the follow-on transaction in July 2019 which led to its classification as an equity-accounted investment.

2018 compared to 2017

Gain on equity-accounted investments decreased by 22% from US\$673 million in 2017 to US\$523 million in 2018, due to lower results in investments in the petrochemical sector, notably Braskem.

Income Taxes

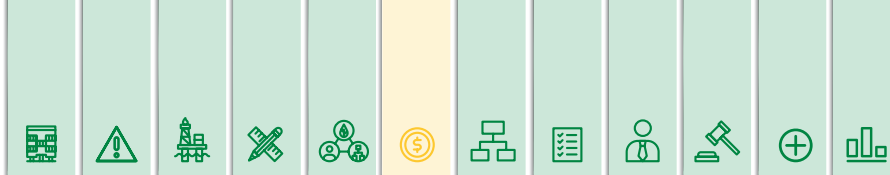
2019 compared to 2018

Income tax expenses were US\$4,200 million in 2019, a 1% decrease (US\$56 million) compared to US\$4,256 million in 2018, remaining relatively flat during the year. The effective tax rate based on our results decreased to 35.0% from 39.3% in 2018.

2018 compared to 2017

Income tax expenses were US\$4,256 million in 2018, a 151% increase (US\$2,559 million) compared to US\$1,697 million in 2017, as a result of higher taxable income (before taxes) for the year, partially offset by the tax benefits from the deduction of interest on capital distribution and by our decision, in 2017, to benefit from tax settlement programs.

The effective tax rate based on our results decreased to a rate of 39.3% from a rate of 112.6% in 2017. In 2018 the difference between the statutory corporate tax rate (34%) and our effective tax rate was primarily affected by tax benefits from the deduction of interest on capital distribution (see "Shareholder Information – Dividends – Payment of Dividends and Interest on Capital" in this annual report) and nondeductible expenses and nontaxable income



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including post-retirement health care plan expenses and results in equity accounted investments.

Tax benefits from interest on capital distribution occur to the extent that we distribute dividends in this manner. Expenses related to post-retirement health care benefits are recognized and we account for results in equity-accounted investees for each reporting period.

See Note 16.5 to our audited consolidated financial statements for a reconciliation of statutory tax rates and our tax expense.

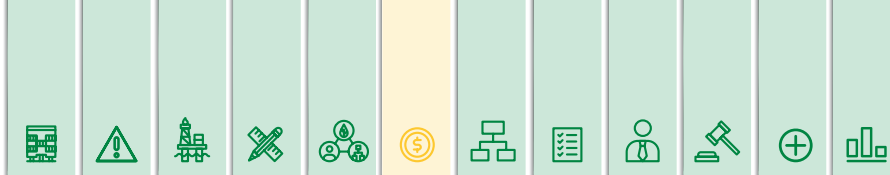
Results of Discontinued Operations

2019 compared to 2018

Net income from discontinued operations in 2019 was US\$2,560 million, a 204% increase (US\$1,717 million) compared to US\$843 million in 2018, mainly due to the gains arising from the follow-on offering of BR Distribuidora in July 2019.

2018 compared to 2017

Net income from discontinued operations in 2018 was US\$843 million, representing a 135% increase compared to US\$359 million in 2017, mainly due to BR Distribuidora gains arising from agreements signed in 2018 with companies from the electricity sector (US\$710 million) and reversal of the provision regarding an extrajudicial settlement of BR Distribuidora relating to tax debt with the state of Mato Grosso (US\$347 million), partially offset by higher income tax expenses as a result of increased taxable income.



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Segments Financial Performance

Selected financial data by operating business segments

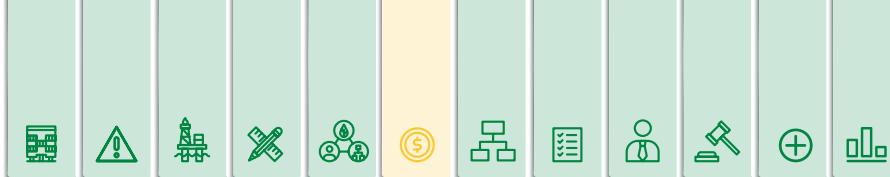
For the year ended December 31	2019	2018	19-18	2017
	(US\$ million)	(US\$ million)	%	(US\$ million)
Exploration and Production				
Sales revenues to third parties ⁽¹⁾⁽²⁾	1,062	2,330	(54%)	1,422
Intersegment sales revenues	49,400	50,052	(1%)	40,762
Total sales revenues⁽²⁾	50,462	52,382	(4%)	42,184
Net income (loss) ⁽³⁾	12,624	12,190	4%	7,021
Capital Expenditures ⁽⁴⁾	25,081	11,592	116%	12,397
Property, plant and equipment	122,496	116,153	5%	126,487
Refining, Transportation and Marketing				
Sales revenues to third parties ⁽¹⁾⁽²⁾	58,106	56,793	2%	50,895
Intersegment sales revenues	9,432	16,655	(43%)	16,142
Total sales revenues⁽²⁾	67,528	73,448	(8%)	67,037
Net income (loss) ⁽³⁾	1,021	2,393	(57%)	4,235
Capital Expenditures ⁽⁴⁾	1,463	1,107	32%	1,284
Property, plant and equipment	26,710	27,356	(2%)	33,400
Gas and Power				
Sales revenues to third parties ⁽¹⁾⁽²⁾	8,185	8,540	(4%)	9,079
Intersegment sales revenues	3,308	3,701	(11%)	3,261
Total sales revenues⁽²⁾	11,493	12,241	(6%)	12,340
Net income (loss) ⁽³⁾	4,180	482	767%	1,912
Capital Expenditures ⁽⁴⁾	543	433	25%	1,127
Property, plant and equipment	8,181	11,057	(26%)	13,231
Corporate and other Businesses				
Sales revenues to third parties ⁽¹⁾⁽²⁾	995	1,526	(35%)	1,382
Intersegment sales revenues	226	205	10%	201
Total sales revenues⁽²⁾	1,221	1,731	(29%)	1,583
Net income (loss) ⁽³⁾	(6,273)	(7,382)	(15%)	(13,004)
Capital Expenditures ⁽⁴⁾	326	307	7%	276
Property, plant and equipment	1,915	2,856	(33%)	3,580

(1) Not all of our segments have significant third-party revenues. For example, our Exploration and Production segment accounts for a large part of our economic activity and capital expenditures, but has little third-party revenues.

(2) Revenues from commercialization of oil to third parties are classified in accordance with the points of sale, which could be either the Exploration and Production or Refining, Transportation and Marketing segments.

(3) Attributable to our shareholders.

(4) See definition of Capital Expenditures in "Glossary of Certain Terms Used in this Annual Report."



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Exploration and Production

2019 compared to 2018

Net income attributable to our shareholders in E&P segment was US\$12,624 million in 2019 compared to US\$12,190 million in 2018. Operating income increased due to higher production, lower lifting costs, lower expenses with legal contingencies and higher gains with divestments, partially compensated by higher impairment losses, lower Brent prices and exploratory expenses. See Note 25 to our audited consolidated financial statements for further information about impairment expenses. The lifting cost decreased 12%, mainly due to the increase in production, with the start-up and ramp-up of pre-salt platforms, mainly in the Búzios and Lula fields.

2018 compared to 2017

Net income in our E&P segment was US\$12,190 million in 2018 compared to US\$7,021 million in 2017. Even with lower production, there was an increase in operating income due to the effects of higher Brent prices. In addition, we had greater impairment costs and higher expenses with production taxes and judicial agreements and contingencies, mitigated by the positive result with de-commissioning of areas. See Note 25 to our audited consolidated financial statements for further information about impairment expenses. The lifting cost decreased 4%, mainly due to lower expenses with interventions in wells.

Refining, Transportation and Marketing

2019 compared to 2018

In 2019, net income attributable to our shareholders in the Refining segment was US\$1,021 million, which was lower than 2018 (US\$2,393 million). Lower operating profit was due to lower margins and volumes of diesel and gasoline sold in the Brazilian market, the exchange translation effect and the reduction in the positive effect of inventory turnover of approximately US\$0.8 billion, as well as higher selling expenses,

higher impairment (RNEST, COMPERJ and Pasadena) and higher expenses with lawsuits related to environmental taxes alongside contingencies related to the OSPAR pipeline. These factors were partially offset by higher volumes and margins in exports of fuel oil and crude oil. Refining unit cost decreased due to lower personnel costs in U.S. dollars combined with the exchange rate variation during the period.

2018 compared to 2017

In 2018, net income attributable to our shareholders in the Refining segment was US\$2,393 million, which was lower than 2017 (US\$4,235 million). Operating income was reduced due to the lower margin of oil products, mainly gasoline, diesel and LPG, and higher selling expenses, partially offset by inventories formed at lower prices and lower impairment costs. The implementation of cost optimization measures resulted in a reduction in the unit cost of refining.

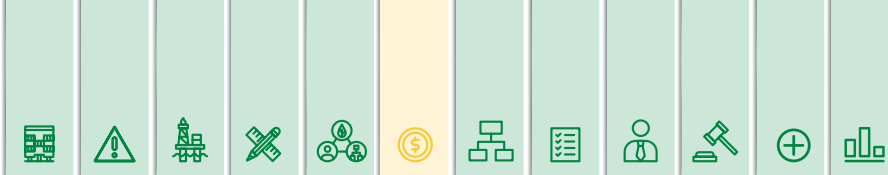
Gas and Power

2019 compared to 2018

Net income attributable to our shareholders was US\$4,180 million in 2019 compared to US\$482 million in 2018. Operating profit increased due to the sale of a 90% interest in TAG June 2019, despite higher selling expenses with the payment of TAG's tariffs.

2018 compared to 2017

Net income attributable to our shareholders was US\$482 million in 2018 compared to US\$1,915 million in 2017. The decrease was attributable to higher selling expenses for the use of pipelines of the southeast grid and the gain with the sale of our interest in NTS in 2017, partially offset by better margins and decrease in impairment.



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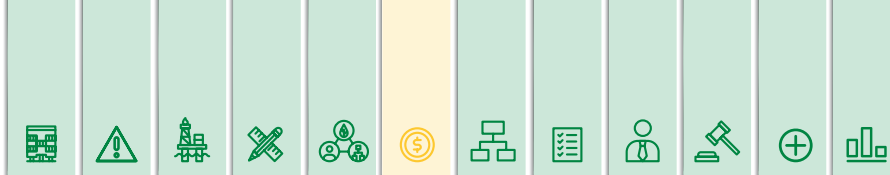
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Liquidity and Capital Resources

Liquidity and capital resources

US\$ million	2019	2018
Adjusted cash and cash equivalents at the beginning of period⁽¹⁾	14,982	24,404
Government bonds and time deposits with maturities of more than three months at the beginning of period	(1,083)	(1,885)
Cash and cash equivalents at the beginning of period	13,899	22,519
Net cash provided by (used in) operating activities	25,600	26,353
Net cash provided by operating activities from continuing operations	25,277	25,447
Discontinued operations – net cash provided by operating activities	323	906
Net cash provided by (used in) investing activities	(1,684)	(4,504)
Net cash provided by (used in) investing activities from continuing operations	(3,496)	(4,460)
Acquisition of PP&E and intangibles assets (except for the Transfer of Rights surplus and other signature bonus) and investments in investees	(7,224)	(11,108)
Signature bonus	(1,339)	(841)
Transfer of Rights surplus	(15,341)	-
Proceeds from disposal of assets – Divestment	10,413	5,791
Reimbursement of Transfer of rights agreement	8,361	-
Dividends received	1,436	994
Divestment (Investment) in marketable securities	198	704
Discontinued operations – net cash provided by (used in) investing activities	1,812	(44)
(=) Net cash provided by operating and investing activities	23,916	21,849
Net cash provided by (used) in financing activities from continuing operations	(31,561)	(29,694)
Net financings	(24,310)	(29,009)
Proceeds from financing	7,464	10,707
Repayments	(31,774)	(39,716)
Repayment of lease liability	(5,207)	-
Dividends paid to shareholders of Petrobras	(1,877)	(625)
Dividends paid to non-controlling interest	(138)	(103)
Investments by non-controlling interest	(29)	43
Discontinued operations – net cash used in financing activities	(508)	(156)
Net cash provided by (used) in financing activities	(32,069)	(29,850)
Effect of exchange rate changes on cash and cash equivalents	1,631	(619)
Cash and cash equivalents at the end of period	7,377	13,899
Government bonds and time deposits with maturities of more than three months at the end of period	888	1,083
Adjusted cash and cash equivalents at the end of period⁽¹⁾	8,265	14,982

(1) Adjusted Cash and Cash Equivalents is a non-GAAP measure that comprises cash and cash equivalents, government bonds and time deposits from highly rated financial institutions abroad with maturities of more than three months from the end of the period, considering the expected realization of those financial investments in the short-term.



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Free Cash Flow

We use free cash flow as a supplemental measure to assess our liquidity and support leverage management.

Free cash flow is not defined under IFRS and should not be considered in isolation or as a substitute for cash and cash equivalents calculated in accordance with IFRS. Additionally, it may not be comparable to the free cash flow of other companies.

Our free cash flow metric comprises net cash provided by operating activities less acquisition of PP&E, intangibles assets (except for signature bonus, including the bidding for oil surplus of the Transfer of Rights Agreement, paid for obtaining concessions for exploration of crude oil and natural gas) and investments in investees, as presented below:

Reconciliation of free cash flow

Jan-Dec	2019	2018
Net cash provided by operating activities assets	25,600	26,353
(-) Acquisition of PP&E and intangible assets (except for the bidding for oil surplus of the Transfer of Rights Agreement)	(8,556)	(11,905)
(+) Other signature bonuses paid for exploration of crude oil and natural gas ⁽¹⁾	1,339	841
(-) Investments in investees	(7)	(44)
Free Cash Flow	18,376	15,245

(1) Signature bonuses paid for Concession and Production sharing regimes, included in "Acquisition of PP&E and intangibles assets".

In addition, in August 2019 we approved a new Shareholder Compensation Policy, which aims to establish an objective parameter for the payment of earnings, providing more transparency to investors on their compensation, considering our indebtedness and cash flow.

For more information on our new Shareholder Compensation Policy, see "Shareholder Information" in this annual report.

Our free cash flow in 2019 increased by 21%, primarily reflecting lower investments in PP&E.

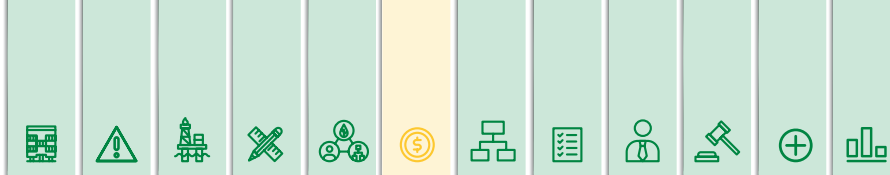
The principal uses of funds in the year ended December 31, 2019 were for debt service obligations, including pre-payment of debt and lease payments (US\$36,981 million) and acquisition of PP&E and intangibles assets, including the bidding for oil surplus of the Transfer of Rights Agreement (US\$23,897 million). These funds were principally provided by operating activities (US\$25,373 million), disposal of assets (US\$10,413 million), reimbursement relating to the Transfer of Rights Agreement (US\$8,361 million) and proceeds from financing (US\$7,464 million).

Source of Funds

In 2019, our financing strategy was to fund our necessary capital expenditures and to preserve our cash balance and liquidity while meeting our principal and interest payment obligations.

We pursued our financing strategy in 2019 in the following ways:

- (i) using cash flow from operations;
- (ii) moving forward with our portfolio management program and continuing with divestments; and



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(iii) moving forward with our liability management program, incurring new debt from funding sources to prepay expensive loans with certain of our creditors.

Cash Flows from Operating Activities

Net cash provided by operating activities decreased 2.9% to US\$25,600 million in 2019, from US\$26,353 million in 2018, mainly due to lower crude prices and refining margins and higher payments for contingencies.

Disposal of Assets

From January 01, 2019 through to March 16, 2020, we signed divestment agreements for a total price of US\$16.3 billion. We received cash inflow from the sale of assets amounting to US\$14.7 billion, which represents the prices paid to us on the closing of the completed transactions and the prepayments related to certain transactions that have not yet been closed.

Assets	Cashed-in ⁽¹⁾ (US\$ billion)
Full sale of stake in Petrobras Paraguay Distribución Limited ("PPDL UK"), Petrobras Paraguay Operaciones y Logística SRL ("PPOL") and Petrobras Paraguay Gas SRL ("PPG")	0.38
Sale of all the shares held by PAI in the companies that encompass Pasadena's entire refining operations system: PRSI and PRSI Trading LLC ("PRST")	0.47
Sale of 90% of stake in the TAG.	8.72
Sale of 33.75% of Petrobras Distribuidora's capital stock through the secondary public offering of shares	2.55
Sale of our full stake in the Maromba field	0.02
Sale of stake in the fields of Pargo, Carapeba and Vermelho, the so-called "Polo Nordeste", located in shallow waters off the coast of Rio de Janeiro state	0.32
Sale of 50% working interest in Tartaruga Verde field (BM-C-36 Concession) and Module III of Espadarte field	0.95
Sale of entire 50% interest in PO&G	0.81
Sale of 50% of stake in Belem Bioenergia Brasil ("BBB")	-
Sale of full stake in 34 onshore production fields, located in the state of Rio Grande do Norte	0.30
Prepayment for the sale of our full stake in the Baúna field	0.05
Prepayment for the sale of Pampo and Enchova clusters	0.05
Prepayment for the sale of Macau cluster	0.05
Prepayment for the sale of Lagoa Parda cluster	0.001
Prepayment for the sale of Frade field	0.008
Prepayment for the sale of Tucano Sul cluster	0.001
Total	14.7

(1) Information updated as of March 9, 2020.

For additional information on divestments, see "Portfolio Management" in this annual report.

Debt

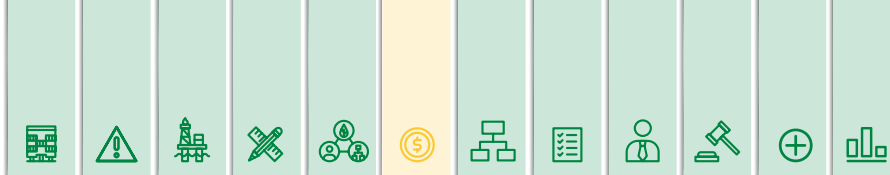
Our proceeds from financing are comprised of global notes issued in the capital markets, debentures issued in the Brazilian market and funds raised from export credit agencies and from domestic and international banking market.

Additionally, our total debt includes lease liabilities. Among changes arising from IFRS 16, the standard eliminated the classification between finance leases and operating leases, providing for a single model for the lessee in which all leases result in the recognition of assets related to the right-of-use of leased assets and lease liability.

The change in accounting requirements has no effects on cash and cash equivalents and did not affect shareholders' equity.

For more information on IFRS 16, see Note 2.3.1 to our audited consolidated financial statements.

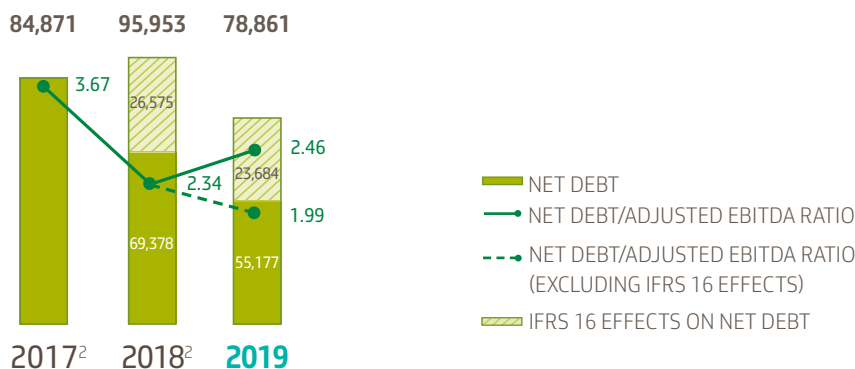
Considering the effects of IFRS 16, our gross debt totaled US\$87,121 million, and the Net Debt, representing the sum of short and long-term loans and financing and lease liabilities (IFRS 16), deducted by cash and cash equivalents, Brazilian federal government securities and time deposits maturing over three months totaled US\$78,861 million. Considering the first time adoption of the IFRS 16 as of January 1, our Net Debt decreased from US\$95,953 million to US\$78,861 million as a result of repurchase and payments of debt.



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Net Debt (US\$ million) and net Debt/Adjusted Ebitda Ratio¹ (x)



¹ The Net Debt is in US dollars and the basis for calculating the ratio is in reais. For reconciliation of Net Debt/Adjusted EBITDA, a non-GAAP measure, see "Net Debt/Adjusted EBITDA Metric" in this annual report.

² For comparative purposes, the December 31, 2018 net debt amounts shown above consider the initial application of IFRS 16 as of January 1, 2019. The net debt amount of 2017 does not consider effects of adoption of IFRS 16.

For reconciliation of Net Debt, a non-GAAP measure, see "Net Debt/Adjusted EBITDA Metric" in this annual report.

Finance Debt

Debt profile

In 2019, proceeds from financing amounted to US\$7,464 million, principally reflecting: (i) global notes issued in the capital markets in the amount of US\$2,980 million, of which US\$737 million relates to the reopening of bonds maturing in 2029, and the remaining relates to new bonds issued maturing in 2049; and (ii) debentures issued amounting to US\$1,685 million.

We currently issue notes in the international capital markets through our wholly-owned finance subsidiary PGF. We fully and unconditionally guarantee such notes issued by PGF, and PGF is not required to file periodic reports with the SEC.

See Note 39 to our audited consolidated financial statements.

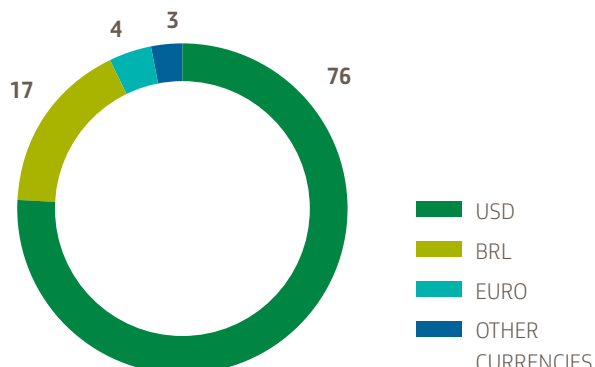
In order to protect ourselves from the current crisis relating to the COVID-19 pandemic and the volatility in oil prices, we have requested banks to disburse part of our revolving credit lines in the total amount of approximately US\$8billion.

The average cost of our debt fell below 6% per year, reaching 5.9% per year. Meanwhile, the average duration increased from 9.14 years in December 2018 to 10.79 years in December 2019.

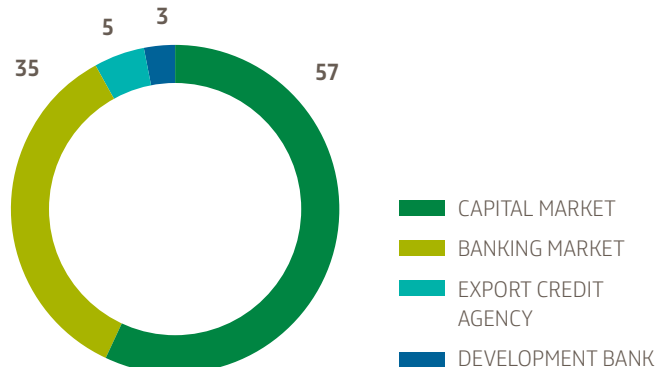
	2019	2018	2017
Average interest rate	5.9%	6.1%	6.1
Weighted average maturity (in years)	10.79	9.14	8.62
Leverage (%) ⁽¹⁾	44	46	57

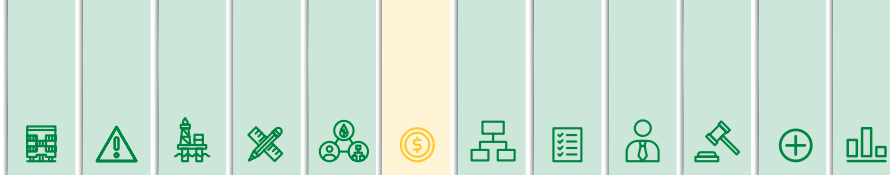
(1) This leverage takes into account market capitalization. Considering book value of Equity, the leverage is 52% for 2019, 49% for 2018 and 51% for 2017.

Debt profile per currency (%)



Debt profile per category (%)





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As of December 31, 2019, our total debt due in the short-term, including accrued interest, amounted to US\$4,469 million, compared to US\$3,667 million as of December 31, 2018.

Our outstanding long-term debt amounted to US\$58,791 million as of December 31, 2019, compared to US\$80,508 million as of December 31, 2018. This decrease was primarily due to repurchase of global bonds and pre-payment of debt.

See Note 32 to our audited consolidated financial statements for a breakdown of our debt, a roll-forward schedule of our debt by source and other information.

For more information about our securities, including our bonds, see Exhibit 2.4 to this annual report.



Rating

We are rated by the three major rating agencies (S&P, Moody's and Fitch). Our ratings are based on our financial health and are highly influenced by the Brazilian sovereign rating.

Global rating

	2020 ⁽¹⁾	2019 ⁽²⁾	2018
Standard & Poor's	BB-	BB-	BB-
Moody's	Ba2	Ba2	Ba2
Fitch	BB-	BB-	BB-

(1) As of March 16, 2020.

(2) As of December 31.

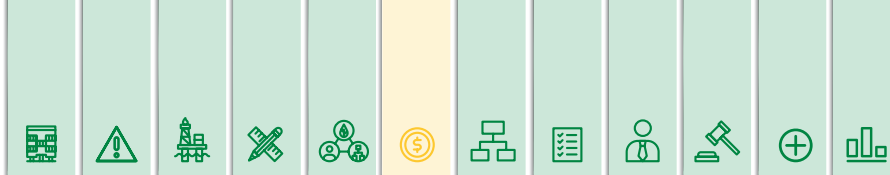
Stand alone rating

	2020 ⁽¹⁾	2019 ⁽²⁾	2018 ⁽²⁾
Standard & Poor's	BB	BB	BB-
Moody's	Ba2	Ba2	Ba3
Fitch	BBB	BB+	BB-

(1) As of March 16, 2020.

(2) As of December 31.

In 2019, S&P, Fitch and Moody's upgraded our stand-alone credit profile ratings (S&P by one-notch, from BB- to BB; Fitch by two-notches, from BB- to BB+; Moody's by one-notch, from Ba3 to Ba2). We also had a global rating perspective upgraded from stable to positive by S&P, while Fitch and Moody's kept us on a stable perspective basis. In 2020, Fitch performed another upgrade on our stand-alone credit profile rating by two-notches, from BB+ to BBB, second level on the investment grade scale. This maintained our global rating at BB- (S&P and Fitch) and Ba2 (Moody's). These upgrades reflect the overall improvement in our operating and financial performance.



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Exposure to interest rate and exchange rate risk

The table below provides summary information regarding our exposure to interest rate and exchange rate risk in our total finance debt portfolio for 2019 and 2018, including short-term and long-term debt.

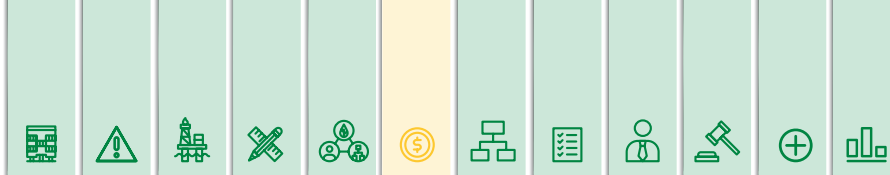
Total Debt portfolio

	Total debt portfolio ⁽¹⁾ (%)		
	2019 (%)	2018 (%)	2017 (%)
Real - denominated:			
Fixed rate	6.0	3.2	3.3
Floating rate	10.6	15.8	16.4
Sub-total	16.6	19.0	19.7
U.S.dollar - denominated:			
Fixed rate	44.8	40.4	40.7
Floating rate	31.5	33.8	32.4
Sub-total	76.3	74.2	73.1
Other currencies:			
Fixed rate	7.1	6.6	6.9
Floating rate	0.0	0.2	0.3
Sub-total	7.1	6.8	7.2
Total	100.0	100.0	100.0
Floating rate debt:			
Real-denominated	10.6	15.8	16.4
Foreign currency-denominated	31.5	34.0	32.6
Fixed rate debt:			
Real-denominated	6.0	3.2	3.3
Foreign currency denominated	51.9	47.0	47.7
Total	100.0	100.0	100.0
U.S. dollars	76.3	74.2	73.1
Euro	4.0	4.2	4.9
GBP	3.0	2.6	2.2
Japanese Yen	0.0	0.0	0.1
Brazilian reais	16.7	19.0	19.7
Total	100.0	100.0	100.0

(1) Short term and long term.

We practice integrated risk management in every decision-making process with which we are involved. Thus, we do not focus on the individual risks of our operations or business units, but, rather, we take a broader view of our consolidated activities, capturing possible natural hedges where available.

With respect to the management of financial risks, including market risks, we use more structural actions through the management of our equity and indebtedness levels, instead of applying the use of financial derivative instruments.



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Market risk management focuses on the uncertainties inherent in meeting our objectives and aims at establishing action plans towards a balanced combination of risk, return and liquidity. Acceptable limits for market risks depend on the conditions of the business environment, such as price levels, rates and volatility of risk factors, political, macroeconomic and other uncertainties that significantly influence our economic and financial performance. We define the limits for market risks when elaborating each new strategic plan we adopt, considering our strategic objectives, goals, expected value and the liquidity of financial resources required for the implementation of that strategic plan. The use of financial instruments, such as derivatives, may be necessary to meet our needs.

In general, our foreign currency floating rate debt is principally subject to fluctuations in LIBOR. Our floating rate debt denominated in *reais* is subject to fluctuations in the Brazilian interbank offering rate, or “DI”, and Brazilian long-term interest rate, or “TJLP”, as fixed by the CMN.

We are taking actions to mitigate the potential impact of the discontinuation of LIBOR by 2021 on our debt contracts in order to substitute LIBOR with another reference rate but according to informations that we have until now, we do not believe this event should represent a material risk to our consolidated results and financial condition.

We generally do not use derivative instruments to manage our exposure to interest rate fluctuation, but we may utilize these financial instruments in the future.

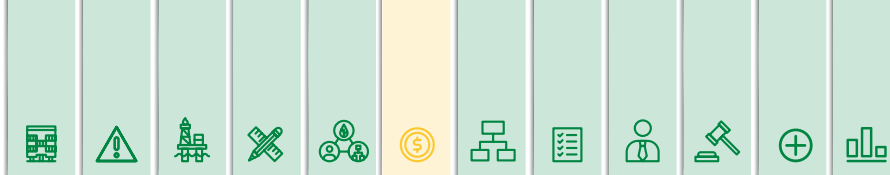
The exchange rate risk to which we are exposed has greater impact on the balance sheet and derives principally from the incidence of non-*real* denominated obligations in our debt portfolio. With respect to the management of foreign exchange risks, we take a broader view of our consolidated activities, capturing possible natural hedges whenever they are available, benefiting from the correlation between our income and expenses. For the short term, the management of our foreign exchange risk involves allocating our cash investments between the *real* and other foreign currencies. Our strategy, reevaluated annually in the revision of our 2020-2024 Strategic Plan, may also involve the use of financial instruments, such as derivatives, to hedge certain liabilities, minimizing foreign exchange rate risk exposure, especially when we are exposed to a foreign currency in which no cash inflows are expected, for example, Pound Sterling.

In 2017, we entered into derivative transactions, through our indirect subsidiary Petrobras Global Trading BV (“PGT”), in the form of cross-currency swaps to hedge against exposure in sterling pounds versus U.S. dollars, arising from past issues of bonds in that currency. In 2018, we also entered into, through PGT, derivative operations in the form of non-deliverable forwards to hedge against exposure in euros and sterling pounds versus U.S. dollars, arising from past issues of bonds in that currency.

In September 2019, we contracted derivative operations to hedge against cash flow exposure arising from debt issued in Brazilian reais, the first series of the 7th issue of debentures, with the IPCAxCDI interest rate swap maturing in September 2029 and September 2034 and the CDI x Dollar cross-currency swap operations maturing in September 2024 and September 2029.

We have designated cash flow hedging relationships to reflect the economic essence of the structural hedge mechanism between U.S. dollar-denominated debt and future sales revenues.

See “Operating and Financial Review and Prospects – Group Financial Performance – Exchange Rate Variation Impacts” in this annual report and Notes 4.8 and 34.2(a) to our audited consolidated financial statements for further information about our cash flow hedge.



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See Note 36.2(e) to our audited consolidated financial statements for more information about our interest rate and exchange rate risks, including a sensitivity analysis demonstrating the potential impact of a 25% (or 50%) adverse change in the underlying variables as of December 31, 2019.

For further information regarding expected maturity schedule and currency, the principal and interest cash flows, related average interest rates of our debt obligations, credit risk and liquidity risk, see Notes 32, 36.4 and 36.5 to our audited consolidated financial statements.

Lease Liabilities

With the adoption of IFRS 16, we recognized on January 1, 2019 US\$26,575 million in the balance of property, plant and equipment due to the measurement of the right-of-use assets, and the same amount as lease liability. As of December 31, 2019 the amount of lease liabilities totaled US\$23,861 million.

Net Debt/Adjusted EBITDA Metric

The Net Debt/Adjusted EBITDA ratio is a metric used in our 2020-2024 Strategic Plan that supports our management in assessing our liquidity and leverage. All of the metrics included in our 2020-2024 Strategic Plan are in U.S. dollars. Currently, our metric are measured in Brazilian reais.

Adjusted EBITDA represents an alternative measure to our net cash provided by operating activities and is computed by using the EBITDA (net income before net finance income (expense), income taxes, depreciation, depletion and amortization) adjusted by results in equity-accounted investments, impairment, cumulative foreign exchange adjustments reclassified to the income statement and results from disposal and write-offs of assets.

In calculating Adjusted EBITDA, we adjusted our EBITDA for the year by adding foreign exchange gains and losses resulting from provisions for legal proceedings denominated in foreign currencies. Legal provisions in foreign currencies primarily consist of our portion of the class action settlement provision signed in December 2017. The foreign exchange gains or losses on legal provisions are presented in other income and expenses for accounting purposes but management does not consider them to be part of our primary business. In addition, they are substantially similar to the foreign exchange effects presented within net finance income.

Net Debt reflects the gross debt, including lease liabilities, net of "Adjusted Cash and Cash Equivalents" (which is a

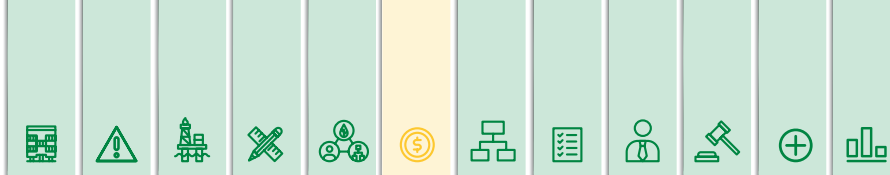
non-GAAP measure that comprises cash and cash equivalents, government bonds and time deposits from highly rated financial institutions abroad with maturities of more than three months from the end of the period, considering the expected realization of those financial investments in the short-term).

Our Net Debt/Adjusted EBITDA ratio is a non-GAAP measure and may not be comparable to the calculation of liquidity measures presented by other companies, and it should neither be considered in isolation nor as a substitute for any measure calculated in accordance with IFRS. This metric must be considered together with other measures and indicators for a better understanding of our financial condition.

We applied the same foreign exchange translation method as set forth in Note 2 to our audited consolidated financial statements for presenting this metric in U.S. dollars. Accordingly, assets and liabilities items were translated into U.S. dollars at the exchange rate as of the date of the statement of financial position, and all items pertaining to the statement of income and statement of cash flows were translated at the average rates prevailing at each quarter of the years.

Depending on the foreign translation effects on items that comprise this metric, the Net Debt/Adjusted EBITDA may differ or even present a different trend when comparing results in *reais* and U.S. dollars. However, we are pursuing a 1.5 target based on our Net Debt and Adjusted EBITDA computed in *reais*, as described in "2020-2024 Strategic Plan" in this annual report.

The following table presents, in both currencies, the reconciliation for 2019 and 2018 of the Net Debt/Adjusted EBITDA ratio measure to the most directly comparable GAAP measure in accordance with IFRS, which is, in this case, the Gross Debt Net of Cash and Cash Equivalents / Net Cash provided by operating activities ratio:



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	2019	2018	2019	2018
	(R\$ million)		(US\$ million)	
Cash and cash equivalents	29,714	53,854	7,372	13,899
Government securities and time deposits (maturity of more than three months)	3,580	4,198	888	1,083
Adjusted cash and cash equivalents	33,294	58,052	8,260	14,982
Finance Debt	254,982	326,161	63,260	84,175
Lease Liability	96,179	715	23,861	185
Current and non-current debt - Gross Debt	351,161	326,876	87,121	84,360
Net debt	317,867	268,824	78,861	69,378
Net cash provided by operating activities from continuing operations	100,542	92,518	25,277	25,447
Net cash provided by operating activities from discontinued activities	1,224	3,328	323	906
Net cash provided by operating activities - OCF	101,766	95,846	25,600	26,353
Income taxes	-16,400	-15,462	-4,200	-4,256
Impairment of trade and others receivables	343	282	87	91
Trade and other receivables, net	8,578	-5,983	2,233	-1,536
Inventories	-1,208	-7,599	-281	-2,108
Trade payables	-3,821	3,557	-989	858
Deferred income taxes, net	11,036	1,297	2,798	370
Taxes payable	-8,328	-1,358	-2,105	-302
Others	-17,683	6,260	-4,650	1,734
Total Adjusted EBITDA	129,249	114,852	32,707	31,502
Adjusted EBITDA from continuing operations	128,091	112,035	32,406	30,744
Adjusted EBITDA from discontinued operations	1,158	2,816	301	758
Gross debt net of cash and cash equivalents/OCF ratio	3.16	2.85	3.12	2.67
Net debt/Adjusted EBITDA ratio	2.46	2.34	2.41	2.20

Additionally, in order to make it clear that both “Net debt” as well as “Net debt/Adjusted EBITDA ratio” increased in 2019 when compared to 2018 primarily because of the effects of IFRS 16 adoption, we present the following additional information:

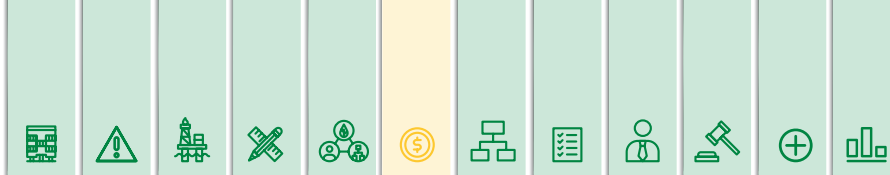
	2019	2018	2019	2018
	(R\$ million)		(US\$ million)	
Net debt	317,867	268,824	78,861	69,378
Effects of IFRS 16 adoption on Net debt	(95,464)	-	(23,684)	-
Net debt excluding the effects of IFRS 16 adoption	222,403	268,824	55,177	69,378
Total Adjusted EBITDA	129,249	114,852	32,707	31,502
Effects of IFRS 16 adoption on Adjusted EBITDA	(17,211)	-	(4,353)	-
Total Adjusted EBITDA excluding the effects of IFRS 16 adoption	112,038	114,852	28,354	31,502
Net debt/Adjusted EBITDA ratio - excluding the effects of IFRS 16 adoption	1.99	2.34	1.95	2.20

Our Net Debt/Adjusted EBITDA ratio computed in reais increased from 2.34 to 2.46, due to the IFRS16 effects. We will continue working in order to reach a Net Debt/Adjusted EBITDA more consistent with oil and gas industry standards. Our Net Debt/Adjusted EBITDA ratio (excluding the effects of IFRS 16 adoption) computed in reais decreased from 2.34 to 1.99, mainly due to proceeds from divestments.

Our Net Debt/Adjusted EBITDA ratio computed in U.S. dollar increased from 2.20 at December 31, 2018 to 2.41 at

December 31, 2019 reflecting the effects derived from the adoption of IFRS16. Our Net Debt/Adjusted EBITDA ratio (excluding the effects of IFRS 16 adoption) computed in U.S. dollar decreased from 2.20 at December 31, 2018 to 1.95 at December 31, 2019 also reflecting the proceeds from divestments.

For information on our Net Debt/Adjusted EBITDA target, see “2020-2024 Strategic Plan” in this annual report.



OPERATING AND FINANCIAL REVIEW AND PROSPECTS

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Use of Funds

Capital Expenditures

We disbursed a total of US\$27,413 million in 2019 (which 91.5% was used in E&P business), a 104% increase when compared to our Capital Expenditures of US\$13,349 million

in 2018. In line with our previous 2018–2022 Business and Management Plan, our Capital Expenditures in 2019 were primarily directed toward the most profitable investment projects relating to oil and gas production. These expenditures are based on our plan cost assumptions and financial methodology.

Capital Expenditures by business segments

For the Year Ended December 31	2019	2018	2017
	(US\$ million)		
Exploration and Production	25,080	11,592	12,397
Refining, Transportation and Marketing	1,463	1,107	1,284
Gas and Power	543	433	1,127
Corporate and Other Businesses	328	307	276
Total	27,413	13,439	15,084

For information on our future Capital Expenditures, see “Strategic Plan – 2020–2024 Strategic Plan” in this annual report.



EXPLORATION
AND PRODUCTION
INVESTMENTS:

US\$25,081
million

- Started operation of 4 new systems: P-76, P-77, P-67 and P-68.
- Ramp up of 8 systems: P-74 to P-77 (Búzios 1 to 4), P-67 to P-69 (Lula Norte, Berbigão-Sururu and Lula Extremo Sul), and Cidade de Campos (Tartaruga).
- Bid round of US\$ 16,671 million



REFINING,
TRANSPORTATION
AND MARKETING
INVESTMENTS:

US\$1,463
million

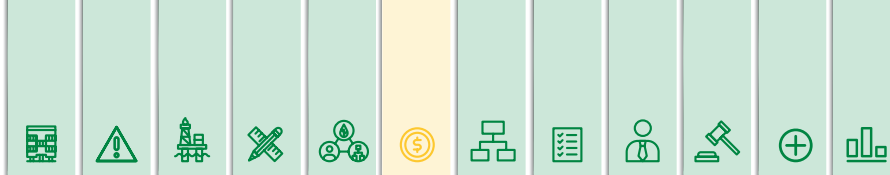
- Basic design to allow REPLAN to produce 100% S-10 diesel oil and aviation fuel.
- Completion of the basic project to enable REDUC to produce more diesel S10 (2.4 million m³/year).
- Conducting scheduled stops with emphasis on the refineries: REPLAN, RLAM, RPBC, REVAP and REGAP.
- Delivery of ships Garrincha and Portinari to Transpetro.



GAS AND POWER
INVESTMENTS:

US\$543
million

- Construction and expansion of the capacity of gas pipelines and natural gas processing units to supply the pre-salt pole production in the Santos basin.
- Conducting scheduled stops with emphasis on UTE-TRI BLOCO3, UTE-TMA and UTE-NPI.



**OPERATING AND FINANCIAL
REVIEW AND PROSPECTS**

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Dividends

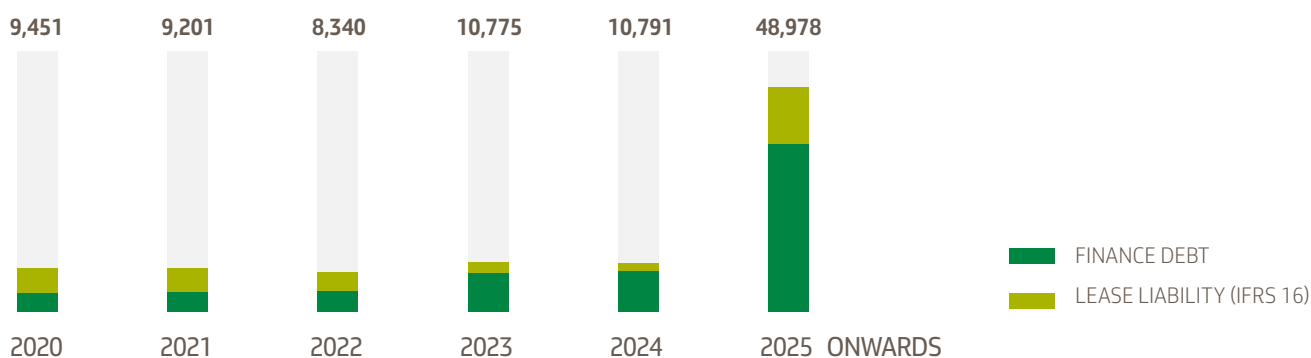
Our Board of Directors proposed distribution of dividends in 2019 in the amount of US\$2,687 million, most of it as interest on capital.

For more information on our shareholders compensation policy, see “Shareholder Information – Dividends” in this annual report and Note 34.7 to our audited consolidated financial statements.

Debt Service Obligations

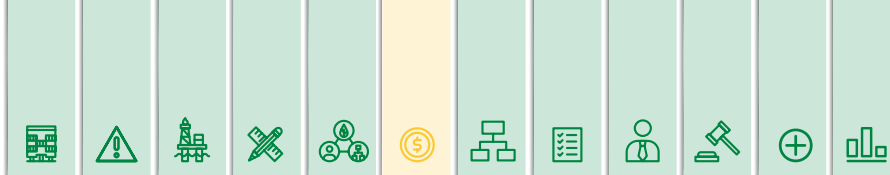
As of December 31, 2019, our debt maturity profile includes, for the next five years, US\$48,558 million in finance debt and lease liability.

Amortization profile (US\$ million)



Financial Debt

In 2019, we repaid finance debt in the amount of US\$31,774 million notably: (i) US\$9,994 million relating to repurchase of global bonds previously issued by us in the capital market, with a net premium paid to bond holders amounting to US\$855 million; (ii) pre-payment of banking loans in the Brazilian and global market totaling US\$13,446 million; and (iii) pre-payment of US\$578 million with respect to financings with the BNDES.



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Lease Liabilities

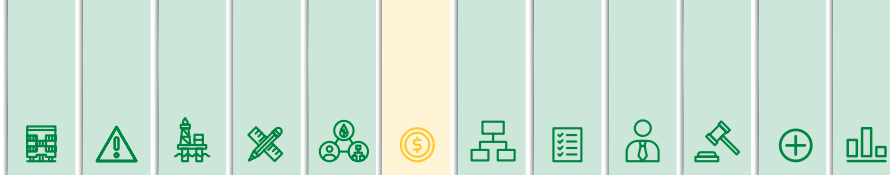
We are the lessee in agreements primarily including oil and gas producing units, drilling rigs and other exploration and production equipment, vessels and support vessels, helicopters, land and buildings.

Changes in the balance of lease liabilities are presented below:

	Balance at January 31, 2018	Adoption of IFRS 16	Remeasurement /new contracts	Payment of principal and interest	Unwinding of discount	Foreign exchange gains and losses	Cumulative translation adjustment (CTA)	Transfer to assets and liabilities held for sale	Balance at December 31, 2019
In Brazil	185	5,628	1,239	(1,597)	376	160	(246)	(241)	5,504
Abroad	-	20,947	1,060	(3,655)	1,138	479	(445)	(1,167)	18,357
Total	185	26,575	2,299	(5,252)	1,514	639	(691)	(1,408)	23,861
Payments relating to liabilities held for sale				(84)					
Amounts received				110					
Payments relating to discontinued operations				19					
Net cash used in financing activities				(5,207)					

Payments in certain lease agreements vary due to changes in facts or circumstances occurring after their inception other than the passage of time. These payments are not included in the measurement of the lease obligations.

For additional information on impacts brought up by IFRS 16 see Note 2.3.1 to our audited consolidated financial statements.



OPERATING AND FINANCIAL REVIEW AND PROSPECTS

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Other Information

Contractual Obligations

The following table summarizes our outstanding contractual obligations and commitments as of December 31, 2019:

	Payments Due by Period				
	Total	< 1 year	1-3 years	3-5 years	> 5 years
	(US\$ million)				
Contractual obligations					
Balance sheet items⁽¹⁾⁽⁶⁾:					
Finance Debt ⁽²⁾	63,260	4,469	8,660	16,573	33,558
Lease liability ⁽³⁾	32,255	5,901	8,495	4,801	13,058
Provision for decommissioning costs ⁽⁴⁾	20,502	599	1,745	603	17,555
Total balance sheet items	116,017	10,969	18,900	21,977	64,171
Other contractual commitments					
Natural gas ship-or-pay ⁽⁵⁾	30,743	2,807	5,823	5,916	16,197
Service contracts	93,964	20,245	23,481	14,609	35,628
Natural gas supply agreements ⁽⁵⁾⁽⁷⁾	5,105	932	2,485	1,688	0
Leases not yet started	49,815	1,111	4,030	0	44,673
Short-term lease arrangements	101	101	0	0	0
Purchase commitments	5,038	3,869	967	177	25
Total other commitments	184,684	29,321	37,276	21,562	96,524
Total	300,782	40,034	55,686	44,367	160,695

(1) Excludes the amount of US\$40,569 million related to our pension and medical benefits obligations, which are partially funded by US\$14,075 million in plan assets. Information on employees' post-retirement benefit plans, including a schedule of expected maturity of pension and medical benefits obligations, is presented in Note 18 to our audited consolidated financial statements.

(2) Includes accrued interest, short-term and long-term debt (current and non-current portions). Information about our future interest and principal payments (undiscounted) for the coming years is presented in Note 36.5 to our audited consolidated financial statements.

(3) IFRS 16, effective as of January 1, 2019, eliminated the classification of leases as either operating or finance leases. For more information on IFRS 16, see Note 2.3.1 to our audited consolidated financial statements.

(4) Includes US\$2,961 million of liabilities related to assets classified as held for sale.

(5) Import contract was expected to terminate in December 2019, but it will be outstanding until all contracted volume has been delivered.

(6) Our Brazilian oil and gas agreements require us to invest at least 1% of our gross revenue originating from high productivity oil fields on research and development.

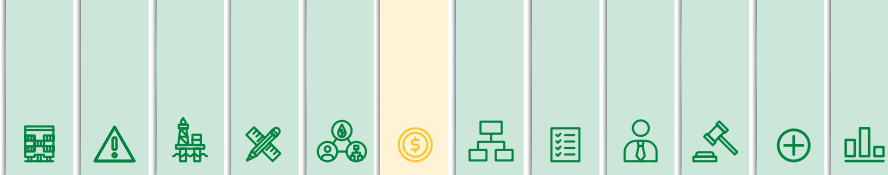
(7) On March 6, 2020, the Company entered into a new amendment to the long-term Gas Supply Agreement (GSA) with YPF. The signed amendment refers to the portion of gas contracted in 1999, at the beginning of the Bolivia-Brazil gas pipeline operation, and which has not yet been withdrawn by us.

Off Balance Sheet Arrangements

As of December 31, 2019, we had no off-balance sheet arrangements that have, or are reasonably likely to have, a material effect on our financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Critical Accounting Policies and Estimates

Information on critical accounting policies and estimates, which involves a higher degree of complexity in the application of the accounting policies that currently affect our financial condition and results of operations is provided in our audited consolidated financial statements. Note 4 to our audited consolidated financial statements addresses the estimates that we consider most significant based on the degree of uncertainty, the potential events that may negatively affect



**OPERATING AND FINANCIAL
REVIEW AND PROSPECTS**

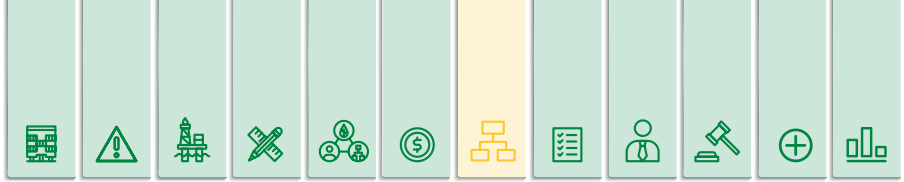
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our estimates and the likelihood of a material impact if we used a different estimate. These assumptions are based on past transactions and other relevant information and are periodically reviewed by our management. Actual results could differ from these estimates.

Additional information, including our significant accounting policies, are provided in each of our explanatory notes to our audited consolidated financial statements.

New accounting Standards and Interpretations

On January 1, 2019, IFRS 16 – Leases and IFRIC 23 – Uncertainty over Income Tax Treatments, issued by IASB, became effective. Information on their initial application are set out in Note 2.3 to our audited consolidated financial statements.

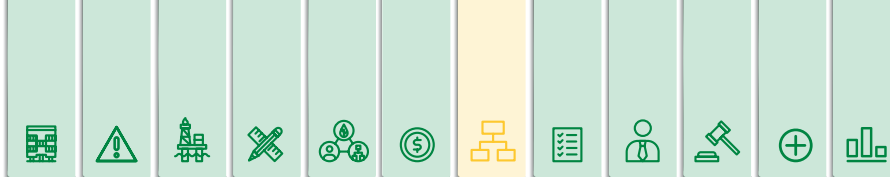


MANAGEMENT AND EMPLOYEES

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MANAGEMENT AND EMPLOYEES



MANAGEMENT AND EMPLOYEES

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Management

Board of Directors



Our Board of Directors is composed of a minimum of seven and maximum of eleven members and is responsible for, among other things, establishing our general business policies. Our Bylaws were amended in September 2019 to specifically provide that our Board of Directors must be composed by external members only, without any current statutory or employment relationship with us, except for the member designated as our CEO and the member elected by our employees.

As a mixed-capital company with 200 or more employees, in which the Brazilian federal government directly or indirectly holds a majority of the voting rights, our employees have the right to elect one member of our Board of Directors to represent them, by means of a separate voting procedure.

Our Bylaws also provide that, regardless of the rights granted to minority shareholders, the Brazilian federal government always has the right to elect the majority of our directors, regardless of the number of directors.

The term of office of our directors may not exceed two years

and any member of our Board of Directors may be re-elected for up to three consecutive times.

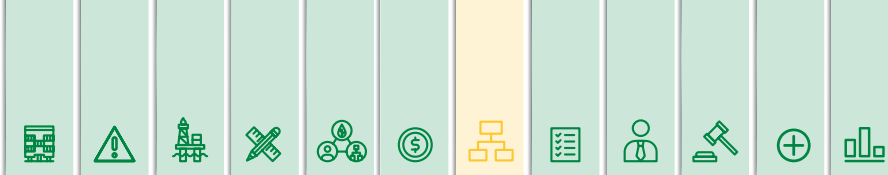
In accordance with Brazilian Corporate Law, shareholders may remove any director from office at any time with or without cause at an extraordinary shareholders' meeting, and in case of removal of any board member elected through cumulative voting procedure, it will result in the removal of all of the other members elected under the same procedure, after which new elections must occur.

Our Board of Directors must be composed of, at least, 40% independent members, in compliance with Brazilian Corporate Law and B3 Level 2 rules. In case of contradictions between these rules, the stricter rules prevail.

For further information on Level 2 listing segment, see "Shareholder Information" in this annual report.

For further information regarding the composition, attributions and duties of our Board of Directors, see Exhibit 1.1 to this annual report for a copy of our Bylaws.

We currently have the following 10 directors:



MANAGEMENT AND EMPLOYEES

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Roberto da Cunha Castello Branco



BORN
July 20, 1944



NATIONALITY
Brazilian



POSITION
Member of the Board
of Directors



OTHER DIRECTORSHIPS
None



TERM OF OFFICE
from January 2019
to April 2020



NOMINATED BY
Controlling
Shareholder



INDEPENDENT
No

BUSINESS EXPERIENCE: Mr. Castello Branco was a member of our Board of Directors between May 2015 and April 2016 and has been our Chief Executive Officer since January 2019. He is an affiliated professor at Fundação Getulio Vargas (FGV EPGE) and director at the center for studies in economic growth and development at EPGE. Previously, Mr. Castello Branco was a director at Vale S.A., Banco Central do Brasil, Banco Boavista, Banco Boavista Investimentos and Banco InterAtlântico. He also acted as a member of the Board of Directors of GRU Airport, Invepar, ABRASCA, IBEF and director at the American Chamber of Commerce (RJ).

EDUCATION: Mr. Castello Branco holds a bachelor's degree in economics, with a PHD from Fundação Getulio Vargas (FGV EPGE) and a postdoctoral degree from University of Chicago. Mr. Castello Branco also participated in executive training programs at Sloan School of Management (MIT) and International Institute for Management Development (IMD).

FAMILY RELATIONS: None

Eduardo Bacellar Leal Ferreira



BORN
June 02, 1952



NATIONALITY
Brazilian



POSITION
Chairman of the Board
of Directors



OTHER DIRECTORSHIPS
None



TERM OF OFFICE
from January 2019
to April 2020



NOMINATED BY
Controlling
Shareholder



INDEPENDENT
No

BUSINESS EXPERIENCE: Mr. Leal Ferreira is a fleet admiral and was the commander of the Brazilian Navy until January 2019. Before he held this position, Mr. Leal Ferreira served in the Brazilian Navy for 48 years in different positions, having been the commander in chief of the Brazilian Navy fleet and the commander of Brazil's national war college. He was director of the ports and coasts area of the Brazilian Navy which is responsible for the technical supervision of maritime safety of all operating vessels in Brazil, including platforms and support vessels.

EDUCATION: Mr. Leal Ferreira was trained at the Brazilian Naval School, the Brazilian Naval War College, and the Naval War College of Chile.

FAMILY RELATIONS: None.



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Ana Lúcia Poças Zambelli



BORN
November 25, 1972



NATIONALITY
Brazilian



POSITION
Member of the Board
of Directors



OTHER DIRECTORSHIPS
Braskem S.A., Museu
do Amanhã and IDG - Instituto de
Desenvolvimento e Gestão



TERM OF OFFICE
from May 2018
to April 2020



NOMINATED BY
Controlling
Shareholder



INDEPENDENT
Yes

BUSINESS EXPERIENCE: Mrs. Zambelli was a member of the Board of Directors of Alcoa América Latina from 2012 to 2014, was senior commercial vice president of Maersk Drilling from 2015 to 2017, vice president of submarine operations and president of South America at Transocean from 2012 to 2015 and Brazil president of Schumberger from 2007 to 2011. She has also served as member of the Board of Directors for Braskem S.A., Museu do Amanhã and IDG – Instituto de Desenvolvimento e Gestão.

EDUCATION: Mrs. Zambelli holds a degree in mechanical engineering from the Universidade Federal do Rio de Janeiro (UFRJ), with a master's degree in petroleum engineering from Heriot Watt University, Scotland, and a post-graduate degree in leadership, innovation and technology from the Massachusetts Institute of Technology.

FAMILY RELATIONS: None

Danilo Ferreira da Silva



BORN
September 22, 1982



NATIONALITY
Brazilian



POSITION
Member of the Board
of Directors



OTHER DIRECTORSHIPS
None



TERM OF OFFICE
from January 2019
to April 2020



NOMINATED BY
Employees

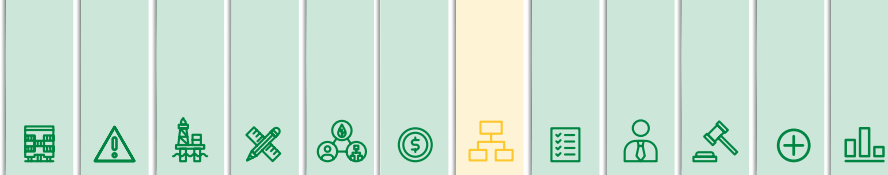


INDEPENDENT
No

BUSINESS EXPERIENCE: Mr. Ferreira da Silva is working in the engineering and technical operational support departments at the Paulínia refinery at Petrobras. Mr. Ferreira da Silva began his career at Petrobras in 2003, as a maintenance technician at Replan, where he worked on the implementation of large industrial projects. Mr. Ferreira da Silva was a deliberative counselor from 2011 to 2012 at Fundação Petrobras de Seguridade Social (Petros), an assistant to the CEO from 2013 to 2015 and the administrative financial director from 2015 to 2016. Mr. Ferreira da Silva also acted as a member of the Board of Directors at Fras – Le, from 2014 to 2015, Invepar, from 2015 to 2016, Iguatemi Shopping Centers, from 2016 to 2018, and Totvs, from 2015 to 2017.

EDUCATION: Mr. Ferreira da Silva holds a degree in social sciences and law from Pontifícia Universidade Católica de Campinas (PUC-Campinas), an MBA in financial management from Fundação Getulio Vargas (FGV) with extension from Ohio University, and a global executive MBA from the Instituto Universitário of Lisbon in partnership with FGV. He is currently a candidate for a degree in pedagogy at Universidade Virtual do Estado de São Paulo (Univesp).

FAMILY RELATIONS: None.



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João Cox Neto

BORN
May 2, 1963

NATIONALITY
Brazilian

POSITION
Member of the Board
of Directors

**OTHER
DIRECTORSHIPS**
Chairman of the Board of Directors
of Vivara; Vice Chairman of the
Board of Directors of Braskem and
member of the Board of Directors
of Embraer; Linx and Qualicorp

TERM OF OFFICE
from February 2019
to April 2020

NOMINATED BY
Controlling
Shareholder

INDEPENDENT
Yes

BUSINESS EXPERIENCE: Mr. Cox has served as president of Telemig Celular and president of Claro, and in other distinguished positions in C-level. Mr. Cox was a member of the Board of Directors of various companies including , Embraer, Linx, Qualicorp, Braskem - where he currently is the chairperson and Vivara, where he currently is the chairperson.

EDUCATION: Mr. Cox has a bachelor degree in economics and attended graduate studies in Economics at the Université du Quebec à Montreal and at the Oxford University's College of Petroleum Studies program.

FAMILY RELATIONS: None

Marcelo Mesquita de Siqueira Filho

BORN
December 20, 1969

NATIONALITY
Brazilian

POSITION
Member of the Board
of Directors

OTHER DIRECTORSHIPS
Mr. Mesquita is a Board Member at
the Endowment Fund of PUC-Rio
(Pontifícia Universidade Católica
do Rio de Janeiro) and Tamboro
Educatonal S.A.

TERM OF OFFICE
from August 2016 to
April 2020

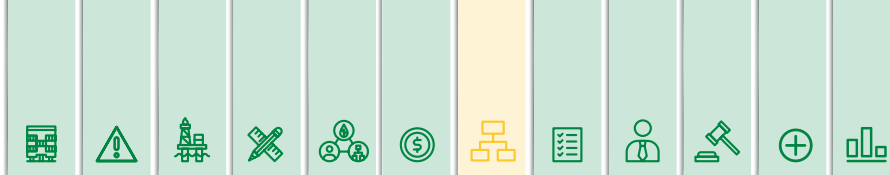
NOMINATED BY
Common
Shareholders

INDEPENDENT
Yes

BUSINESS EXPERIENCE: Mr. Mesquita is a co-founding partner of Leblon Equities (since 2008) and co-manager of equity funds and of private equity investments. He has approximately 28 years of experience in the Brazilian stock market, having worked at UBS Pactual for 10 years and at Banco Garantia for seven years. At UBS Pactual, he was the co-head of Brazilian Equity Capital Markets; co-head of Brazilian Equities; and head of Brazil Equity Research & Strategy Analysis. At Banco Garantia he was a commodities stock analyst and investment banker. Since 1995, he was appointed by investors as one of the leading analysts in Brazil according to several surveys made by Institutional Investor magazine. He was ranked "#1 Brazil Analyst" from 2003 to 2006 (#3 in 2002, #2 in 2001 and #3 in 2000). He was also ranked as "#1 Stock Strategist in Brazil" from 2003 to 2005.

EDUCATION: Mr. Mesquita holds a degree in economics from the Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), in French studies from Nancy University II and an OPM (Owner/President Management) from Harvard Business School.

FAMILY RELATIONS: None.



MANAGEMENT AND EMPLOYEES

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Nivio Ziviani



BORN
August 27, 1946



NATIONALITY
Brazilian



POSITION
Member of the Board
of Directors



OTHER DIRECTORSHIPS
Member of the Board of Directors of
Technology Park of Belo Horizonte
and Kunumi and Technology Council of
Digital Transformation of the Brazilian
Petroleum, Gas and Biofuels Institute.



TERM OF OFFICE
from March 2019
to April 2020



NOMINATED BY
Controlling
Shareholder



INDEPENDENT
Yes

BUSINESS EXPERIENCE: Mr. Ziviani is Professor Emeritus of the Department of Computer Science (DCS) of the Federal University of Minas Gerais (UFMG), member of our Board of Directors, Technology Park of Belo Horizonte and Kunumi and member of the Technology Council of Digital Transformation of the Brazilian Petroleum, Gas and Biofuels Institute. He is a member of the Brazilian Academy of Sciences and the National Order of Scientific Merit in the classes Comendador and Gran Cruz. He founded companies from knowledge generated within the DCS/UFMG, namely: Kunumi Neemu, Akwan and Miner. He is the author of the book Design of Algorithms and co-author of over 200 scientific articles in the areas of algorithms, information retrieval, machine learning and artificial neural networks.

EDUCATION: Mr. Ziviani holds a bachelor's degree in mechanical engineering from UFMG, a master's degree in informatics from PUC-Rio and a PhD in computer science from the University of Waterloo, Canada.

FAMILY RELATIONS: None

Sonia Julia Sulzbeck Villalobos



BORN
June 6, 1963



NATIONALITY
Brazilian



POSITION
Member of the Board
of Directors



OTHER DIRECTORSHIPS
Member of the Board of Directors of
LATAM Airlines Group S.A, Telefonica
Vivo S.A. and OTP S.A.



TERM OF OFFICE
from May 2018 to
April 2020



NOMINATED BY
Preferred
Shareholders

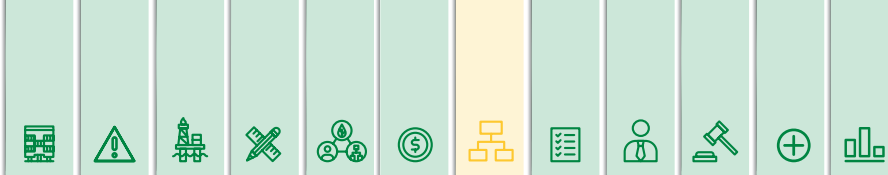


INDEPENDENT
Yes

BUSINESS EXPERIENCE: Ms. Villalobos has 33 years of experience in the Brazilian stock market and in 1994 became the first person from South America to receive the CFA charter. Ms. Villalobos worked from 1985 to 1987 at Equipe DTVM, and from 1987 to 1989 at Banco Iochpe as an investment analyst. From 1989 to 1996, she worked at Banco Garantia as the head of the investment analysis department, where she was elected best analyst in Brazil by Institutional Investor Magazine in 1992, 1993 and 1994. She worked for Bassini, Playfair & Associates from 1996 to 2002 and was responsible for private equity in Brazil, Chile and Argentina. From 2005 to 2011, she worked for Larrain Vial as an asset manager. From 2012 to 2016, Ms. Villalobos worked as a founding partner and equity fund manager in Latin America for Lanin Partners. Since 2016, she has been a professor at Insper for post-graduate students in disciplines related to asset management and financial statement analysis. Since May 2016, she has been a member of the Board of Directors of Telefônica do Brasil. Ms. Villalobos has been a member of the Board of Directors for LATAM Airlines Group S.A. since August of 2018. She has also served as member of the Board of Directors for TAM Linhas Aéreas, Método Engenharia (Brasil), Tricolor Pinturas e Fanalozza/Briggs (Chile), Milkaut and Banco Hipotecario (Argentina).

EDUCATION: Ms. Villalobos holds a bachelor's degree in public administration and a master's degree in business administration with a focus in finance, both from the Escola de Administração de Empresas de São Paulo (EAESP-FGV).

FAMILY RELATIONS: None.



MANAGEMENT AND EMPLOYEES

MANAGEMENT	162
EMPLOYEES	183
BENEFITS	186

Walter Mendes de Oliveira Filho



BORN
December 07, 1955



NATIONALITY
Brazilian



POSITION
Member of our Board
of Directors



OTHER DIRECTORSHIPS
Amec- Association of Brazilian
Capital Market Investors and Abrapp-
Association of Brazilian Pension Funds.



TERM OF OFFICE
from August 2019
to April 2020



NOMINATED BY
Controlling
Shareholder



INDEPENDENT
Yes

BUSINESS EXPERIENCE: Mr. Mendes has been a member of our Board of Directors since 2019. He is an economist, with professional experience focused on investment management. He was head of Investment Research at Unibanco; head of Schroder Investment Management Brazil; head of Latin American Funds of Schroder Investment Management plc; head of Equity Funds Management at Banco Itau; Partner of Cultinvest Asset Management and Executive Director of CAF (Brazilian Takeover Panel). In 2016, Mr. Mendes became the CEO of Petros – Petrobras Pension Fund. In 2018, he was hired as CEO of Funcesp – Pension Fund of the Power Companies of the State of São Paulo. In 2015, he was appointed by the minority shareholders as member of our Board of Directors. Mr. Mendes was member of the board of other companies, such as Itausa, Invepar and Santa Helena. In 2019, Walter was appointed by the Ministry of Economy as a member of our Board of Directors. Mr. Mendes is also Chairman of Amec– Association of Brazilian Capital Market Investors and member of the board of Abrapp – Association of Brazilian Pension Funds.

EDUCATION: Mr. Mendes holds a degree in economics from the Universidade de São Paulo (USP) and a post-graduate degree from the Pontifícia Universidade Católica de São Paulo (PUC-SP).

FAMILY RELATIONS: None

Maria Cláudia Mello Guimarães



BORN
September 18, 1965



NATIONALITY
Brazilian



POSITION
Member of our Board
of Directors



OTHER DIRECTORSHIPS
None



TERM OF OFFICE
from February 2020
to April 2020



NOMINATED BY
Controlling
Shareholder

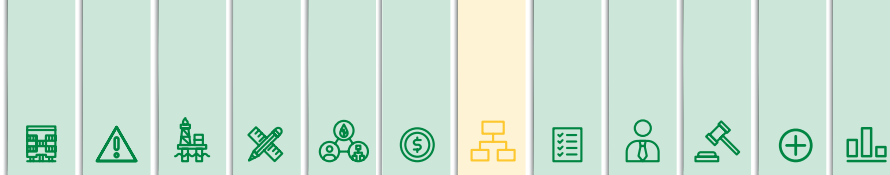


INDEPENDENT
Yes

BUSINESS EXPERIENCE: Ms. Guimarães has a solid career in the financial market, where she has worked for 33 years. She was executive officer at Bank of America Merrill Lynch, ING Bank N.V. and Bank Boston, leading the oil & gas, mining, steel and energy sectors. Today she is a partner at KPC Consultoria Financeira focused on wealth management. Recently, she served as a counselor at Constellation Oil Services in Luxembourg. She has extensive experience in corporate finance, capital markets, mergers and acquisitions, debt restructuring and project financing. Throughout his career, she worked with us and our subsidiaries in Brazil and abroad, through financing projects for the development of the Campos Basin and the Santos Basin, issuances of shares and bonds, development of treasury products and cash management and advising on divestment in the offshore area, having also coordinated a course on mergers, acquisitions and capital markets at Petrobras University.

EDUCATION: Ms. Maria Cláudia has a degree in production engineering from the Federal University of Rio de Janeiro (UFRJ), with an executive MBA from COPPEAD (UFRJ).

FAMILY RELATIONS: None



MANAGEMENT AND EMPLOYEES

MANAGEMENT

EMPLOYEES

BENEFITS

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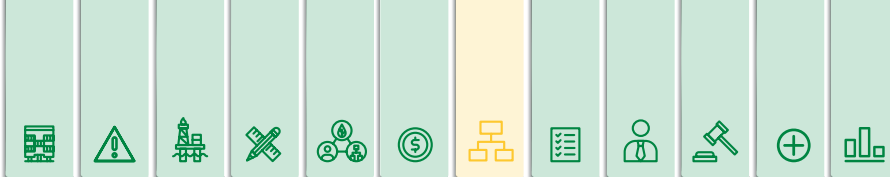
Fiscal Council

We have a permanent Fiscal Council composed of up to five members, which council is independent of our management and external auditors. Our Fiscal Council's responsibilities include, among others: (i) monitoring management's activities and (ii) reviewing our annual report and audited consolidated financial statements.

The members of our Fiscal Council and their corresponding alternates are elected by our shareholders at the annual shareholders' meeting for a one-year term. Two consecutive re-elections are permitted under Brazilian Corporate Law. Holders of preferred shares and minority holders of common shares are each entitled, as a class, to elect one member and the corresponding alternate of our Fiscal Council. The Brazilian federal government has the right to appoint the majority of the members of our Fiscal Council and their alternates, of which one member and the corresponding alternate will be necessarily appointed by the Minister of Economy, representing the Brazilian Treasury.

Current members of our Fiscal Council

Members of our Fiscal Council	Year of first appointment	Elected/ appointed by
José Franco Medeiros de Morais	2019	Brazilian federal government/Ministry of Economy
Eduardo César Pasa (Chairman)	2017	Brazilian federal government
Marisete Fátima Dadald Pereira	2011	Brazilian federal government
Marcelo Gasparino da Silva	2019	Minority shareholder
Daniel Alves Ferreira	2018	Preferred shareholder
Alternate members of our Fiscal Council		
Gildenora Batista Dantas Milhomem	2019	Brazilian federal government /Ministry of Economy
Jairéz Elói de Sousa Paulista	2019	Brazilian federal government
Agnes Maria de Aragão da Costa	2015	Brazilian federal government
Patrícia Valente Stierli	2019	Minority shareholder
Aloísio Macário Ferreira de Souza	2019	Preferred shareholder



MANAGEMENT AND EMPLOYEES

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Executive Officers



Our Board of Executive Officers is composed of one Chief Executive Officer (“CEO”) and eight executive officers. According to our Bylaws, our Board of Executive Officers is responsible for our day-to-day management. Our executive officers are not required to be Brazilian citizens but must reside in Brazil. Pursuant to our Bylaws, our Board of Directors elects our executive officers, including the CEO, and must consider personal qualifications, expertise and specialization when electing executive officers. The mandate of our executive officers lasts for two years, and no more than three consecutive re-elections are allowed. Our Board of Directors may remove any executive officer from office at any time and without cause, with a special procedure for the removal of the Executive Director of Governance and Compliance. For deciding on the removal of the Executive Director of Governance and Compliance the Board of Directors must follow a qualified quorum which requires the vote of the Director elected by the minority shareholders or the Director elected by the preferred shareholders.

For further information regarding our Board of Executive Officers, see Exhibit 1.1 to this annual report for a copy of our Bylaws.

We currently have the following nine executive officers:

Roberto da Cunha Castello Branco

BORN
July 20, 1944

NATIONALITY
Brazilian

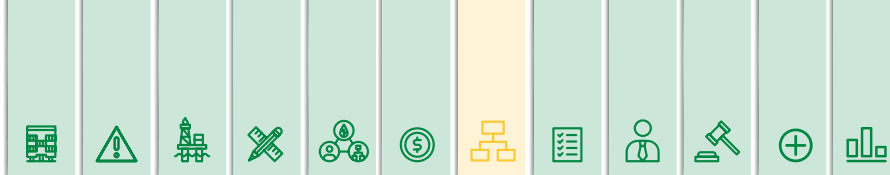
POSITION
Chief Executive Officer (CEO)

TERM OF OFFICE
from January 2019
to March 2021

BUSINESS EXPERIENCE: Mr. Castello Branco was a member of our Board of Directors between May 2015 and April 2016 and has been our Chief Executive Officer since January 2019. He is an affiliated professor at Fundação Getulio Vargas (FGV EPGE) and director at the center for studies in economic growth and development at EPGE. Previously, Mr. Castello Branco was a director at Vale S.A., Banco Central do Brasil, Banco Boavista, Banco Boavista Investimentos and Banco InterAtlântico. He also acted as a member of the Board of Directors of GRU Airport, Invepar, ABRASCA, IBEF and director at the American Chamber of Commerce (RJ).

EDUCATION: Mr. Castello Branco holds a bachelor’s degree in economics, with a PHD from Fundação Getulio Vargas (FGV EPGE) and a postdoctoral degree from University of Chicago. Mr. Castello Branco also participated in executive training programs at Sloan School of Management (MIT) and International Institute for Management Development (IMD).

FAMILY RELATIONS: None.



MANAGEMENT AND EMPLOYEES

MANAGEMENT	162
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BENEFITS	186

Andrea Marques de Almeida



BORN
January 13, 1971



NATIONALITY
Brazilian / Portuguese



POSITION
Chief Financial Officer (CFO) /
Chief Investor Relations
Officer (CIRO)



TERM OF OFFICE
from May 2019
to March 2021

BUSINESS EXPERIENCE: Mrs. Almeida worked at Vale S.A. for 25 years with extensive experience in Corporate Finance, Global Treasury and Risk Management. She was CFO of Vale Canada in Toronto from 2015 to 2018, most recently holding the position of Global Treasury Executive Manager at Vale.

EDUCATION: Mrs. Almeida is a production engineer, with an MBA in Finance from IBMEC-RJ and an MBA in management from USP, as well as management courses at the Wharton School of Finance and Sloan School of Management (MIT).

FAMILY RELATIONS: None.

Anelise Quintão Lara



BORN
May 24, 1961



NATIONALITY
Brazilian



POSITION
Chief Refining and
Natural Gas Officer

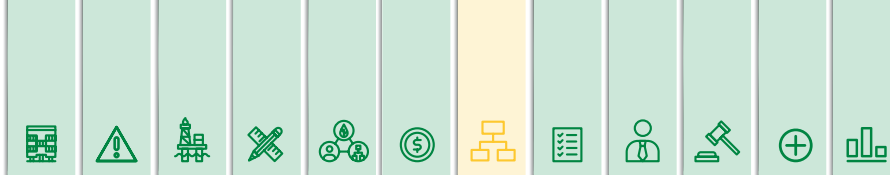


TERM OF OFFICE
from March 2019
to March 2021

BUSINESS EXPERIENCE: Mrs. Lara has been our Chief Refining and Natural Gas Officer since March 2019. She joined Petrobras in 1986 and has held various positions since, including executive manager for acquisitions & divestments between April 2016 and March 2019. Prior to that, Mrs. Lara was the joint project team director for the Libra Consortium, ruled by the first production sharing agreement in Brazil. She has managed several activities related to exploration and production, including in reservoir technology, reservoir engineering, subsurface studies, and production development projects for deepwater fields.

EDUCATION: Mrs. Lara earned a bachelor's of science degree in chemical engineering and a master of science degree in petroleum engineering from Universidade Federal de Ouro Preto in Minas Gerais, Brazil, as well as a PhD in Earth Sciences from Université Pierre et Marie Curie (Paris 6), France. She also completed the "Top Management Executive MBA" program at the Universidade Federal do Rio de Janeiro/COPPEAD Graduate School of Business.

FAMILY RELATIONS: None.



MANAGEMENT AND EMPLOYEES

MANAGEMENT	162
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BENEFITS	186

Carlos Alberto Pereira de Oliveira

BORN
September 11, 1957

NATIONALITY
Brazilian

POSITION
Chief Exploration and
Production Officer

TERM OF OFFICE
from March 2019 to
March 2021

BUSINESS EXPERIENCE: Mr. Oliveira joined Petrobras in 1981, having become a petroleum engineering specialist. Since 1999, he has held various executive positions linked to the senior management of the companies of our group, including executive manager of E&P Corporative from 1999 to 2003, Director of Exploration and Production of Oil and Gas in Petrobras Energia S.A. from 2003 to 2008, Executive Manager of Technical Support for International Affairs from 2008 to 2012, Executive Manager of E&P Investment Management Programs in Drilling Rigs and Stationary Production Units from 2012 to 2013, Executive Manager of Production Development Projects in 2013, Executive Manager of Strategy in 2016 and General Manager of E&P Integrated Asset Management from 2016 to January 2019.

EDUCATION: Mr. Oliveira graduated in mechanical engineering from Instituto Militar de Engenharia do Rio de Janeiro (IME) and in business management from Universidade Federal do Rio de Janeiro (UFRJ). He holds a master's degree in finance and investments from Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio) and completed a course in Petroleum Finance and Accounting at the University of Texas, in the United States.

FAMILY RELATIONS: None.

Eberaldo de Almeida Neto

BORN
November 19, 1962

NATIONALITY
Brazilian

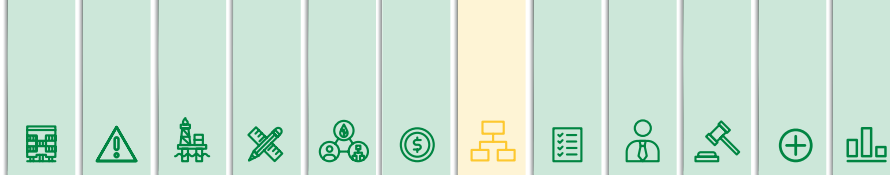
POSITION
Chief of Corporate Affairs Officer

TERM OF OFFICE
from March 2019 to
March 2021

BUSINESS EXPERIENCE: Mr. Almeida joined Petrobras in 1986 and has held various positions since then. He was our Executive Manager of Supply Chain from 2016 to January 2018, General Manager of Rio de Janeiro Operations Unit from 2012 to 2016, General Manager of Contracting Services Unit from 2006 to 2012 and General Manager of Subsea Services Unit from 1998 to 2006.

EDUCATION: Mr. Almeida holds a degree in electrical engineering from Universidade Federal do Rio de Janeiro (UFRJ), a degree in advanced management program from IESE Business School – University of Navarra, Spain and a MBA in advanced business management from Coppead Graduate School of Business/Universidade Federal do Rio de Janeiro (UFRJ).

FAMILY RELATIONS: None.



MANAGEMENT AND EMPLOYEES

MANAGEMENT	162
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BENEFITS	186

Marcelo Barbosa de Castro Zenkner

BORN
August 9, 1971

NATIONALITY
Brazilian

POSITION
Chief Governance and
Compliance Executive Officer

TERM OF OFFICE
from September
2019 to March 2021

BUSINESS EXPERIENCE: Mr. Zenkner worked as public prosecutor, member of the prosecution service of the State of Espírito Santo from 1997 to January 2019, where he held multiple roles in the fight against corruption and organized crime. Until April 2016, he held the position of Secretary of State for Control and Transparency of the State of Espírito Santo, which was the first state in Brazil to create an administrative structure and to apply administrative sanctions based on corporate anti-corruption law. From February 2019 to August 2019, he held the position of CEO Consultant and member of the Petrobras Disciplinary Actions Committee, an internal body of our integrity system directly linked to our Board of Directors

EDUCATION: Mr. Zenkner holds a bachelor degree in law from the Federal University of Juiz de Fora (UFJF), and specialized in civil procedural law at the Catholic University of Petrópolis (UCP). He also holds a master's degree in fundamental constitutional rights and guarantees from the School of Law of Vitória (FDV) and a PhD in public law, from the Universidade Nova de Lisboa (FDUNL).

FAMILY RELATIONS: None.

Nicolas Simone

BORN
January 31, 1977

NATIONALITY
Uruguayan

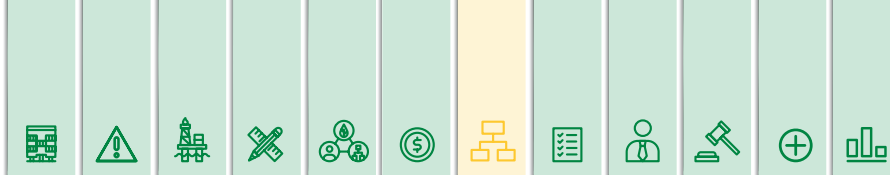
POSITION
Chief Digital Transformation and
Innovation Executive Officer

TERM OF OFFICE
from October 2019
to March 2021

BUSINESS EXPERIENCE: Mr. Simone has held leadership positions in large companies such as Itaú-Unibanco, Lojas Renner, ABInBev and Grupo Boticário, with a strong business expertise in industry, consumer goods, retail and financial market segments.

EDUCATION: Mr. Simone holds a degree in software and systems engineering from O.R.T University – Uruguay with extensive international experience and knowledge of information technology, digital transformation, cyber security, AI, omnichannel, CRM, innovation, sales, logistics, process reengineering, large projects, shared services center (SSC) and industry 4.0.

FAMILY RELATIONS: None.



MANAGEMENT AND EMPLOYEES

MANAGEMENT	162
EMPLOYEES	183
BENEFITS	186

Roberto Furian Ardenghy



BORN
November 26, 1961



NATIONALITY
Brazilian



POSITION
Chief Institutional
Relations Executive Officer



TERM OF OFFICE
from May 2019
to March 2021

BUSINESS EXPERIENCE: Mr. Ardenghy has a diplomatic career with a long experience in energy and oil and gas business. He has held a number of top positions at the Brazilian federal government in Brasília and in Brazilian embassies and consulates outside of Brazil, including Washington, Buenos Aires, Houston and New York. From 2002 to 2007, he worked as chief of staff, president of the ethics committee and head of downstream department at the National Petroleum Agency – ANP. From 2007 to 2011, he served as Corporate Relations Manager at BG E&P Brasil. He was a member of the Upstream Committee of the Brazilian Petroleum Institute and Director of the American Chamber of Commerce of Rio de Janeiro – AmCham Rio. He was also Honorary President of the Brazil-Texas Chamber of Commerce (BRATECC).

EDUCATION: Mr. Ardenghy holds a degree in law from the Federal University of Santa Maria and a master’s degree in international relations and diplomacy, from the Diplomatic Academy of Rio Branco Institute. He also obtained an executive MBA in economics of oil and gas from COPPE at the Federal University of Rio de Janeiro.

FAMILY RELATIONS: None.

Rudimar Andreis Lorenzatto



BORN
January 6, 1965



NATIONALITY
Brazilian



POSITION
Chief Production
Development Officer

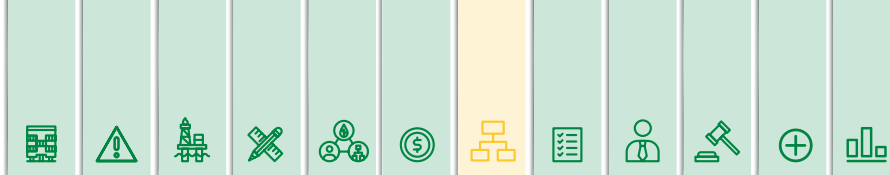


TERM OF OFFICE
from March 2019 to
March 2021

BUSINESS EXPERIENCE: Mr. Lorenzatto joined Petrobras in 1987 and since 1995 has held management positions in several areas as Offshore Wells, Production Operations and Subsea Systems. Between 2013 and 2019, he was Executive Manager of Offshore Wells Construction and Subsea Systems.

EDUCATION: Mr. Lorenzatto graduated in civil engineering from the Federal University of Santa Maria (RS) in 1987. He completed a specialization in petroleum engineering from Petrobras Corporate University in 1989. He also holds MBAs from Fundação Getúlio Vargas (FGV) and Columbia University (USA), as well as an Advanced Management Program from INSEAD (France). Between 2012 and 2013, he also worked as a lecturer of production development at the post-graduate program of the Federal University of Rio de Janeiro (UFRJ).

FAMILY RELATIONS: None.



Additional Information on our Board of Directors and Board of Executive Officers Requirements for Election

Our Bylaws determine certain limitations on the election of our executive officers, members of our management and members of our Board of Directors in addition to criteria set forth by Brazilian Corporate Law, our nomination policy, Law No. 13,303/16, and Decree No. 8,945/16. Thus, in order to be elected, each of our executive officers and each member of our Board of Directors must:

- (i) not be a defendant in any legal or administrative proceedings concerning a matter related to the activities to be performed in our company, with an unfavorable ruling by appellate courts;
- (ii) not have commercial or financial pending issues claimed or included in official debtor registers, although clarification on such issues may be provided to us;
- (iii) demonstrate diligence in solving issues raised in reports of internal or external control bodies in processes and/or activities under their management, when applicable;
- (iv) not have violated our Code of Ethics, Code of Conduct, Manual of our Program for Corruption Prevention or other internal rules, when applicable;
- (v) not have been included in the disciplinary system of any of our subsidiaries or affiliates, nor have been subject to labor or administrative penalty in any other legal entity in the last three years as a result of internal investigations, when applicable.
- (vi) have 10 years of experience in leadership, preferably, in business or in a related area, as specified in our nomination policy.

Compensation

Under our Bylaws, our shareholders establish the aggregate compensation, or allocate the compensation on an individual basis, payable to our directors, executive officers, members of our Fiscal Council and advisory committees to our Board of Directors. In case shareholders do not allocate the compensation on an individual basis, our Board of Directors is allowed to do so.

For the year-ended December 31, 2019, the aggregate amount of compensation we paid to all members of our Board of Directors and our Board of Executive Officers was US\$7.8 million. As of December 31, 2019 we had nine executive officers and 10 Board of Directors members.

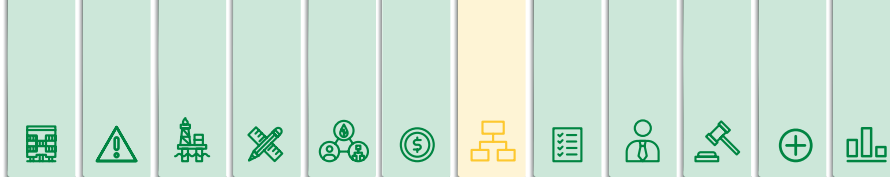
December 31, 2019	Board of Executive Officers	Board of Directors	Fiscal Council
Average number of members in the period	7.67	9.75	5.00
Average numbers of paid members in the period	7.67	5.00	5.00
Value of maximum compensation (US\$)	658,820.35	42,168.74	33,574.69
Value of minimum compensation (US\$)	491,623.24	42,168.74	33,574.69
Average value of compensation (US\$)	710,392.54	47,204.01	32,161.21

For further information regarding compensation of our employees and officers, see Notes 17 and 37.2 to our audited consolidated financial statements.

In addition, the members of our Board of Directors and executive officers receive medical assistance benefits, as generally provided to our employees and their families. Our executive officers also receive supplementary social security benefits and housing allowance.

We have no service contracts with members of our Board of Directors providing for benefits upon termination of employment. We have a remuneration and succession committee in the form of an advisory committee.

For information on our advisory committee, see "Statutory Board Committees" below.



MANAGEMENT AND EMPLOYEES

MANAGEMENT	162
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Share Ownership

As of February 29, 2020, the members of our Board of Directors, executive officers and Fiscal Council beneficially held the following shares of our capital stock:

	Board of Directors	Board of Executive Officers	Fiscal Council
Common shares	-	-	-
Preferred shares	14,380	17,398	9,310

Accordingly, on an individual basis, and as a group, our directors, executive officers and Fiscal Council members beneficially owned less than one percent of any class of our shares. The shares held by our directors, executive officers and Fiscal Council members have the same voting rights as the shares of the same type and class that are held by our other shareholders. None of our directors, executive officers and Fiscal Council members holds any options to purchase common shares or preferred shares, nor does any other person have any option to purchase our common or preferred shares. We do not have a stock option plan for our directors, officers or employees.

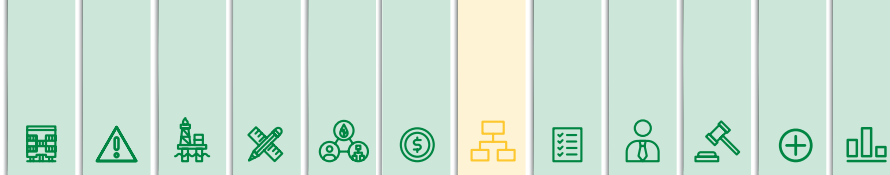
Statutory Board Committees

Our Board of Directors has a total of six statutory advisory committees:

- **Investment Committee:** responsible for advising our Board of Directors on our strategic plan and other strategic issues. This committee is also responsible for advising our Board of Directors with respect to risks and strategies concerning financial management.
- **Audit Committee:** for further information on our audit committee, please see "Audit Committee" in this annual report.
- **Health, Safety and Environmental Committee:** responsible for advising our Board of Directors with respect to global policies related to the strategic management of HSE issues, among other matters. This committee oversees among other issues, those related to our HSE strategy, goals and policies, including the climate strategy.
- **People Committee:** responsible for advising our Board of Directors with respect to the compensation of members of our senior management and with respect to our general compensation policies and mechanisms, among other matters. This committee has also been responsible for advising our Board of Directors with respect to the changes proposed in our appointment policy; verifying

the compliance of the appointment of the members of our Fiscal Council, our Board of Directors, our Board of Executive Officers and external participants from our Board of Directors advisory committees, among other matters. This committee is also in charge of acting as the eligibility committee for us in compliance with Law No. 13,303/16 and Decree No. 8,945/16. As such, this committee helps our shareholders to nominate members of our Board of Directors and our Fiscal Council.

- **Minority Committee:** responsible for advising our Board of Directors on transactions with related parties involving us, the Brazilian federal government, its entities and foundations, or federal state-owned enterprises on a permanent basis, including following up the revision process of the Transfer of Rights Agreement. The minority committee also advises our shareholders issuing its opinion on certain matters that require approval in shareholders' meetings, pursuant to article 30, §4 of our Bylaws.
- **Conglomerate Audit Committee:** approved to meet the requirements of Law No. 13,303/16, which provides the possibility that controlled companies share the costs and structures of their corresponding parent companies. It is responsible for the companies of our group that do not have a local audit committee.



MANAGEMENT AND EMPLOYEES

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Summary of the composition of our statutory advisory committees

Committees

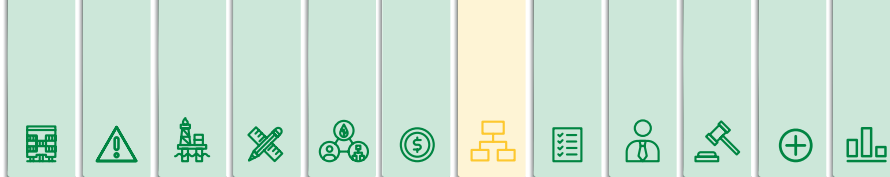
Members	Investment ⁽¹⁾	Audit	Health Safety, and Environment ⁽¹⁾	People ⁽¹⁾	Minority ⁽¹⁾	Audit of the Petrobras Conglomerate ⁽¹⁾
Ana Lúcia Poças Zambelli	●			●		●
Danilo Ferreira da Silva			●			
Durval José Soledade Santos					●	●
Edson Chil Nobre	●					
Evely Forjaz Loureiro			●			
Francisco Vidal Luna						●
Guilherme José Macedo Pinheiro de Lima	●					
João Cox Neto	●					
Maria Cláudia Mello Guimarães		●	●			
Marcelo Mesquita de Siqueira Filho				●	●	●
Nivio Ziviani	●					
Sergio Luiz de Toledo Piza				●		
Sonia Aparecida Consiglio			●			
Sonia Julia Sulzbeck Villalobos		●			●	
Tales José Bertozzo Bronzato				●		
Walter Mendes de Oliveira Filho		●				

● CHAIRMAN / CHAIRWOMAN OF EACH COMMITTEE

● EXTERNAL MEMBERS OF EACH COMMITTEE

● REMAINING MEMBERS

(1) Committee with external member in the composition.



MANAGEMENT AND EMPLOYEES

MANAGEMENT

EMPLOYEES

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Audit Committee

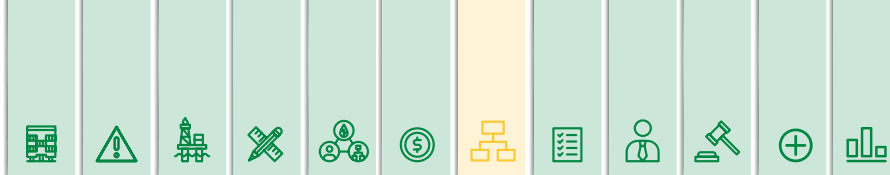
We have an audit committee that complies with the requirements of the Sarbanes-Oxley Act of 2002. Ms. Sonia Julia Sulzbeck Villalobos is our audit committee financial expert and is independent, as defined in Rule 10A-3 under the Exchange Act. In accordance with our Bylaws, our audit committee is composed exclusively by members of our Board of Directors and advises our Board of Directors. Our audit committee is currently composed of three members and is responsible for, among other matters:

- monitoring, analyzing, and making recommendations to our Board of Directors with respect to the appointment and dismissal of our independent auditors, as well as evaluating the independence of our independent auditors for issuing an opinion on the financial statements and their qualifications and expertise;
- advising our Board of Directors on the review of our annual and quarterly consolidated financial statements, monitoring compliance with relevant legal and listing requirements and ensuring appropriate disclosure of our economic and financial situation filed with the CVM and the SEC;
- advising our Board of Directors and our management, in consultation with internal and independent auditors and our risk management and internal controls units, in monitoring the quality and integrity of our internal control over financial reporting systems, our audited consolidated financial statements and related financial disclosures;
- reviewing and submitting proposals to our Board of Directors relating to the resolution of conflicts between management and the independent auditor relating to our audited consolidated financial statements;
- assessing and monitoring, together with our internal management and audit area, the adequacy of actions to prevent and combat fraud and corruption;
- evaluating and monitoring, jointly with our management and our internal auditors, our transactions with related parties, including a review, at least once a year, of all

related parties transactions and a previous analysis of related parties transactions involving amounts higher than certain levels;

- establishing and reviewing procedures for the receipt, retention and processing of complaints regarding accounting, internal control and auditing matters, including procedures for the confidential submission of internal and external complaints relating to the scope of the committee's activities, as well as receiving, retaining and processing any such complaints;
- evaluating the parameters underlying the actuarial calculations, as well as the actuarial result of the benefit plans maintained by our social security foundation, *Fundação Petrobras de Seguridade Social*; and
- conducting the formal evaluation of our internal audit executive manager on an annual basis.

With respect to the relationship of our audit committee with our independent auditors, as provided in our Bylaws, our Board of Directors is responsible for deciding, among other matters, the appointment and dismissal of independent auditors and prohibiting our independent auditor from providing consulting services to us during the term of an audit's contract. Our audit committee has the authority to recommend pre-approval policies and procedures for the engagement of our independent auditor's services. Our management is required to obtain the audit committee's pre-approval before engaging independent auditors to provide any audit or permitted non-audit services to us or any of our consolidated subsidiaries. Our audit committee has pre-approved a detailed list of audit services, up to specified monetary thresholds. The list of pre-approved services is updated from time to time. The audit services that are not included in the list, or that exceed the thresholds specified therein, must be directly approved by our audit committee. Our audit committee monitors the performance of the services provided by our independent auditors and reviews and monitors our external auditor's independence and objectivity.



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Principal accountant fees and services

Audit and Non-Audit Fees

The following table sets forth the fees billed to us by our independent auditors KPMG during the fiscal years ended December 31, 2019 and 2018:

	2019	2018
	(US\$ million)	
Audit fees ⁽¹⁾	10.1	10.0
Audit-related fees ⁽²⁾	1.0	0.7
Tax fees ⁽³⁾	0.3	0.3
Total fees	11.4	11.0

(1) Audit fees comprise fees billed in connection with the audit of our audited consolidated financial statements (IFRS and Brazilian GAAP), interim reviews (IFRS and Brazilian GAAP), audits of our subsidiaries (IFRS and Brazilian GAAP, among others), comfort letters, consents and review of periodic documents filed with the SEC.

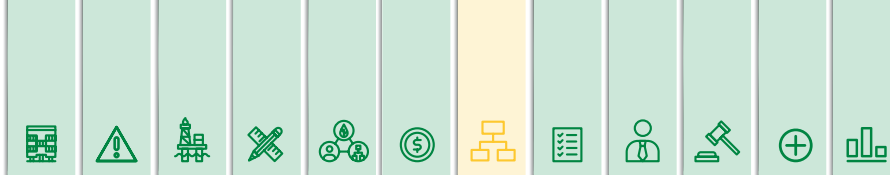
(2) Audit-related fees refer to assurance and related services that are reasonably related to the performance of the audit or reviews of our audited consolidated financial statements and are not reported under "audit fees."

(3) Tax fees are fees billed for services related to tax compliance reviews conducted in connection with the audit procedures on our audited consolidated financial statements.

Additional Information on Members of our Audit Committee

All of the current members of our audit committee satisfy the requirements set forth in Rule 10A-3 under the Exchange Act. In reliance on the exemption in Rule 10A-3(b)(1)(iv)(E), we have designated two members to our audit committee, Mr. Walter Mendes de Oliveira Filho and Ms. Maria Cláudia Mello Guimarães, who are designated by the Brazilian federal government, which is our controlling shareholder and, therefore, one of our associates. In our assessment, Mr. Oliveira Filho and Ms. Guimarães act independently in performing their responsibilities of an audit committee members under the Sarbanes-Oxley Act and satisfies the other requirements of Rule 10A-3 under the Exchange Act.

Ms. Sonia Julia Sulzbeck Villalobos is also a member of our audit committee, designated by holders of our preferred shares. Ms. Villalobos is our audit committee financial expert and is independent, as defined in Rule 10A-3 under the Exchange Act.



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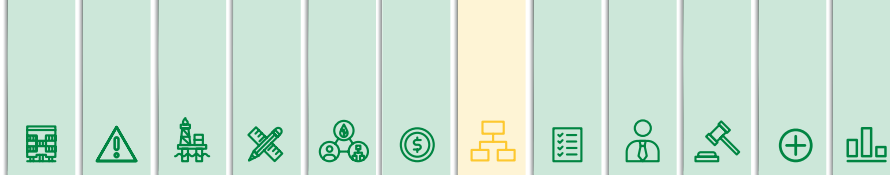
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Comparison of our Corporate Governance Practices with NYSE Corporate Governance Requirements Applicable to U.S. Companies

Under the rules of the NYSE, foreign private issuers are subject to a more limited set of corporate governance requirements than U.S. domestic issuers. As a foreign private issuer, we must comply with four principal NYSE corporate governance rules: (i) we must satisfy the requirements of Rule 10A-3 under the Exchange Act; (ii) our Chief Executive Officer must promptly notify the NYSE in writing after any executive officer becomes aware of any material non-compliance with the applicable NYSE corporate governance rules; (iii) we must provide the NYSE with annual and interim written affirmations as required under the NYSE corporate governance rules; and (iv) we must provide a brief description of any significant differences between our corporate governance practices and those followed by U.S. companies under NYSE listing standards.

The table below briefly describes the significant differences between our corporate governance practices and the NYSE corporate governance rules.

Section	New York Stock Exchange Corporate Governance Rules for U.S. Domestic Issuers	Our Practices
Director Independence		
303A.01	Listed companies must have a majority of independent directors. "Controlled companies" are not required to comply with this requirement.	We are a controlled company because more than a majority of our voting power is controlled by the Brazilian federal government. As a controlled company, we would not be required to comply with the majority of independent directors requirement if it were a U.S. domestic issuer. According to our Bylaws, we are required to have at least 40% of independent directors.
303A.03	The non-management directors of each listed company must meet at regularly scheduled executive sessions without management.	Except for our CEO (who is also a director), all of our directors are non-management directors. The regulation of our Board of Directors provides that if a particular matter may represent a conflict of interests, the CEO must recuse himself from the meeting, which will continue without his presence. Additionally, the board's regulation also establishes a regular executive session for our Board of Directors matters without management.
Nominating/Corporate Governance Committee		
303A.04	Listed companies must have a nominating/corporate governance committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties. "Controlled companies" are not required to comply with this requirement.	We have a statutory committee that verifies the compliance of the appointment of members of our Fiscal Council, our Board of Executive Officers, and our Board of Directors and the external members of the committees that advise our Board of Directors. Our people committee has a written charter that requires the majority of its members to be independent. Our Board of Directors develops, evaluates and approves corporate governance principles. As a controlled company, we would not be required to comply with the nominating/corporate governance committee requirement if we were a U.S. domestic issuer.
Compensation Committee		
303A.05	Listed companies must have a compensation committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties. "Controlled companies" are not required to comply with this requirement.	We have a committee that advises our Board of Directors with respect to compensation and management succession. Our People Committee has a written charter that requires the majority of its members to be independent. As a controlled company, we would not be required to comply with the compensation committee requirement if we were a U.S. domestic issuer.



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Section	New York Stock Exchange Corporate Governance Rules for U.S. Domestic Issuers	Our Practices
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Audit Committee

303A.06 303A.07	Listed companies must have an audit committee with a minimum of three independent directors that satisfy the independence requirements of Rule 10A-3 under the Exchange Act, with a written charter that covers certain minimum specified duties.	Our audit committee is a statutory advisory committee to our Board of Directors and is composed of members that satisfy the independence requirements set forth in Rule 10A-3 under the Exchange Act. Our audit committee has a written charter that sets forth its responsibilities that include, among other things: (i) strengthening ties with the external auditors, permitting closer supervision of their work and of issues regarding their competency and independence, (ii) assuring legal and regulatory compliance, including with respect to internal controls, compliance procedures and ethics, and (iii) monitoring our financial position, especially as to risks, internal auditing work and financial disclosure; (iv) carry out prior analysis of transactions with related parties that meet the criteria established in the Related Party Transactions Policy, approved by our Board of Directors.
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Equity Compensation Plans

303A.08	Shareholders must have the opportunity to vote for compensation plans through shares and material reviews, with limited exceptions as set forth by the NYSE's rules.	Under Brazilian Corporate Law, shareholder approval is required for the adoption and revision of any equity compensation plans. We do not currently have any equity compensation plans.
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Corporate Governance Guidelines

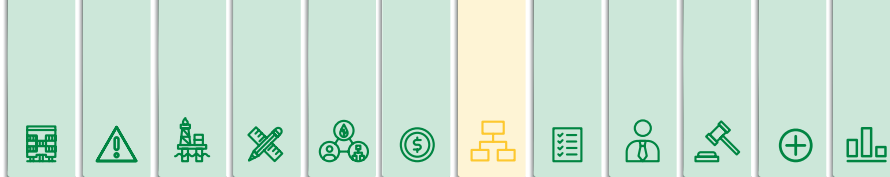
303A.09	Listed companies must adopt and disclose corporate governance guidelines.	We have a set of Corporate Governance Guidelines (<i>Diretrizes de Governança Corporativa</i>) that address director qualification standards, responsibilities, compensation, appraisals and access to information by the management. The guidelines do not reflect the independence requirements set forth in Sections 303A.01 and 303A.02 of the NYSE rules. Certain portions of the guidelines, including the responsibilities and compensation sections, are not discussed with the same level of detail set forth in the commentaries to the NYSE rules. The guidelines are available on our website.
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Code of Ethics for Directors, Officers and Employees

303A.10	Listed companies must adopt and disclose a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers.	We have a Code of Ethics (<i>Código de Ética</i>) and a Conduct Guide (<i>Guia de Conduta</i>), applicable to our directors, executive officers, senior management, employees, interns and service providers within our group, and a Code of Best Practices (<i>Código de Boas Práticas</i>) applicable to our directors, executive officers, senior management, employees and collaborators. No waivers of the provisions of the Code of Ethics, Conduct Guide or Code of Best Practices are permitted. These documents are available on our website.
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Certification Requirements

303A.12	Each listed company CEO must certify to the NYSE each year that he or she is not aware of any violation by the company of NYSE corporate governance listing standards.	Our CEO will promptly notify the NYSE in writing if any executive officer becomes aware of any material noncompliance with any applicable provisions of the NYSE corporate governance rules.
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Related Party Transactions

In order to comply with Law No. 13,303/16, our Board of Directors approved the annual review of our policy for related party transactions in November 2019, aiming at fostering transparency in our procedures and conducting better corporate governance practices. This policy also aims to guarantee the adequate and diligent decision-making process by our management, observing market conditions and appropriate compensation mechanics, in the event of potential conflicts of interest.

Any related-party transaction in which we are involved and that meets criteria established in our policy, must be previously analyzed by our audit committee, which has to report its conclusions to our Board of Directors on a monthly basis.

Our policy provides for a strict governance procedure for proposed transactions directly or indirectly involving our controlling shareholder. In such cases, whenever there is a need to evaluate potential transactions with the Brazilian federal government, municipalities, foundations or federal state-owned enterprises, our minority committee must issue an opinion on the proposed transactions, provided that such transactions (i) are not in our ordinary course of business and (ii) fall within the purview of our Board of Directors for approval. Any such transaction must be approved by two-thirds of the members present at the meeting of our Board of Directors.

For additional information regarding our outstanding related party transactions, see Note 37 to our audited consolidated financial statements.

Transactions with our Board of Directors or Executive Officers

Direct transactions with members of our Board of Directors or our executive officers must follow the conditions of an arms-length transaction and market practice guiding transactions with third parties. None of our Board of Directors members, our executive officers or close members of their families has had any direct interest in any transaction we effected that is or was unusual in its nature or conditions, or material to our business during the year, and which remains in any way outstanding or unperformed. In addition,

we have not entered into any transaction with related parties which is or was unusual in its nature or conditions during the current or the three immediately preceding financial years, nor is any such transaction proposed, that is or would be material to our business. We have no outstanding loans or guarantees to the members of our board of directors, executive officers, key management personnel or any close member of their families. For a description of the shares beneficially held by the members of our board of directors and close members of their families, see “Management and Employees – Management – Additional Information on our Board of Directors and Board of Executive Officers – Share Ownership” in this annual report.

Transactions with the Brazilian Federal Government

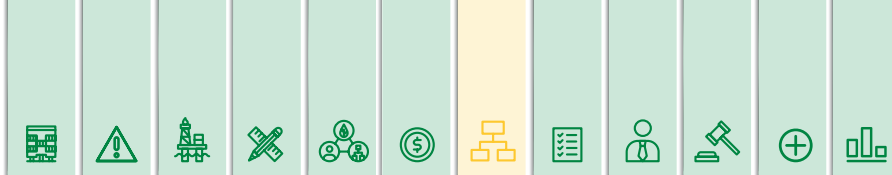
We have engaged, and expect to continue to engage, in the ordinary course of business in numerous transactions with our controlling shareholder, the Brazilian federal government, and with banks and other entities under its control, including financing and banking, asset management and other transactions. The mentioned transactions amounted to a net asset of US\$5,107 million as of December 31, 2019.

As of December 31, 2019, we had a receivable (the Petroleum and Alcohol Account) from the Brazilian federal government of US\$304 million.

In addition, we are allowed to invest in securities issued by the Brazilian federal government in Brazil and also abroad, provided that the legal and regulatory requirements are met and taking into consideration market’s best practices and the conservatism that should guide our investments.

As of December 31, 2019, the value of securities issued by the Brazilian federal government that have been directly acquired and held by us amounted to US\$1,580 million.

In 2018, after risk assessment, we joined the diesel price subsidy program established by the Brazilian federal government, starting on June 1 and expiring on December 31, 2018. This program granted reimbursements to diesel producers and importers to the extent that their selling prices to the domestic distributors were equal or lower than prices determined in the applicable regulation.



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In that year, we accounted for US\$1,415 million as revenues with respect to sales of the diesel price subsidy program. We collected the remaining balance of the subsidy in the first two months of 2019. Thus, as of December 31, 2019, there is no remaining balance relating to this program. For more information on such program, see “Legal and Tax – Regulation” in this annual report.

For further information on related party transactions, see Note 37 to our audited consolidated financial statements.

Transactions with Eletrobras’ Subsidiaries

In 2019, we and Apolo Investment Fund in Credit Rights (*Apolo Fundo de Investimento em Direitos Creditórios*) entered into an assignment agreement without recourse relating to all credit rights under the debt acknowledgement by energy distributors in 2014, which financial settlement occurred for the amount of US\$2,251 million, with a US\$128 million discount.

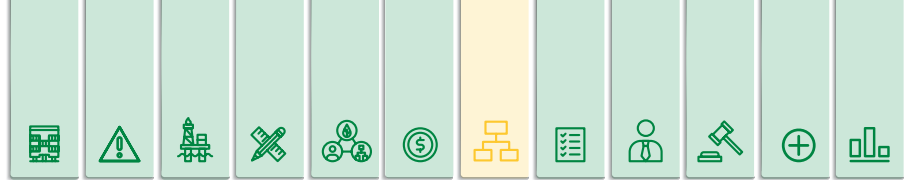
In 2018, we recognized reversals of credit losses provisions amounting to US\$1.3 billion, reflecting agreements signed with Eletrobras group and the privatization of some of

its distributors. In 2017, we recognized in our income statement an allowance for impairment, net of reversals, of US\$250 million, to cover certain trade receivables due Eletrobras’ subsidiaries that operate in the isolated electricity sector in the Northern region of Brazil.

As of December 31, 2019, the receivables from the isolated electricity system amounted to US\$438 million.

Subject to the criteria adopted by our committees and their evaluation, we may request the Brazilian federal government to compensate us for the difference between the amount that would be involved under market conditions and the operating result or economic return derived from the obligations undertaken by us for each fiscal year.

For further information relating to trade receivables from the electricity sector, see Note 13.4 to our audited consolidated financial statements.



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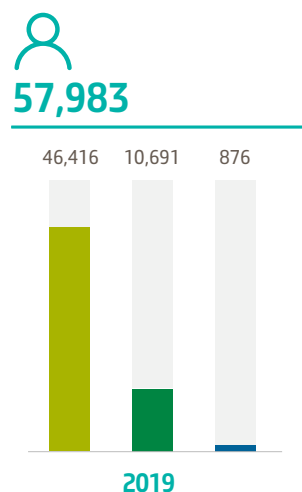
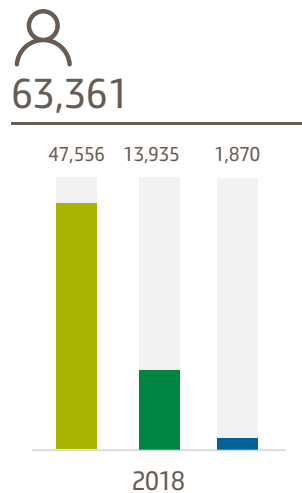
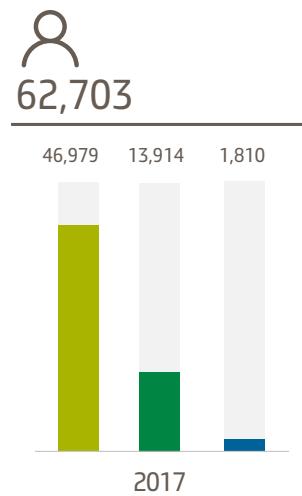
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Employees

Our workforce is our most important asset. Our people management is based on meritocracy, inclusion, diversity, dialogue and respect for our employees.

OUR EMPLOYEES' PROFILE

TOTAL EMPLOYEES AT PETROBRAS



- PETROBRAS (NOT INCLUDING OUR SUBSIDIARIES, JOINT OPERATIONS OR STRUCTURE ENTITY)
- SUBSIDIARIES IN BRAZIL
- SUBSIDIARIES ABROAD



TOTAL EMPLOYEES AT PETROBRAS
(NOT INCLUDING OUR SUBSIDIARIES, JOINT OPERATIONS OR STRUCTURE ENTITY)

46,416

Business Area	2019	2018	2017
Exploration and Production	17,971	17,910	17,574
Refine, Transportation and Marketing	9,404	9,440	9,476
Gas and Power	1,783	1,688	1,621
Others	17,258	18,518	18,308
Total	46,416	47,556	46,979



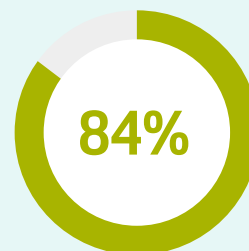
38,833

MEN



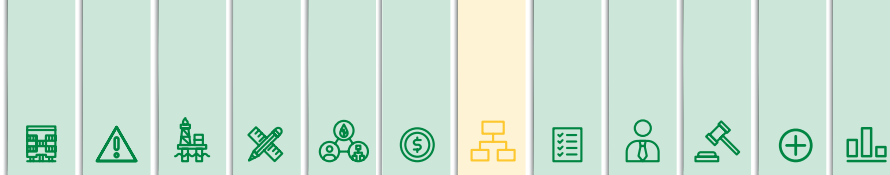
7,583

WOMEN



CORPORATE FUNCTION

Manager	10%	Manager	12%
Supervisor	5%	Supervisor	3%
Specialist	3%	Specialist	4%
Other	81%	other	81%



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As of December 31,	2019	2018	2017
Our employees by region (not including our subsidiaries, joint operations or structure entities):			
Southeastern Brazil	36,077	35,699	34,456
Northeastern Brazil	7,400	8,608	8,963
Other locations	2,939	3,249	3,560
Total	46,416	47,556	46,979
Our subsidiaries' employees by region:			
Southeastern Brazil	5,697	7,830	7,606
Northeastern Brazil	2,328	2,793	2,999
Other locations in Brazil	2,666	3,312	3,309
Abroad	876	1,870	1,810
Total	11,567	15,805	15,724
Total	57,983	63,361	62,703

We attract and retain valuable employees by offering competitive compensation and benefits, merit-based promotions and a profit-sharing plan ("PLR" – *Participação nos Lucros e Resultados*).

The table below sets forth the main expenses related to our employees for the last three years:

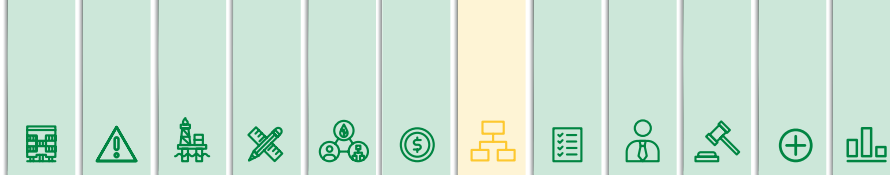
	2019	2018	2017
		(in US\$ millions)	
Salaries	4,184.9	4,355.2	4,972.0
Employee training	48.9	55.1	43.5
Profit-sharing distributions	43.0	442.0	145.0
Variable compensation program	643	265	-

For more information on profit-sharing distributions and variable compensation program see respectively "Labor Relations" and "Employees Variable Compensation" in this annual report.

Workforce

In accordance with our 2020-2024 Strategic Plan, we have been developing an active portfolio management and focusing on the profitability of our operations. To that end, we are seeking to improve our workforce to the business needs, which considers:

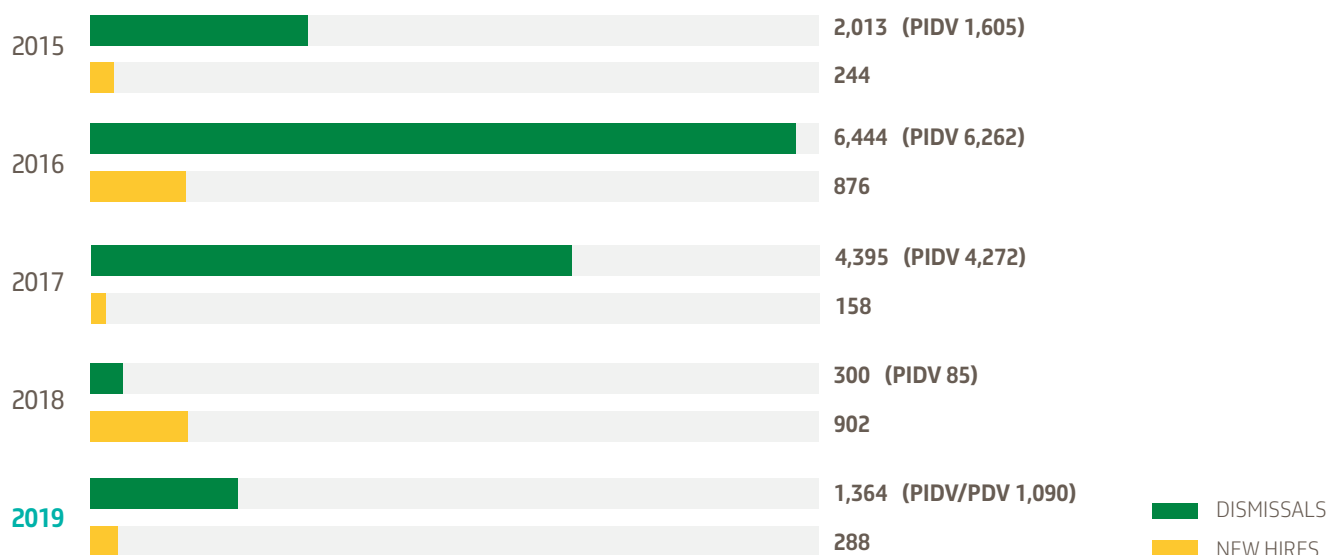
- (i) our future prospects: partnerships, divestments, asset sales, expansion of activities, etc;
- (ii) certain workforce planning metrics and our operating units;
- (iii) our need to strengthen knowledge management actions among our employees;
- (iv) the performance of our employees and our interest in retaining staff; and
- (v) the cost of dismissals.



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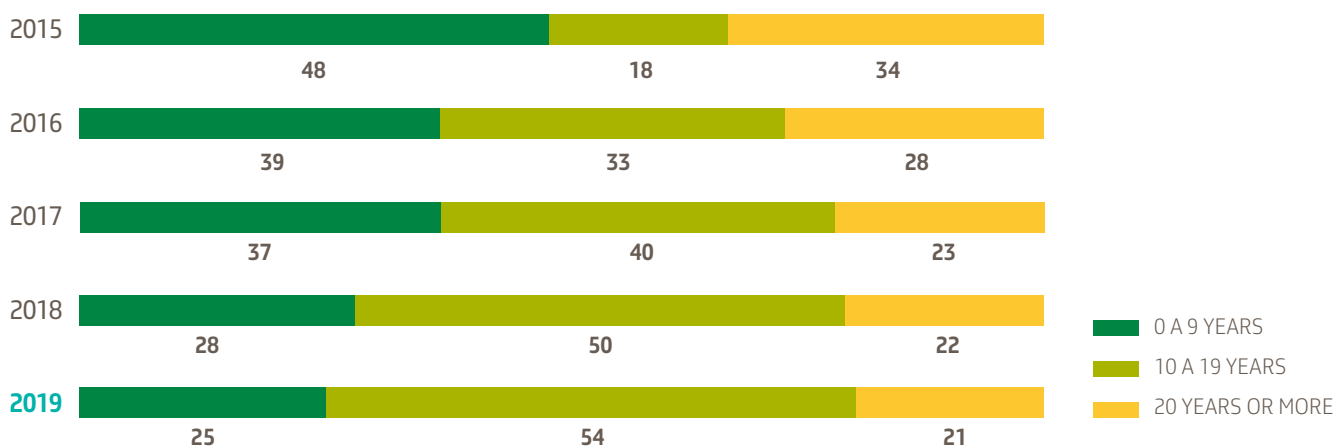
Turnover Petrobras (not including our subsidiaries, joint operations or structure entity)

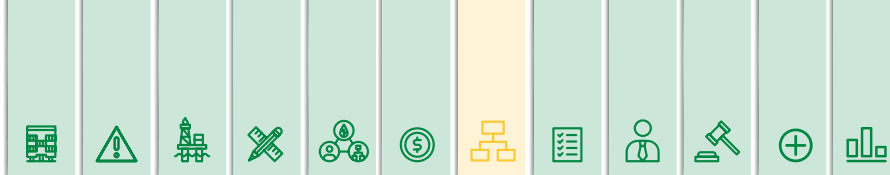


One of the tools for workforce adequacy is the identification of our needs and the efficient allocation of our human resources in order to better align the profile of our professionals with the opportunities available in our company. We have an internal personnel movement program called "Mobiliza". We adopt two other important tools for staff adjustments: the Voluntary Separation Program ("PDV") or Voluntary Separation Incentive Program ("PIDV"); and, in case of business growth or need for specific skills, new hiring programs by means of public selection processes.

In 2019, we launched a PDV focused on retired employees. In addition to this PDV, we launched two other programs: the first program targets employees of certain areas undergoing divestment processes, and the second program focuses on administrative employees. In 2019, 3,294 employees enrolled in these three programs. Until December 31, 2019, 995 employees left as part of those three PDVs launched in 2019, 12 left as part of the PIDV launched in 2014 and 83 left as part of the PIDV launched in 2016, totaling 1,090 employees.

Time in Petrobras (not including our subsidiaries, joint operations or structure entity) (%)





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The total number of employees who have left our company due to PIDV or PDV is 17,590. The total severance paid as a result of these programs was US\$1.48 billion, amounting to a financial return of US\$7.18 billion in saved costs as of December 2019.

We have also been hiring employees through different public selection processes. In order to determine the number of new employees, we consider both our business demand and our current vacancies.

As the number of dismissals exceeded the number of our new employees in the last several years, the range distribution of our employees by time spent at the company, as well as the age pyramid, underwent significant changes. This created a more balanced professional profile distribution by seniority. Our current workforce profile is appropriate for our growth in terms of knowledge and talent management, which ensures competitive advantage and value to our business.

Labor Relations

We value transparency in our relationships with all of our stakeholders, including trade unions. We maintain relationships with 17 trade unions and one federation (i.e. a top-level union entity) of oil workers, as well as eight unions and one federation of maritime workers. 42% of our employees are unionized, and 97% of our employees are covered by collective bargaining agreements. These agreements include social clauses relating to work, safety conditions, benefits, and other matters and are valid for one year under the current collective bargaining agreement.

In May 2019, we started to negotiate the 2019-2020 collective bargaining agreement ("2019-2020 CBA") with all of the oil workers trade unions. In September 2019, we sought to mediate the 2019-2020 CBA at the Superior Labor Court ("TST"), and in early November, we signed a new collective bargaining agreement, which sets out a 2.3% increase in salaries and benefits in relation to 2018. In October 2019, we also started negotiating the 2019-2020 collective bargaining agreement with the maritime unions. Negotiations ended in January 2020, and we offered a 1.8% increase in salaries and 2.3% increase in benefits. Currently, our workforce comprises of approximately 130 maritime workers.

In September 2019, we also offered employees holding a higher education degree and receiving a monthly salary of US\$2,960.36 or more the option to negotiate their labor conditions through individual employment agreements. Currently, 3% of our employees are under individual employment agreements.

In 2019, we paid out to our employees the amounts determined under our profit sharing plan ("PLR – *Participação nos Lucros e Resultados*") for the 2018 fiscal year.

In 2019, no strikes or protests affected our production. . In February 2020 the oil workers' unions launched a strike that lasted 21 days. The strike was against the mothballing of ANSA, one of our subsidiaries, and having no relation whit the 2019-2020 collective bargaining agreement. The Superior Labor Court decreed the strike of oil tankers abusive and illegal. Despite the number of days, there was no impact on production.

Benefits

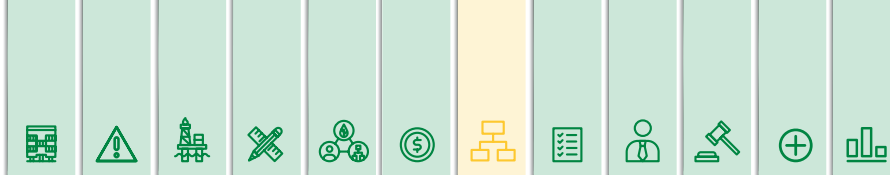
Employees Variable Compensation

In 2019, in addition to the payment under our PLR, we paid the amounts determined in the 2018 fiscal year related to our variable compensation program ("PRVE" or *Programa de Remuneração Variável dos Empregados*).

In the first quarter of 2019, our Board of Directors approved a new variable remuneration model for all of our employees: the performance award program ("PPP" or *Programa de Prêmio por Performance*). The PPP is in line with our 2020-2024 Strategic Plan, focusing on meritocracy and enhancing flexibility as we seek more efficiency and alignment with best management practices.

The PPP will be paid in a lump sum payment in case we achieve a net income higher than R\$10.0 billion in 2019. The estimated amount of disbursement will depend on certain factors, such as individual employee performance and our performance metrics.

For 2019, the new model replaces other benefits related to variable compensation, such as our PLR and the PRVE.



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Main Benefits Granted to Employees

We offer benefits that are commensurate with our size and seek to value our employees. All of our employees are entitled to the same benefits, regardless of their positions or duties. Namely, we offer complementary pension plans, medical assistance and pharmacy benefits. In addition, some of our consolidated subsidiaries have their own benefit plans.

Pension Plans

Until March 2018, we sponsored two pension plans: (i) the Plano Petros do Sistema Petrobras (“PPSP”), a defined-benefit plan closed to new members, and (ii) the Petros-2 Plan (“Petros 2”), a variable contribution plan, open and in force since 2007, and managed by Petrobras Social Security Foundation – Petros.

In April 2018, the PPSP was split up into two plans: (i) one made up of employees and pensioners, who adhered to

the new rules of the plan in 2006, 2007 and 2012 (“PPSP-Renegotiated”) and (ii) one for those employees that did not adhere (“PPSP-Not Renegotiated”). In December 2019, the PPSP-Renegotiated and PPSP-Not Renegotiated plans were split into two new plans: (i) one for employees and pensioners who joined the plan before 1970 and (ii) one for employees and pensioners who joined the plan after 1970. Thus, apart from Petros 2, there are currently four defined-benefit plans. Together, these plans cover 96% of our employees.

Due to the effects of the PPSP plans on the sponsor and participants, we, together with Petros, structured a new defined-contribution plan, called the Petros-3 Plan, which will be open for voluntary migration of participants and beneficiaries as soon as it is approved by the appropriate bodies.



Equalization of Petros Plans

The main purpose of our pension plans is to supplement the social security pension benefits of our retired employees. Thus, our employees make mandatory monthly contributions as participants of our plans. However, we started to experience deficits in the Petros plans after Petros stopped admitting new participants in 2002.

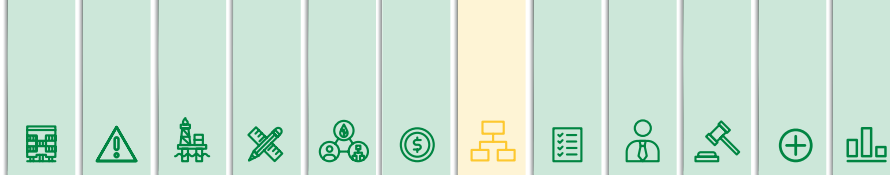
In 2017, the PPSP underwent an equalization plan due to a total deficit of US\$8.0 billion (as of December 2019). The equalization plan was based on the rules established in the 2015 Deficit Equalization Plan (“DEP 2015”) made by Petros. The remaining term for this equalization plan is 16 years, and as of March 2018 DEP 2015 received the previously outstanding contributions from all participants. These include active and retired employees and pensioners, as well as us, Petrobras Distribuidora and Petros as sponsors, as required by Brazilian law.

We have also been subject to material legal proceedings in connection with the benefits granted by the Petros plans. In 2019, there were judicial discussions regarding extraordinary contributions. These discussions led to injunctions that temporarily suspended extraordinary contributions for certain participants.

After those discussions, contributions to the DEP 2015 began again and the flow of extraordinary contributions continues on a monthly basis. The flow is handled by Petros and monitored by us.

In the year ended December 31, 2019, we disbursed US\$256 million in contributions referring to the DEP 2015.

On March 2020 our Board of Directors deliberated on the New Deficit Equalization Plan (“New DEP”) of the PPSP-Renegotiated and PPSP-Not Renegotiated, managed by Petros and in compliance with Brazilian social security legislation.



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The New DEP aims to review the DEP 2015, the treatment of the deficit registered in 2018, the utilization of the actuarial plans results achieved in 2019, and the treatment of actuarial impacts related to changes in PPSP-Renegotiated and PPSP-Not Renegotiated plans regulations, approved by the Board of Directors, in compliance with Brazilian social security legislation. Therefore, it was possible to reduce the extraordinary contributions for most of the participants and beneficiaries, as well as to improve the regulations of the plans, which will allow the revision of the regular contributions and will mitigate the need for new equalization plans in the future.

The New DEP will take into account the insufficient resources of such plans, estimated at US\$8.36 billion on December 31, 2019, with US\$8.0 billion already recognized in the 2015 plan and US\$0.36 billion referring to the equalization of the accrued deficit of 2018/2019 and other above-mentioned changes. Of the total amount, US\$3.88 billion will be the liability of Petrobras, in strict compliance with the principle of contributory parity provided for in the Constitutional Amendment No. 20/1998. The rest of the deficit will be supported by the other sponsors (Petrobras Distribuidora and Petros) and by participants and beneficiaries.

Petrobras' liability amount will be paid by extraordinary contributions throughout the life of the plans, in a total of US\$3.38 billion, and by cash contribution, in the amount of US\$0.5 billion, at the time of the effective implementation of the New DEP. The disbursement of extraordinary contributions is estimated, in the first year, at US\$233 million for Petrobras, with a decreasing amortization flow, with 91% of which being amortized over 25 years.

The effective implementation of the New DEP and changes in the plans regulations are still subject to approval by the Secretariat for Coordination and Governance of State-Owned Companies ("SEST") and by the National Superintendence of Supplementary Pension Plans ("PREVIC").

The effects of the New Plan on Petrobras' financial statements will be carried through an intermediate review executed by an independent actuary, when the New DEP is approved, and there may be a positive result from the reduction of commitments to the plans as a compensation to the cash contribution made by us.

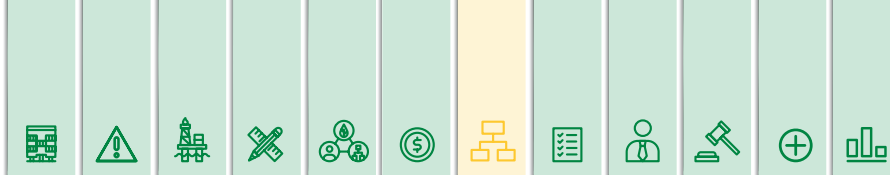
The table below presents the benefits paid, contributions made, and outstanding pension liabilities for the years ended December 31, 2019, 2018 and 2017:

	2019	2018	2017
		(in US\$ million)	
Total benefits paid – pension plans	1,552	2,211	1,942
Total contributions – pension plans ⁽¹⁾	555	652	300
Actuarial liabilities ⁽²⁾	14,508	10,514	11,028

(1) Includes contributions by employees and sponsors (except for contributions under the terms of the financial commitment to cover obligations under the pension plans).

(2) Unfunded pension plans obligations.

For more information on the Petros plan, see "Risks – Risk Factors" in this annual report and Notes 4.4 and 18 to our audited consolidated financial statements.



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Health and Pharmacy Benefit Plan

We maintain a supplementary health care plan (“AMS” or *Assistência Multidisciplinar de Saúde*), which provides for medical, hospital and dental care services to all active and retired employees and their dependents, through the participation of our employees.

In 2018, the Interministerial Committee on Corporate Governance of State-Owned Enterprises (“CGPAR”) established important drivers for health plan management. CGPAR established new governance and cost guidelines for self-managed health-care benefits of companies controlled by the Brazilian federal state. These guidelines target sustainability and financial-actuarial balance. As of January 2018, we had 48 months to adjust our AMS contribution practices to the new guidelines; however, the adjustments may only occur after the next collective bargaining agreement. As a result, we expect a liability reduction, since the change implies parity limit of costs between us and our employees. Other effects due to our adjustments will be timely measured and considered.

An independent actuary calculates our commitment related to future benefits for plan participants on an annual basis, based on the projected unit credit method. The health care plan is not funded or otherwise collateralized by assets. Instead, we make benefit payments based on annual costs incurred by plan participants.

The AMS benefit also offers coverage of complementary programs, such as the *Benefício Farmácia* program. The *Benefício Farmácia* program only covers drugs from a predefined list of chronic or psychiatric diseases. By choosing to use the *Benefício Farmácia*, the beneficiary must incur costs as determined in the co-participation system.

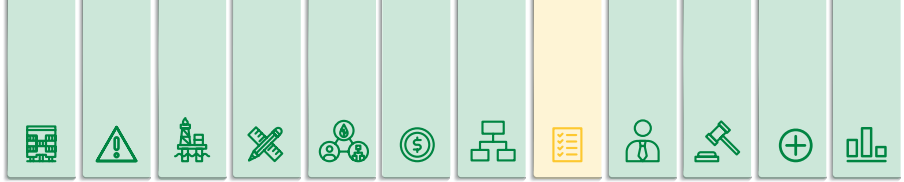
The table below shows the benefits paid, contributions made and outstanding medical liabilities for the years ended December 31, 2019, 2018 and 2017:

	2019	2018	2017
		(in US\$ million)	
Total benefits paid – medical plan ⁽¹⁾	442	456	466
Total contributions – medical plan ⁽¹⁾	442	321	467
Actuarial liabilities ⁽²⁾	11,986	12,236	10,802

(1) Includes AMS and *Benefício Farmácia* amounts.

(2) Unfunded medical plan obligations.

For more information on our employee benefits, see Notes 4.4 and 18 to our audited consolidated financial statements and “Risks – Risk Factors” in this annual report.



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**COMPLIANCE AND
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Ethical principles guide our business and our relations with third parties.

In order to guarantee an ethical environment for our business, we work to promote a culture of integrity, the prevention, detection and correction of incidents of fraud, corruption and money laundering, the management of our internal controls and the integrity analysis of managers and counterparts.

We have a corporate compliance policy that describes and discloses our commitments to the promotion of the transparency in conducting our business ethically, with zero tolerance for fraud, corruption and money laundering.

In order to integrate and strengthen compliance initiatives, in addition to our corporate compliance policy, we also have a code of ethics (“Code of Ethics”), a conduct guide (“Conduct Guide”), and an ethics commission and a corruption prevention program called Petrobras Corruption Prevention Program (“PCPP”).

Code of Ethics and Conduct Guide

Our Code of Ethics presents ethical principles (such as respect for life and all human beings, integrity, truth, honesty, justice, equity, institutional loyalty, responsibility, diligence, merit, transparency, lawfulness, impersonality and coherence between discourse and practice), as well as conduct commitments for the members of our Board of Directors, audit committee and Board of Executive Officers, our employees, trainees, and business and service providers to follow.

Likewise, our Conduct Guide establishes the basic rules for ethical behavior and professional conduct to be adopted within our company.

Our Code of Ethics and Conduct Guide are available on our website. The information on this website is not and shall not be deemed to be incorporated into this annual report.

Ethics Commission

Our ethics commission is responsible for promoting corporate compliance with ethical principles, and serves as a forum for discussion of subjects related to ethics. Our ethics commission also serves in a consulting capacity for our management and workforce, providing recommendations with respect to topics related to ethics management,

proposing rules for the incorporation of new concepts, and adopting measures to comply with legislation and follow best practices that reinforce our zero tolerance approach to acts of misconduct.

Our ethics commission is composed of employees appointed after an internal selection process consisting of interviews and resumes review. Our Board of Directors and our Board of Executive Officers approve each new appointment.

In 2018, our ethics commission reviewed our Conduct Guide and Code of Ethics based on the commission’s previous experiences, benchmarks in related documents, compliance with relevant legislation and internal regulations, and with recommendations of control bodies and consultations with our workforce, management and subsidiaries. In 2019, we announced the new versions of these documents, which are all available on our website. The information on this website is not and shall not be deemed to be incorporated into this annual report.

Petrobras Corruption Prevention Program

The PCPP is our integrity program and it is focused on the prevention, detection and correction of acts of fraud and corruption committed against us. The PCPP is designed for our different stakeholders, such as customers, suppliers, investors, partners, public authorities, employees and outsourced service providers.

In performing our activities in Brazil and abroad, we are subject to national and international anti-corruption laws. We work to continually improve our integrity program. It adheres to best practices and anti-corruption laws, particularly Law No. 12,846/13, the FCPA and the U.K. Bribery Act.

Pursuant to the PCPP, we undertake Integrity Due Diligence on our counterparties, seeking to assess the integrity risks inherent in our business relationships. We communicate the findings of such due diligence in degree of integrity risk. Our managers consider these findings in their decision-making processes. In 2019, we evaluated 4,226 counterparties.

In addition, we perform Integrity Background Check for individuals appointed by us for key positions in our company and our subsidiaries and affiliates. This procedure aims to assist managers in making decisions considering the degree of exposure to integrity risks and proposes



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mitigation measures. In 2019, we conducted 2,748 integrity assessments for key positions in our company.

We also have other compliance mechanisms in place, including a disciplinary policy, risk assessment related to fraud and corruption, a guide to receiving and offering gifts and hospitality, safeguards for anti-money laundering and prevention of terrorism financing and administrative liability proceedings.

In order to raise workforce awareness, we disseminate guidelines on proper conduct and reinforce our ethical values through publications and communications in our internal channels.

We offer e-learning training for all of our employees, especially employees working in activities with greater exposure to compliance risks, as well as the members of our Board of Executive Officers and our Board of Directors. In 2019, we offered training on moral and sexual harassment to around 47,000 employees, in order to disseminate ways to identify, prevent and combat this kind of misconduct.

In 2019, we also offered an e-learning training regarding compliance risks responses to such risks. The module on anti-corruption legislation and business ethics was available until March 2019 and its content was disseminated to over 46,000 employees, including senior management.

In addition to e-learning trainings for all of our employees, we offer face-to-face PCPP courses to:

- (i) managers (230 in 2018 and 150 in 2019);
- (ii) employees who perform activities that are more exposed to compliance risks, such as our employees involved in procurement processes (370 in 2018 and 188 in 2019);
- (iii) professionals, including compliance professionals, internal audit and ombudsman (50 in 2018 and 100 in 2019); and
- (iv) new employees (450 in 2018) and new compliance employees (121 in 2019).

In 2019, we also provided face-to-face training sessions to senior management, including on the following topics:

- Code of Ethics and Code of Conduct;
- Risk management;
- Compliance;
- Our model of corporate governance and decision process;
- Business performance;
- LGPD;
- Reputation as a strategic driver; and
- Brazilian anti-corruption law.



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In 2019, we also promoted the following initiatives:

Initiative	Description	Improvements In 2019
Counterpart's Training	Training focused on our counterparts, such as: suppliers, clients, sponsored entities, business partners, and those involved in mergers and acquisitions.	<p>In 2019, we decided to develop and implement a multi-language training focused on our counterparts.</p> <p>The goal of this initiative is to expand to our counterparts the dissemination of our culture of integrity. The training is 25 minutes long and was developed in an online platform. In 2019, almost 290 members from our counterparts completed the training.</p>
Petrobras Compliance Week	Annual week-long compliance event (previously held in one day)	<p>The Petrobras Compliance Week is a week-long event for discussion, round tables and dialogue with compliance authorities and specialists, including with regards to our progress and challenges in combating fraud, corruption and money laundering.</p> <p>Participants include:</p> <ul style="list-style-type: none"> · senior management (including of our subsidiaries); · executive managers; · general managers; · authorities and experts; · members of the ethics committee; · members of the disciplinary measures committee; · governance and compliance employees; · press; · academics; · organizations against corruption; · chief compliance officers of other companies, including state-owned companies; and · other employees.
Tone at the Top Strengthening	Senior management continuous communication to the workforce	Senior management recorded pocket videos directed to our workforce reinforcing our widespread commitment towards compliance in order to strengthen our ethical culture.



Controls and Procedures

Disclosure Controls and Procedures

We, along with our CEO and CFO, have evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2019. Our CEO and CFO concluded that our disclosure controls and procedures were effective to provide reasonable assurance that the information we are required to disclose in the reports that we file or submit under the Exchange Act was being recorded, processed, summarized and reported within the time periods specified in the applicable rules and forms. They also concluded that such disclosure was compiled for and communicated to our management, including our CEO and CFO, as appropriate, to allow for timely decisions regarding the required disclosure.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing, adequately maintaining and assessing the effectiveness of internal control over financial reporting. Such internal control is a process designed by, or under the supervision of our CEO and CFO, and effected by our board of directors, management and other employees.

The internal control over financial reporting is designed to provide reasonable assurances regarding the reliability of financial reporting and of the preparation of our consolidated financial statements for external purposes, in accordance with IFRS, as issued by the IASB.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk of becoming inadequate because of changes in its conditions and assumptions.

Our management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2019 based on the criteria established in the guide called "Internal Controls – Integrated Framework (2013)" issued by the Committee of Sponsoring Organizations of Treadway Commission ("COSO"). Our management has concluded that our internal control over financial reporting was effective.

Audit of the Effectiveness of Internal Control over Financial Reporting

Our independent registered public accounting firm has audited the effectiveness of our internal control over financial reporting, as stated in their report as of December 31, 2019, which is included herein.

Changes in Internal Control over Financial Reporting

In 2019, we implemented changes in our controls related to recognition, measurement, presentation and disclosure of leases. There were no other significant changes in our controls that have materially affected, or are reasonably likely to materially affect our internal control over financial reporting.



Ombudsman and Internal Investigations

Our general ombudsman office provides channels for receiving comments from our internal and external audience, such as complaints, requests for information, general requests, suggestions, compliments and denouncements.

In order to receive complaints, we provide a specific denouncement channel, operated by an independent external company, and allowing for anonymity of the informants.

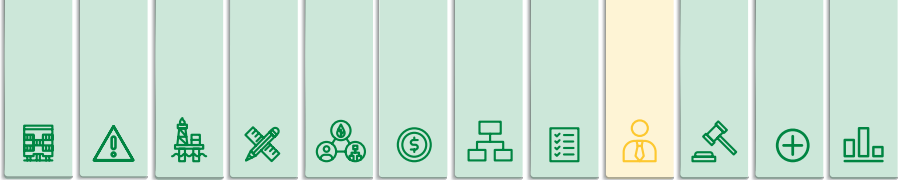
All complaints received through the whistleblower channel are forwarded to the ombudsman's office, which analyzes, classifies, and routes them for follow-up by the appropriate area. Allegations regarding fraud or corruption are sent to the governance and compliance office.

We continuously reaffirm and reinforce our zero-tolerance approach toward fraud and corruption, including by thoroughly investigating all allegations that arise. We take allegations of misconduct seriously – in particular allegations of corruption – and are committed to promptly cooperating with all authorities regarding such investigations, including

the Federal Public Prosecutor's Office, Brazilian federal police and advisory bodies (the CVM, CGU and TCU). Our governance and compliance office has full access, independence, qualification and autonomy to thoroughly investigate allegations of this nature.

Upon the conclusion of each investigation, we use its material findings to improve our compliance efforts. If the findings in some instances indicate that any of our former and current employees did not comply with certain internal policies, we may take action in accordance with applicable labor laws and our applicable employment policies.

Irrespective of the findings of our internal investigations, in order to mitigate potential risks of further non-compliance with our internal policies, we continue to develop and implement a number of measures aimed at improving corporate governance, our management of processes and risk management and controls, including those related to fraud and corruption.



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Listing

We are a publicly traded company and we are listed in Brazil and abroad, as follows:

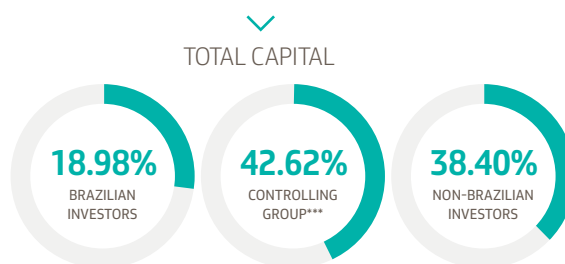


STOCK* EXCHANGE	BRAZIL	CAPITAL MARKET REGULATOR CVM	USA	CAPITAL MARKET REGULATOR SEC
CORPORATE GOVERNANCE	LEVEL 2	LEVEL 3		
SHARES AND ISIN CODES	PETR3 BRPETRACNOR9 PETR4 BRPETRACNOR9	PBR US71654V408 PBRA US71654V101		
CLOSING PRICE 12.31.2019	PETR3 R\$ 32.00 PETR4 R\$ 30.18	PBR U\$ 15.94 PBRA U\$ 14.92		
TOTAL NUMBER OF SHARES** 12.31.2019	13,044,201,261			
	PETR3: 5,992,292,392 SHARES PETR4: 4,956,899,781 SHARES	PBR: 1,449,938,990 ADRs PBRA: 645,070,098 ADRs		

* Additionally, our common (XPBR) and preferred (XPBRA) shares have been traded on the LATIBEX, Spain, since 2002 under ISIN codes BRPETRACNOR9 and BRPETRACNPR6, respectively. The LATIBEX is an electronic market created in 1999 by the Madrid Stock Exchange in order to enable trading of Euro-denominated Latin American equity securities.

** The total number of shares does not include 295,669 shares in treasury, of which 222,760 are common shares and 72,909 are preferred shares.

*** On 12.31.2019, the controlling group was composed of the Brazilian federal government, BNDES, BNDESPar and Social Participation Fund.



Delisting in Argentina

Our common and preferred shares have been traded on the Bolsa de Comercio de Buenos Aires (Buenos Aires Stock Exchange) since 2006. On November 11, 2019, however, we delisted our common and preferred shares from the Buenos Aires Stock Exchange and withdrew from the public reporting regime in Argentina, as authorized by the Comisión Nacional de Valores (CNV), the Argentinian capital markets regulatory authority, exempting us from a public offering of our shares in accordance with CNV General Resolution 779. After the delisting, our shareholders in Argentina had the option to either maintain their shares deposited with the Argentinian market custodian, or sell them in markets where our shares are still traded.

The delisting is in accordance with our business strategy, which focuses on cost reduction and concentration in our core business operations.



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Corporate Governance of B3 – Level 2

Since 2018, we have been listed in the corporate governance Level 2 listing segment of the B3. Below are some of our corporate governance practices implemented due to our listing on the Level 2 listing segment:

- the attributions of our minority committee were expanded;
- our Board of Directors is composed of at least 40% of independent members;
- we started to disclose an annual calendar of corporate events;
- we must assure 100% of tag along to holders of our preferred shares – under the same conditions granted to holders of our common shares; and
- we provide an arbitration procedure for matters arising from, and relating to, Level 2 rules and regulation.

Shares and Shareholders

Our capital stock is composed of common and preferred shares, all without par value and denominated in *reais*. Under Brazilian Corporate Law, the number of our preferred shares may not exceed two-thirds of the total number of our shares.

Our shares are negotiated on the B3 and registered in book-entry form. Banco Bradesco performs services of safe-keeping and transfer of shares.

Holders of our common shares are entitled to one voting right for each unit of common shares held. Holders of our preferred shares are not entitled to voting rights, except for: (i) the right to appoint one member of our Board of Directors and one member of our Fiscal Council; and (ii) certain matters relating to preferred shares (such as creation, increasing, changes in the preferences or creation of a new class), whenever rights of holders of preferred shares are adversely affected.

In the U.S., our common or preferred shares, which are evidenced by ADRs, are listed in the form of ADSs on the NYSE. The ADSs are registered and delivered by a depository bank, JPMorgan Chase Bank, N.A (“JPMorgan” or “Depository”) which, since January 2, 2020, acts as the

depository for both of our common and preferred ADSs. The ratio of ADR to our common and preferred shares is two shares to one ADR.

The rights of ADS holders differ from shareholders rights. With respect to voting rights, ADS holders may only vote by means of proxy voting cards mailed to the ADR depository bank while shareholders have the right to vote directly at the shareholders’ meeting.

On February 29, 2020, there were 1,593,801,740 outstanding common shares and 624,070,098 outstanding preferred shares represented by ADSs. There has been no change in the past three fiscal years in the amount of our issued share capital, as well as in the number of our common and preferred shares or in the voting rights of our common and preferred shares. See Exhibit 1.1 to this annual report for a copy of our Bylaws.

After a slight increase in our stock value in 2017, our stock value increased again in 2018, and outperformed our peers at the NYSE (Amex Oil index or AMEXOIL) in 2019, as well as performed slightly below the Ibovespa index (or IBOV) at the B3.



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Stock Performance since 2017

Index No = 100 on 01/01/2017



Appreciation in 2019:	Common Shares (PETR3): +26.0%	Preferred Shares (PETR4): +33.7%	Market value*: -8.0% / R\$ 344 billion
Stock Value as of February 29, 2020*:	R\$ 27.15	R\$ 25.34	Ibovespa* +14.3%
Appreciation in LTM of February 29, 2020:	-16.0%	-11.6%	

* Information regarding LTM of February 29, 2020.
Source: Bloomberg

ADR Performance since 2017

Index No = 100 on 01/01/2017



Appreciation in 2019:	ADs representing Common Shares (PBR): +22.5%	ADRs representing Preferred Shares (PBR/A): +28.7%	Market value*: -22.4% / US\$ 77 billion
Value on February 29, 2020*:	US\$ 12.10	US\$ 11.26	AMEXOIL* -26.6%
Appreciation in LTM of February 29, 2020:	-35.8%	-34.8%	BRENT OIL* -27.3%

* Information regarding LTM of February 29, 2020.
Source: Bloomberg



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The following table sets forth information concerning the ownership of our common and preferred shares as of February 29, 2020 by the Brazilian federal government and certain public sector entities:

Shareholders	Common Shares	%	Preferred Shares	%	Total Shares	%
Brazilian federal government	3,740,470,811	50.26	-	-	3,740,470,811	28.67
BNDES	-	0.00	135,248,258	2.41	135,248,258	1.04
BNDES Participações S.A. – BNDESPar	11,700,392	0.16	900,210,496	16.07	911,910,888	6.99
Social Participation Fund	6,000,000	0.08	-	-	6,000,000	0.05
All members of our Board of Directors (permanent and alternate), executive officers and members of our Fiscal Council (permanent and alternate) (22 people in total)	0	0.00	41,088	0.00	41,088	0.00
Others	3,684,282,939	49.50	4,566,542,946	81.52	8,250,825,885	63.25
Total	7,442,454,142	100.00	5,602,042,788	100.00	13,044,496,930	100.00

For detailed information on the shares held by the members of our Board of Directors, executive officers and members of our Fiscal Council, see “Management and Employees” in this annual report.



Public offerings of secondary distribution of shares

In June 2019, Caixa Econômica Federal sold 241,340,371 of our common shares through a public secondary offering, simultaneously distributed in Brazil and abroad (in form of ADSs). The fixed price was R\$30.25 per share, totaling R\$7,300,546,222.75.

Likewise, in February 2020, BNDES sold 734,202,699 of our common shares through a public secondary offering, simultaneously distributed in Brazil and abroad (in form of ADSs). On February 20, 2020, the price was fixed in R\$ 30.00 per share, totaling R\$ 22,026,080,970.00.

In each case, the ADSs’ price is equivalent to the price per share converted to US dollars, based on the exchange rate for the sale of that currency (PTAX) released by the Central Bank of Brazil.

Under Brazilian Corporate Law, the Brazilian federal government is required to own at least a majority of our voting shares.

Although the Brazilian federal government does not have different voting rights than our other shareholders, as long as it holds a majority of our voting share, any change in our control would require a change in applicable laws. Our Bylaws also provide for rules applicable to any eventual transfer of control of our major shareholders.

The majority of our voting shares also gives the Brazilian federal government the right to elect a majority of our directors, regardless of the rights our minority shareholders may have to such election according to our Bylaws.

Additionally, our Bylaws clearly state that we may have our activities guided by the Brazilian federal government in order to contribute to the public interest that justified our creation. However, if the Brazilian federal government’s guidelines lead us to undertake obligations and responsibilities under



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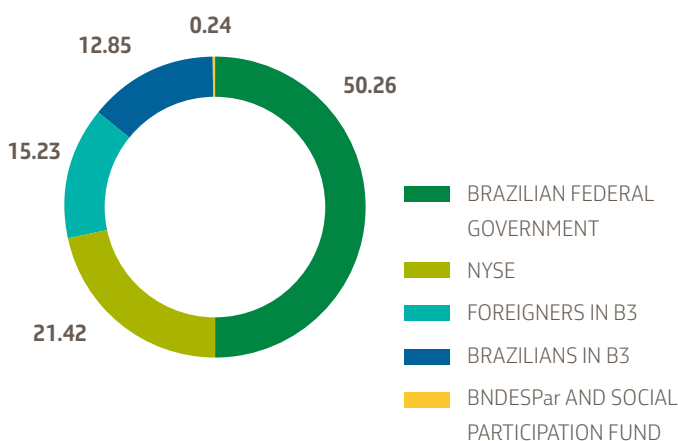
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conditions different from those of any other company in the private sector that operates in the same market, such obligations and responsibilities shall be defined in law or regulation and shall have their costs and revenues broken down and disclosed. In addition, the Brazilian federal government shall compensate us, at each fiscal year,

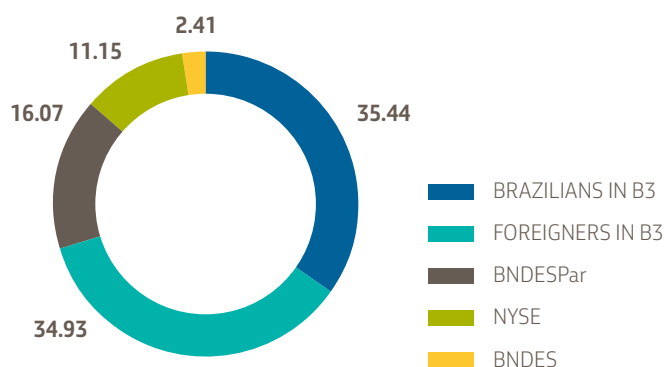
for the difference between market conditions and the operational result or economic return from such obligation.

Our shareholding base includes over 400,000 shareholders at the B3 and over 100,000 ADR accounts at the NYSE.

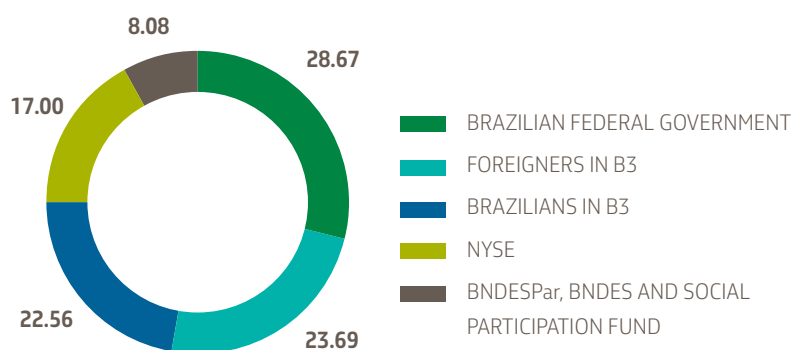
Voting capital* (%)



Non-voting capital* (%)



Total capital* (%)



The majority of our voting rights is held by the Brazilian federal government through a block composed by the Brazilian federal government, BNDESPar and the Social Participation Fund, which together hold 50.50% of our shares with voting rights.

* Information about our shareholders as of February 29, 2020.

Pursuant to CVM regulations, any (i) direct or indirect controlling shareholder, (ii) shareholder who has elected members of a Brazilian public company's Board of Directors or Fiscal Council, as well as (iii) person or group of persons representing the same interest, in each case that has directly or indirectly acquired or sold an interest that exceeds (either

upward or downward) the threshold of 5%, or any multiple thereof, of the total number of shares of any type or class, must be disclosed by such Brazilian public company, immediately after the acquisition or sale of shares, to the CVM and the B3.



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Self-Dealing Restrictions

In accordance with our Relevant Act or Fact Disclosure and Negotiation of Securities Policy, the trading by us or any related party of securities issued by us, our subsidiaries or our associates (that are public companies) is forbidden, in the following periods:

- (i) 15 days before the disclosure of our quarterly information and annual information; and
- (ii) in the period between the decision taken by the competent corporate body to increase or reduce the share capital, to distribute dividends, bonus shares or issue other securities by us, and the publication of the respective notices or announcements.

Our directors, the members of our audit committee, their respective alternates and members with any technical or advisory functions created by provisions of our Bylaws, are obliged to inform us in the event of ownership and trading of securities issued by us or our subsidiaries, which are public companies. They should also indicate the securities issued by us and/or our subsidiaries, which are public companies, owned by related persons.

Dispute Resolution

As a company listed on the B3's Level 2, our Bylaws provide for mandatory dispute resolution, by means of arbitration before the Câmara de Arbitragem do Mercado, or the Market Arbitration Chamber, concerning any dispute or controversies that may arise among us, our shareholders, our management and members of our Fiscal Council, related to or arising from the application, validity, effectiveness, interpretation, violation and effects of the provisions contained in the applicable Brazilian law, regulations and our Bylaws.

Entities that are part of the direct and indirect public administration, as our company and our controlling shareholder, may use arbitration as a dispute resolution mechanism only for disputes involving negotiable economic rights. As a result, such entities cannot submit to arbitration any non-negotiable rights (*direitos indisponíveis*), such as those deemed to relate to public interest. Therefore, decisions of the Brazilian federal government exercised at any general shareholders' meeting, if based or related to public interest, will not be subject to an arbitration proceeding.

Shareholders Rights

Shareholders' Meetings and Voting Rights

Our shareholders have the power, through voting at the shareholders' meeting, to decide on any matters related to our corporate purposes and to pass any resolutions they deem necessary for our protection and development, except for certain powers exclusively held by our corporate governing bodies.

Our annual shareholders' meeting takes at our headquarter, in Rio de Janeiro, Brazil, at the end of April each year. Additionally, our Board of Directors or, in some specific situations set forth in Brazilian Corporate Law, our shareholders or Fiscal Council, may call our extraordinary shareholders' meetings.

The notice of the annual shareholders' meeting and related documents must be published at least 30 calendar days prior to the scheduled meeting date.

For ADS holders, we are required to provide notice to the ADS depositary at least 30 calendar days prior to a shareholders' meeting. Upon receipt of our shareholders' meeting notice, the depositary must fix the ADS record date and distribute to ADS holders a notice. This notice must contain (i) final information particular to such vote and meeting and any solicitation materials, (ii) a statement that each holder on the record date set by the depositary will be entitled to instruct the depositary as to the exercise of the voting rights, subject to any applicable provisions of Brazilian law as well as our Bylaws, and (iii) a statement as to the manner in which these instructions can be given, including instructions to give a discretionary proxy to a person designated by us. Our shareholders may vote in person, at the meeting, or remotely, prior to the date of the meeting. Electronic participation in shareholders' meetings is not available to ADS holders, which may only vote by means of proxy voting cards mailed to the ADR depositary bank.

Quorum

Attendance quorum. In order to start, shareholders representing at least one-fourth of our issued and outstanding common shares must attend our shareholders' meeting, except when the matter to be decided aims to amend our Bylaws. In this case, a valid meeting requires



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the attendance of shareholders representing at least two-thirds of our issued and outstanding common shares. If the required quorum is not reached, our Board of Directors may call a second meeting by sending a notice at least eight calendar days prior to the new scheduled meeting. The attendance quorum requirements will not apply to such second meeting, but the voting quorum requirements described below shall be observed.

Voting quorum. Matters to be approved at our shareholders' meeting must be approved by the quorums specified below.

■ Matter approved by majority vote (of holders of common shares attending the meeting):

- . amend our Bylaws;
- . approve any capital change;
- . elect or dismiss members of our Board of Directors and Fiscal Council (and its respective alternates), subject to the right of our preferred shareholders to elect or dismiss one member of our Board of Directors and to elect one member of our Fiscal Council (and its respective alternates) and to the right of our employees to elect or dismiss one member of our Board of Directors;
- . receive the yearly financial statements prepared by our management and accept or reject management's financial statements, including the allocation of net income for payment of the mandatory dividend and allocation to the various reserve accounts;
- . authorize the issuance of debentures, except for the issuance of non-convertible unsecured debentures or the sale of such debentures when in treasury, which may be approved by our Board of Directors;
- . accept or reject the valuation of assets contributed by a shareholder in consideration for increase of capital stock;
- . approve the disposal of convertible debentures issued by our wholly-owned subsidiaries and held by us;
- . establish the compensation of the former members of our Board of Executive Officers, our Board of Directors, our Fiscal Council, including the compensation due during the period of six months of forfeiture provided for in our Bylaws, and of advisory committees to our Board of Directors;
- . approve the cancellation of our registration as a publicly-traded company; and

. approve the requirements of our nomination policy, in addition to the requirements provided by law applicable to boards of directors and fiscal councils.

■ Matter approved by at least one-half of the common shares of our total capital stock:

- . reduce of the mandatory dividend distribution;
- . merge into another company or consolidate with another company, subject to the conditions set forth in Brazilian Corporate Law;
- . participate in a group of companies subject to the conditions set forth in Brazilian Corporate Law;
- . change our corporate purpose, which must be preceded by an amendment to our Bylaws by federal law, as we are controlled by the Brazilian federal government and our corporate purpose is established by law;
- . spin-off of a portion of us, subject to the conditions set forth in Brazilian Corporate Law;
- . waive the right to subscribe to shares or convertible debentures issued by our wholly-owned subsidiaries or associate;
- . decide on our dissolution;
- . create preferred shares or increase the existing classes of preferred shares, without preserving the proportions to any other class of preferred shares, except as set forth in or authorized by our Bylaws;
- . change the preferences, privileges or redemption or amortization conditions of any class of preferred shares; and
- . create new class of preferred shares entitled to more favorable conditions than the existing classes.

■ Matter approved by a special quorum:

- . select a specialized company to work out the appraisal of our shares by economic value in the event of the cancellation of our registry as a publicly-traded company, which matter must be approved by the majority of votes from the holders of the outstanding shares that are present at the meeting. According to B3's Level 2 regulation, outstanding shares means all the shares issued by a company, except for the shares held by the controlling shareholder, by persons linked to such controlling shareholder and by the company's managers, as well as those shares in treasury and special class of preferred shares which purpose is to guarantee



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differentiated political rights and, be non-transferable and exclusive property of the privatizing entity. This matter must only be discussed in a shareholders' meeting installed with the presence of at least 20% of the holders of the outstanding shares in a first call, or the presence of any number of holders of the outstanding shares in a second call.

Pursuant to Law No. 13,303/16, no decision taken at any shareholders' meeting can change the corporate status of our company (i.e. *sociedade anônima*).

Under Brazilian Corporate Law, if a shareholder has a conflict of interest with a company in connection with any proposed transaction, the shareholder may not vote in any decision regarding such transaction. Any transaction approved with the vote of a shareholder having a conflict of interest may be annulled and such shareholder may be liable for any damages caused and be required to return to the company any gain it may have obtained as a result of the transaction.

Also under Brazilian Corporate Law, minority shareholders representing at least 10% of the company's voting capital have the right to demand that a cumulative voting procedure be adopted to entitle each common share to as many votes as there are board members and to give each common share the right to vote cumulatively for only one candidate of our Board of Directors or to distribute its votes among several candidates. Pursuant to regulations promulgated by the CVM, the 10% threshold requirement for the exercise of cumulative voting procedures may be reduced depending on the amount of capital stock of the company. For a company like us, the threshold is 5%. Thus, shareholders representing 5% of our voting capital may demand the adoption of the cumulative voting procedure.

Regarding the right to appoint members of our Board of Directors and our Fiscal Council, the following should be highlighted:

- (i) our minority preferred shareholders that together hold at least 10% of the total capital stock (excluding the shares held by our controlling shareholder) have the right to elect and remove one member to our Board of Directors at a shareholders' meeting, by a separate voting procedure;
- (ii) our minority common shareholders have the right to elect and remove one member to our Board of Directors, if a greater number of directors is not elected by such minority

shareholders by means of the cumulative voting procedure;

- (iii) our employees have the right to directly elect one member to our Board of Directors by means of a separate voting procedure, pursuant to Law No. 12,353/10; and
- (iv) subject to the provisions of applicable law, the Brazilian Minister of Economy has the right to elect and remove one member of our Board of Directors.

Brazilian Corporate Law and our Bylaws provide that, regardless of the exercise by our minority shareholders of the rights related to the cumulative voting process, the Brazilian federal government always has the right to appoint the majority members of our directors and our Fiscal Council.

Other Shareholders' Rights

In addition to their voting rights, shareholders have the following rights:

Preemptive rights: Each of our shareholders has a general preemptive right to subscribe for shares or securities convertible into shares in any capital increase, in proportion to his or her shareholding. A minimum period of 30 days following the publication of notice of a capital increase is assured for the exercise of the right, and the right is transferable. Under our Bylaws and Brazilian Corporate Law, and subject to the requirement for shareholder approval of any necessary increase to our authorized share capital, our Board of Directors may decide not to extend preemptive rights to our shareholders, or to reduce the 30-day period for the exercise of preemptive rights, in each case with respect to any issuance of shares, debentures convertible into shares or warrants in the context of a public offering.

In the event of a capital increase by means of the issuance of new shares, holders of ADSs and holders of common or preferred shares would have, except under circumstances described above, preemptive rights to subscribe for any class of our newly issued shares. However, holders of ADSs may not be able to exercise the preemptive rights relating to the common and preferred shares underlying their ADSs unless a registration statement under the Securities Act is effective with respect to those rights or an exemption from the registration requirements of the Securities Act is available.

For more information, see "Risks – Risk Factors – Equity and Debt Securities Risks" in this annual report.



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Redemption and rights of withdrawal: Brazilian Corporate Law provides that, under limited circumstances, shareholders have the right to withdraw their equity interest from a company and to receive payment for the portion of shareholder's equity attributable to their equity interest.

This right of withdrawal may be exercised by the holders of the adversely affected common or preferred shares, provided that certain conditions set forth in Brazilian Corporate Law are met, in the event that we decide to:

- . increase the existing classes of preferred shares, without preserving the proportions to any other class of preferred shares;
- . change the preferences, privileges, redemption or amortization conditions of any class of preferred shares or to create a new class of preferred shares entitled to more favorable conditions than the existing classes;
- . merge into another company or to consolidate with another company;
- . participate in a centralized group of companies as defined under Brazilian Corporate Law;
- . reduce the mandatory distribution of dividends;
- . change our corporate purposes;
- . spin-off a portion of us;
- . transfer all of our shares to another company or to receive shares of another company in order to make the company whose shares are transferred a wholly-owned subsidiary, known in Brazil as *incorporação de ações*; or
- . acquire control of another company at a price that exceeds the limits set forth in Brazilian Corporate Law.

This right of withdrawal may also be exercised in the event that the entity resulting from a merger, consolidation or spin-off of a listed company and us do not negotiate new shares in the secondary market, within 120 days from the date of the shareholders' meeting approving the transaction, in accordance with the applicable SEC regulations.

Considering that our Bylaws do not provide for rules to determine any value for redemption, under Brazilian Corporate Law, any redemption of shares arising out of the exercise of such withdrawal rights would be made based on the book value per share, determined on the basis of the last balance sheet approved by our shareholders. However, if a shareholders' meeting giving rise to redemption rights occurred more than 60 days after the date of the last

approved balance sheet, a shareholder would be entitled to demand that his or her shares be valued on the basis of a new balance sheet dated within 60 days of such shareholders' meeting. In this case, we would immediately pay 80% of the amount of reimbursement calculated based on the last balance sheet and, after the special balance sheet has been drawn up, we would pay the balance within 120 days from the date of the shareholders' meeting resolution. The right of withdrawal lapses 30 days after publication of the minutes of the shareholders' meeting that approved the matters described above. We would be entitled to reconsider any action giving rise to withdrawal rights within ten days following the publication of the minutes of the meeting ratifying the decision if the payment of the price of reimbursement of the shares to the dissenting shareholders would jeopardize our financial stability.

Liquidation: In the event of a liquidation, holders of preferred shares are entitled to receive, prior to any distribution to shareholders, payment for the portion of shareholder's equity attributable to their equity interest.

Conversion rights: Our common shares are not convertible into preferred shares, nor are preferred shares convertible into common shares.

Liability of our shareholders for further capital calls: Neither Brazilian Corporate Law nor our Bylaws provide liability for our shareholders for further capital calls. Our shareholders' liability for capital stock is limited to the payment of the issuance price of the shares subscribed or acquired.

Rights not subject to waiver: According to Brazilian Corporate Law, neither a company's Bylaws nor decisions taken at a shareholders' meeting may deprive a shareholder of some specific rights, such as the right to:

- . participate in the distribution of profits;
- . participate in any remaining residual assets in the event of liquidation of the company;
- . supervise the management of the corporate business as specified in Brazilian Corporate Law;
- . exercise preemptive rights in the event of a subscription of shares, debentures convertible into shares or subscription warrants (other than with respect to a public offering of such securities, as may be set out in the Bylaws); and
- . withdraw from the company in the cases specified in Brazilian Corporate Law.



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Dividends

Payment of Dividends and Interest on Capital

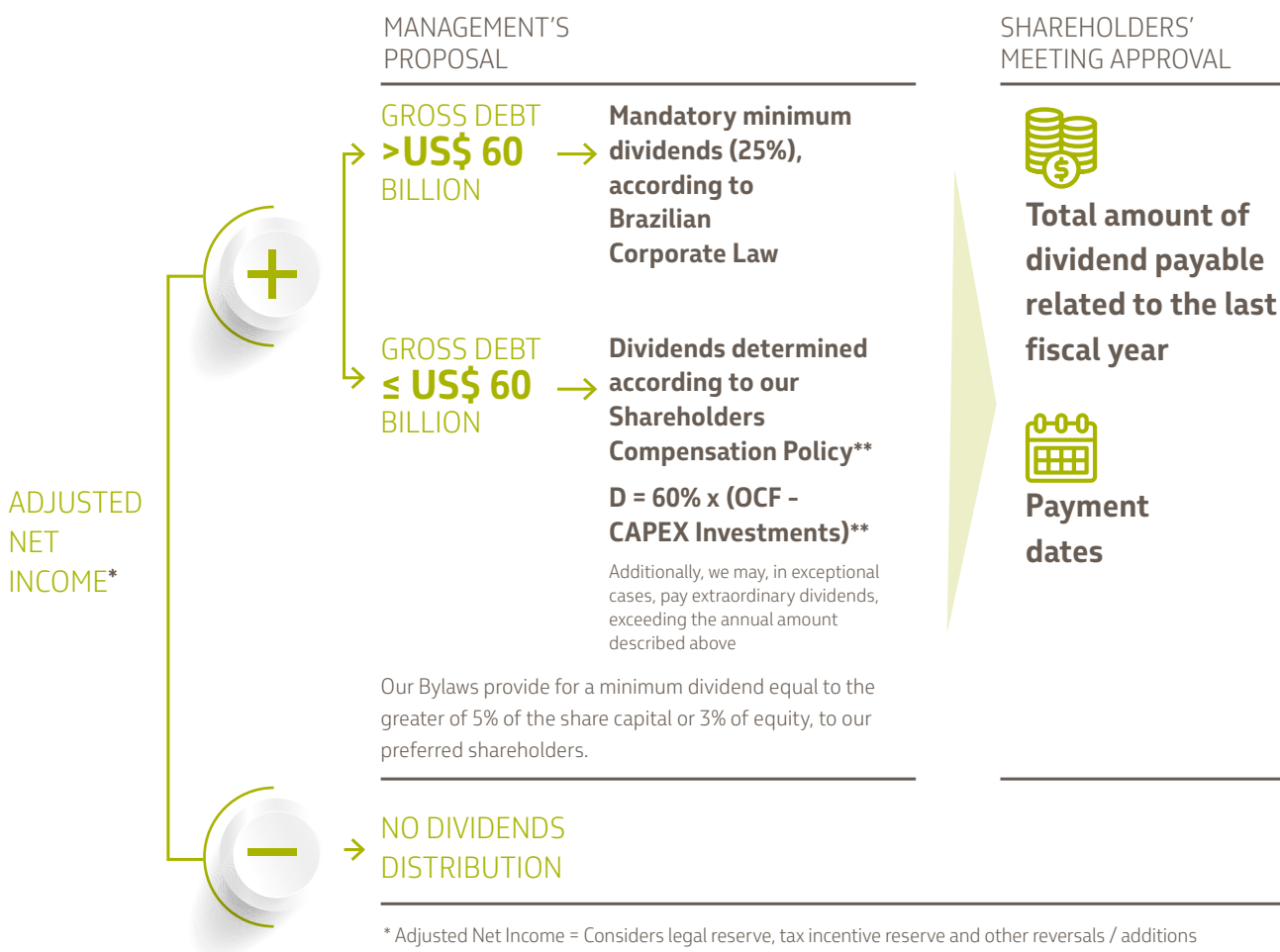
Our dividend payments are subject to the provisions of Brazilian Corporate Law and applicable local laws and regulations, our Bylaws and our dividend distribution policy.

Our distributions can include dividends and/or interest on capital. The payment of interest on capital to our shareholders is subject to withholding income tax, pursuant to the Brazilian tax laws, which is not levied upon payments of dividends. The holders of ADSs are also subject to withholding income tax, unless provided otherwise by their applicable law.

Our preferred shares have preference in the distribution of dividends and interest on capital. Thus, the payment of dividends to holders of common shares is subject to the right to dividend distributions held by the holders of preferred shares.

In 2019, we approved a new dividend distribution policy, called "Shareholders Compensation Policy," which more clearly defines the rules and procedures related to the distribution of dividends and interest on capital. Our Shareholders Compensation Policy seeks to guarantee our short, medium and long-term financial sustainability and the predictability of the payment flow to our shareholders and it is based on the assumption that we need financial flexibility and stability for the maintenance of our businesses.

Petrobras new Shareholders Compensation Policy



* Adjusted Net Income = Considers legal reserve, tax incentive reserve and other reversals / additions

** D = Dividends

OCF: Operating cash flow (net cash generated by operating activities)

CAPEX Investments: Acquisition of assets, fixed assets, intangibles and corporate investments. Does not consider proceeds from the sale of assets; payments in the participation of bidding rounds for oil and natural gas upstream; and payments relating to the acquisition of companies or equity interests



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Our Shareholders Compensation Policy includes the following dividends:

- **Annual:** The decision to distribute dividends and other earnings depends on a number of factors, including our financial results and condition, cash needs, future prospects of current and potential markets in which we operate, existing investment opportunities, maintenance and expansion of our production capacity. The payment of annual dividends is based on our year-end audited consolidated financial statements.
- **Intermediate Dividends (dividendos intercalares):** Pursuant to Brazilian Corporate Law, we may distribute intermediate dividends, which shall be calculated based on our balance sheet issued during the current fiscal year and not yet approved by our shareholders, i.e. before we have determined our full-year earnings.
- **Interim Dividends (dividendos intermediários):** Our Board of Directors may also approve the payment of interim dividends, which shall be calculated based on our profit reserve account existing in the last balance sheet approved by our shareholders' meeting (i.e. these dividends are paid based on either an annual or semi-annual balance sheet already approved by our shareholders). The amount of interim dividends distributed cannot exceed the amount of our capital reserves.

Pursuant to our Bylaws, intermediate and interim dividends and interest on capital shall be allocated as minimum mandatory dividend, including for the purpose of paying the minimum priority dividends of preferred shares.

Law No. 9,249/95, as amended, provides for distribution of interest on capital to shareholders as an alternative form of distribution. Such interest is limited to the daily *pro rata* variation of the TJLP interest rate, the Brazilian federal government's long-term interest rate. The effective payment or credit of interest on capital depends on the existence of profits, calculated before deducting interest, or accumulated profits and profit reserves, in an amount equal to or greater than twice the amount of the interest to be paid or credited.

We may treat these payments of interest on capital as a deductible expense for calculating real profit, but the deduction cannot exceed the greater of:

- 50% of net income before taking into account such distribution, in case these are considered expenses, based on the calculated profit after taking into account any deductions for social contributions on net income and before deducting income tax for the period in respect of which the payment is made; or
- 50% of profit reserves.

With respect to the payment of dividends, our shareholder must also consider the following:

- **Taxation:** Any payment of interest on capital to ADS holders or shareholders, whether or not they are Brazilian residents, is subject to Brazilian withholding taxes at the rate of 15% or 25%. The 25% rate applies only if the beneficiary is resident in a tax haven. The amount paid to shareholders as interest on capital, net of any withholding tax, may be included as part of any mandatory distribution of dividends. Under Brazilian Corporate Law, we are required to distribute to shareholders an amount sufficient to ensure that the net amount received, after payment by us of applicable Brazilian withholding taxes in respect of the distribution of interest on capital, is at least equal to the mandatory dividend.

For more information on Brazilian taxation of ADSs and our shares, see "Legal and Tax – Taxation Relating to the ADSs and our Common and Preferred Shares" in this annual report.

- **Date of payment:** Under Brazilian Corporate Law and our Bylaws, dividends are generally required to be paid within 60 days following the date they are declared, unless a shareholders' resolution sets forth for another date of payment, which, in any case, must occur prior to the end of the fiscal year in which the dividend was declared.
- **Adjustments:** The amounts of dividends due to our shareholders are subject to financial charges at the SELIC rate from the end of each fiscal year through the date we actually pay such dividends.
- **Unclaimed dividends:** Shareholders have a three-year period from the dividend payment date to claim dividends or interest on capital payments with respect to their shares, after which the amount of the unclaimed dividends reverts to us.



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In 2019, we anticipated the remuneration to shareholders, as interest on capital in the amount of US\$1,008 million and, in February 2020, we paid an additional US\$1,230 million. Our total distributions to shareholders for 2019 amounts to US\$2,687 million and will be voted at our shareholder's

annual general meeting to occur in 2020. The remaining amount to be received by shareholders will take into consideration the amount already paid in advance. For further information, see Note 34.7 to our audited consolidated financial statements.



Mandatory distribution

Pursuant to Brazilian Corporate Law and our Bylaws, we must comply with two mandatory distributions of dividends, both of which are provided in our Shareholders Compensation Policy.

(i) We must pay at least 25% of our adjusted net income, after deducting allocations to the legal reserve and further allocations eventually required by Brazilian Corporate Law; and

(ii) Holders of our preferred shares have priority to receive the mandatory dividend amount, as well as to receive a payment in the event of reimbursement of capital. They are also entitled to minimum annual non-cumulative preferential dividends in case we declare dividends equal to the higher of (a) 5% of their pro rata share of our paid-in capital, or (b) 3% of the book value of their preferred shares.

To the extent that we declare dividends on our common shares in any particular year in an amount that exceeds the minimum preferential dividends, holders of preferred shares would be entitled to an additional dividend amount per share in the same amount per share paid to holders of common shares. Holders of preferred shares also participate equally with common shareholders in share capital increases derived from the incorporation of reserves and profits.

Brazilian Corporate Law, however, permits a publicly held company such as ours to suspend the mandatory distribution of dividends in case our Board of Directors and our Fiscal Council report to the annual general shareholders' meeting that the distribution would not be advisable due to the company's financial condition. In this case, our Board of Directors must file an explanation for suspending the distribution of dividends with the CVM. Profits not distributed due to such a suspension must be allocated to a special reserve and, if not absorbed by subsequent losses, must be distributed as soon as our financial condition allows for such payments.



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Allocation of net income

At each annual general shareholders' meeting, our Board of Directors and Board of Executive Officers are required to recommend how to allocate net income for the preceding fiscal year. Under Brazilian Corporate Law, net income is obtained after deducting statutory holdings of the employees, managers and beneficiary parties.

In accordance with Brazilian Corporate Law, an amount equal to our net profits, as further reduced by amounts allocated to the legal reserve, to the fiscal incentive investment reserve, to the contingency reserve or to the unrealized income reserve established by us in compliance with applicable law (discussed below) and increased by reversals of reserves constituted in prior years, is available for distribution to shareholders in any given year. After the distribution of preferred dividends, a percentage of net income may be allocated to a contingency reserve for anticipated losses that are deemed probable for future years. Any amount so allocated in a prior year must be either (i) reversed in the fiscal year in which the reasons justifying the reserve cease to exist, or (ii) written off in the event that the anticipated loss occurs.

A portion of the net income from donations or government grants for investments may also be allocated to the creation of a tax incentive reserve.

If the mandatory distribution amount, determined without deducting the amount of unrealized profits from its calculation basis, exceeds the sum of realized net income in

a given year, this excess may be allocated to an unrealized revenue reserve. Brazilian Corporate Law defines realized net income as the amount of net income that exceeds the sum of the net positive result of equity adjustments and profits or revenues from operations whose financial results take place after the end of the next succeeding fiscal year. As long as we are able to make the minimum mandatory distribution described below, we must allocate an amount equivalent to 0.5% of subscribed and fully paid-in capital at year-end to a statutory reserve. The reserve is used to fund the costs of research and technological development programs. The accumulated balance of this reserve cannot exceed 5% of the subscribed and fully paid-in capital stock.

Brazilian Corporate Law also provides for the retention of profits, which cannot be approved in the event there is mandatory dividend distribution, and must be in accordance with the terms of our capital budget previously approved by the shareholders' meeting.

A portion of our net income that exceeds the minimum mandatory distribution may be allocated to fund working capital needs and investment projects, as long as such allocation is based on a capital budget previously approved by our shareholders. Capital budgets for more than one year must be reviewed at each annual shareholder meeting.

The creation of statutory reserves and the retention of profits cannot be approved to the detriment of the mandatory dividend.



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Additional information for foreign shareholders

Foreign investors may trade their shares directly on the B3 (non-Brazilian holders) or through ADSs on the NYSE. There are no restrictions on ownership of our common or preferred shares in Brazil by individuals or legal entities domiciled outside Brazil and all of them are entitled to the rights and preferences of our common or preferred shares, as the case may be.

The ability to convert dividend payments and proceeds from the sale of common or preferred shares or preemptive rights into foreign currency and to remit such amounts outside Brazil is subject to restrictions under foreign investment legislation (Brazilian foreign exchange controls). However, if foreign investors are registered with the CVM, in accordance with CMN Resolution No. 4,373, they may use the dividend payments and proceeds from the sale of shares to buy and sell securities directly on the B3, which generally requires, among other steps, the registration of the relevant investment with the Central Bank of Brazil. Nonetheless, any non-Brazilian holder who registers with the CVM in accordance with CMN Resolution No. 4,373 may buy and sell securities directly on the B3. Such non-Brazilian holders must appoint a local representative in Brazil who will be required, among other duties, to register and keep updated with the Central Bank of Brazil the record of all transactions of such investors on the B3.

The right to convert dividend payments and proceeds from the sale of shares into foreign currency and to remit such amounts outside Brazil may also be subject to restrictions under foreign investment legislation. If any restrictions are imposed on the remittance of foreign capital abroad, they could hinder or prevent the Central Depositária, as custodian for the common and preferred shares represented by the ADSs, or registered holders who have exchanged ADSs for common or preferred shares, from converting dividends, distributions or the proceeds from any sale of such common or preferred shares, as the case may be, into U.S. dollars and remitting the U.S. dollars abroad.

Non-Brazilian Holders on B3

Under CMN Resolution No. 4,373, foreign investors may invest in almost all financial assets and engage in almost all transactions available in the Brazilian financial and capital markets, provided that certain requirements are fulfilled. Therefore, a foreign investor must:

- (i) appoint at least one representative in Brazil, with powers to perform actions relating to the investor's investment;
- (ii) register as a foreign investor with the CVM;
- (iii) appoint at least one authorized custodian in Brazil for the investor's investments;
- (iv) register all portfolio investments of the foreign investor in Brazil, through the investor's representative, with the Central Bank of Brazil; and
- (v) comply with other requirements provided for under CVM Instruction No. 560/15.

After the fulfillment of these requirements, the foreign investor will be able to trade in the Brazilian financial and capital markets.

Securities and other financial assets held by investors under CMN Resolution No. 4,373 must be registered or maintained in deposit accounts or under the custody of an entity duly licensed by the Central Bank of Brazil or the CVM. In addition, any transfer of securities held under CMN Resolution No. 4,373 and CVM Instruction No. 560/15 must be carried out in the stock exchanges or through organized over-the-counter markets licensed by the CVM, except for transfers resulting from private transactions.

ADS Holders

CMN Resolution No. 4,373 allows Brazilian companies to issue depositary receipts in foreign exchange markets. We currently have an ADR program for our common and preferred shares duly registered with the CVM and the Central Bank of Brazil. The proceeds from the sale of ADSs by holders outside Brazil are free of Brazilian foreign exchange controls.



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JPMorgan is the depositary for both of our common and preferred ADSs as of January 2, 2020. The Depositary will register and deliver the ADSs, each of which currently represents (i) two shares (or a right to receive two shares) deposited with an agent of the Depositary acting as custodian, and (ii) any other securities, cash or other property which may be held by the Depositary. The Depositary's corporate trust office at which the ADSs will be administered is located at 383 Madison Avenue, Floor 11, New York, New York 10179, United States.

The Depositary has obtained from the Central Bank of Brazil an electronic certificate of registration with respect to our existing ADR program. Pursuant to the registration, the custodian and the Depositary will be able to convert dividends and other distributions with respect to the relevant shares represented by ADSs into foreign currency and to remit the proceeds outside Brazil.

In the event that an ADS holder exchanges ADSs for the underlying common or preferred shares, the holder will be required to obtain registration as a foreign investor in Brazil pursuant to CMN Resolution No. 4,373 by appointing a local representative and obtaining a certificate of registration from the Central Bank of Brazil. Failure to take these measures may subject the holder to the inability of converting the proceeds from the disposition of, or distributions with respect to, the relevant shares, into foreign currency and

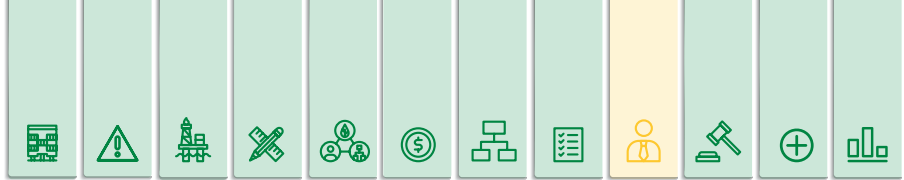
to remit proceeds outside of Brazil. Additionally, the holder may be subjected to a less favorable Brazilian tax treatment than a holder of ADSs. If the foreign investor resides in a tax haven jurisdiction, the investor will also be subject to less favorable tax treatment.

For more information, see "Risks – Risk Factors – Equity and Debt Securities Risks" and "Legal and Tax – Taxation Relating to Our ADSs and Common and Preferred Shares" in this annual report.

Fees Payable by ADS holders

ADS holders are required to pay various fees to the Depositary, including: (i) an annual fee of US\$0.05 (or less) per ADS for administering the ADR program, and (ii) amounts in respect of expenses incurred by the Depositary or its agents on behalf of ADS holders, including expenses arising from compliance with applicable law, taxes or other governmental charges, facsimile transmission, or conversion of foreign currency into U.S. dollars. In both cases, the Depositary may decide in its sole discretion to seek payment by directly billing investors or by deducting the applicable amount from cash distributions. ADS holders may also be required to pay additional fees for certain services provided by the Depositary, as set forth in the table below.

Depositary Services	Fees Payable By Ads Holders
Issuance and delivery of ADSs, including issuances resulting from a distribution of shares or rights or other property	US\$5.00 (or less) per 100 ADSs (or portion thereof)
Distribution of dividends	US\$0.03 (or less) per ADS per year
Cancellation of ADSs for the purpose of withdrawal	US\$5.00 (or less) per 100 ADSs (or portion thereof)



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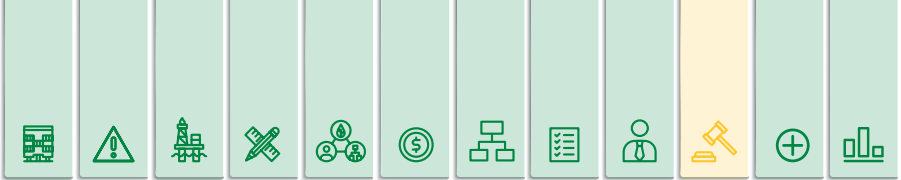
Fees Payable by the Depositary to Petrobras

The Depositary reimburses us for certain expenses we incur in connection with the administration and maintenance of the ADR program. These reimbursable expenses comprise, among others, investor relations expenses, listing fees and legal fees.



Purchases of equity securities by the issuer and affiliated purchasers

During the fiscal year ended December 31, 2019, neither any “affiliated purchaser,” as defined in Rule 10b-18(a)(3) under the Exchange Act, nor we, have purchased any of our equity securities.



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Regulation

Segments Regulation

Exploration & Production

Under Brazilian law, the federal government owns all crude oil and natural gas subsoil accumulations in Brazil, and any state or privately owned company can carry out the exploration and production of such oil and natural gas accumulations in the country. There are three different types of E&P contracts: (i) Concession Regime; (ii) Production Sharing; and (iii) Transfer of Rights.

Concession Regime

Until 1997, we were the Brazilian federal government's exclusive agent to carry out exploration and production of oil and gas in Brazil.

In 1997, the Brazilian federal government established a concession-based regulatory framework and created an independent regulatory agency to regulate the oil, natural gas and renewable fuel industry in Brazil, namely the ANP. This framework and the ANP created a competitive environment in the oil and gas sector.

The concession-based regulatory framework granted us the right to explore crude oil reserves in each of our already existing producing fields under concession contracts for an initial term of 27 years from the date when they were declared commercially profitable. These are known as the "Round Zero" concession agreements. This initial 27-year period for production can be extended at the request of the concessionaire, subject to approval from the ANP.

Starting in 1999, all areas that were not already subject to concessions became available for public bidding conducted by the ANP. We participated in these biddings both independently or through partnerships with private companies (as operator or as non-operator, in a case-by-case analysis).

According to Law No. 9,478/1997, and as per our concession agreements for exploration and production activities, we are entitled to the oil and gas exploited from the concession areas and we are required to distribute to the Brazilian federal government a portion of the corresponding proceeds.

For information related to Taxation under Concession Regime for Oil and Gas, see item "Legal and Tax – Tax" in this annual report.

Production-Sharing Contract Regime for Unlicensed Pre-Salt and Potentially Strategic Areas

Discoveries of large oil and natural gas reserves in the pre-salt areas of the Campos and Santos Basins prompted a change in the legislation regarding oil and gas exploration and production activities. In 2010, laws were enacted to regulate contracts under a production-sharing regime in the pre-salt area, as defined under Law No. 12,351/2010 and in potentially strategic areas. The enacted legislation did not impact the concession contracts.

We are no longer required to be the exclusive operator of the pre-salt areas, but prior to any bid round, the Brazilian federal government must offer us, the right to express our interest to exercise the preemption right to operate the blocks under production-sharing regime with minimum 30% of participating interest. Should there be no proposal for the areas to which we have expressed such interest that area will not be awarded and therefore, we have no remaining obligations. The preemption right only becomes effective in (i) cases of winning proposals above the minimum profit oil, should we decide to be part of such consortium and have previously expressed interest and (ii) cases in which the winning proposal is in the minimum profit oil, then we are required to be the operator, with minimum 30% of participating interest, as applicable according to the relevant Governmental Resolution. Regardless of whether we exercise our preemption right, we will also be able to participate, at our discretion, in the bidding process to increase our interest in any of the pre-salt areas.

The winning bidder will be the company that offers to the Brazilian federal government the highest percentage of "profit oil," which is the gross revenue of the production of a certain field after deduction of royalties and "cost oil," which is the cost associated with oil production. The royalty rate is 15% applicable to the gross production of oil and natural gas and there is no other government fee payable to the Brazilian federal government.

The production-sharing contracts are executed by and between the private companies that are winning bidders,



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the state-owned non-operating company PPSA, which represents the interests of the Brazilian federal government in the production-sharing contracts and manages the Brazilian federal government's share of the profit oil, and the ANP. The PPSA participates in operational committees, with a casting vote and veto powers and manages and controls the relevant costs, all of it according to each specific production-sharing contract.

Transfer of Rights (Cessão Onerosa)

In 2010, we entered into an agreement with the Brazilian federal government, under which the government assigned to us the right to conduct activities for the exploration and production of oil, natural gas and other fluid hydrocarbons in specified pre-salt areas, subject to a maximum production of five bnboe. The initial contract price for our rights under the Transfer of Rights Agreement was R\$74,808 million, which was equivalent to US\$18,560 as of December 31, 2019. See "Material Contracts" in this annual report.

Both Law No. 12,276/2010 (the "Transfer of Rights Law") and the Transfer of Rights Agreement provide for a review procedure. The main purpose of the review procedure is to verify whether the price paid to the Brazilian federal government by us in 2010 was appropriate in relation to the price for granting us the rights to explore and produce five billion barrels of oil equivalent in certain pre-salt areas.

According to the Transfer of Rights Agreement, the review must be based on technical reports prepared by independent certifying entities to be contracted by the ANP and the assignee, which shall consider the best practices of the oil industry, including the following items: (a) information contained in the final report of the mandatory exploration program (as such term is defined in the Transfer of Rights Agreement); (b) the market prices of oil and natural gas; and (c) specification of the product being produced. In addition, as provided in the Transfer of Rights Agreement, the review must follow the assumptions set forth in such agreement.

An internal committee to negotiate the revision of the Transfer of Rights Agreement with representatives of the Brazilian federal government (i.e. representatives of the MME, the Ministry of Finance, and the ANP) was created. The negotiations resulted in a revision of the Transfer of Rights

Agreement that was submitted to the TCU for analysis, by recommendation of the MME.

In 2019, the amendment to the Transfer of Rights Agreement was approved by us, the TCU and the National Council for Energy Policy.

The amendment consolidates one of several scenarios discussed among the Brazilian federal government and our commissions, and resulted in a credit of US\$9,058 billion in our favor, that was fully paid in December 2019. Additionally, the amendment establishes new percentages for local content: 25% for well construction; 40% for production collection and disposal system; and 25% for stationary production unit. For information related to the new taxation model for the oil and gas industry ("REPETRO") see "Legal and Tax – Tax" in this annual report.

Refining, Transportation and Marketing

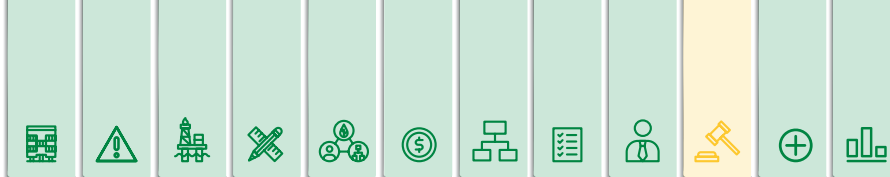
Regarding oil refining, the ANP requires specific authorization for the construction and operation of each of the process units, product treatment units and ancillary units of an oil refinery. The byproducts commercialization is subject to compliance with the specifications established by the ANP for each product (e.g. gasoline, diesel, jet fuel, liquefied petroleum gas).

The ANP requires information on import, export, production, processing, handling, transportation and transfer, storage and distribution of oil, oil products, natural gas products and shale products activities on a monthly basis.

Since 2013, the ANP requires oil product producers (refineries and other agents) and fuel distributors to ensure minimum inventories of gasoline and diesel. In 2015, the ANP established the same obligation for producers of LPG and jet fuel.

The ANP also requires that refineries and importers of oil byproducts publicly release their price lists electronically (standard prices) as well as the prices for the previous 12 months, with a description of the specific commercial terms for: (i) regular and premium gasoline; (ii) diesel oil and marine diesel; (iii) jet fuel; (iv) LPG; (v) fuel oil; and (vi) asphalt.

Failure to comply with the ANP rules can lead to a range of fines and penalties, including the revocation of the authorization.



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In December 2016, the Brazilian federal government launched the “*RenovaBio*” program to stimulate the production of biofuels in the local market, namely ethanol, biodiesel, biogas and biojet fuel. In June 2019, the CNPE fixed the mandatory annual reduction of carbon emission targets and the ANP established (i) the individualization of the annual mandatory greenhouse gas emission reduction targets for the commercialization of fuels (Resolution No. 791/2019) and (ii) the procedures for the primary emission of carbon emission reduction credits (Resolution No. 802/2019).

In June 2017, the CNPE established strategic guidelines for the development of the local market for fuels, other oil byproducts and biofuels. As part of the guidelines, the MME launched the “*Abastece Brasil*” program on April 24, 2019, which aims to develop Brazil’s local fuel market, promote competition in the sector, diversification of players, new investments in refining and logistics, and combating tax evasion and adulteration of fuels.

Our oil and natural gas refining area is also subject to the preventive and stringent control of CADE.

In June 2019, we signed a commitment with CADE (*termo de cessação de conduta*) which consolidates the understanding between the parties on the execution of divestment of refining assets in Brazil. The purpose of the agreement is to provide competitive conditions, encouraging new economic agents to enter the downstream market, as well as suspending the administrative investigation opened by CADE court to investigate alleged abuse of our dominant position in the refining segment. The agreement considers the divestment of approximately 50% of our refining capacity.

For more information on our agreement with CADE, see “Portfolio Management” and “Risks – Risk Factors – Emerging Risks” in this annual report.

Gas and Power

Natural Gas Law of 2009

In March 2009, the Brazilian Congress enacted Law No. 11,909, or “Gas Law”, regulating activities in the gas industry, including transport, processing, storage, liquefaction, regasification and commercialization. The

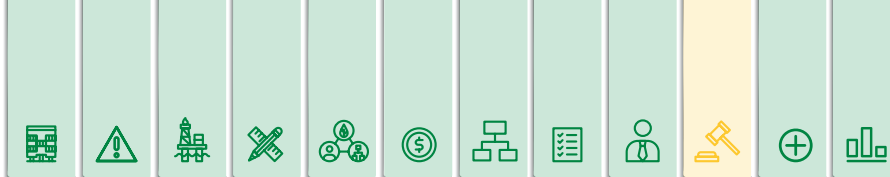
Gas Law created a concession regime for the construction and operation of new pipelines to transport natural gas of general interest, while maintaining an authorization regime for pipelines subject to international agreements. According to the Gas Law, after a certain exclusivity period, operators will be required to grant access to transport pipelines and maritime terminals, except for LNG terminals, to third parties in order to maximize utilization of capacity.

The Gas Law authorized the ANP to regulate prices for the use of gas transport pipelines subject to the new concession regime and to approve prices submitted by carriers, according to previously established criteria, for the use of new gas transport pipelines subject to the authorization regime.

Authorizations previously issued by the ANP for natural gas transport will remain valid for 30 years from the date of publication of the Gas Law, and initial carriers were granted exclusivity in these pipelines for 10 years. All pipelines currently operated in Brazil are subject to an authorization regime. The ANP will issue regulations governing third-party access and carrier compensation if no agreement is reached between the parties.

The Gas Law also authorized certain consumers, who can purchase natural gas on the open market or obtain their own supplies of natural gas, to construct facilities and pipelines for their own use in the event local gas distributors controlled by the states, which have monopoly over local gas distribution, do not meet their distribution needs. These consumers are required to delegate the operation and maintenance of the facilities and pipelines to local gas distributors, but they are not required to sign gas supply agreements with the local gas distributors.

In December 2010, Decree No. 7,382 was enacted in order to regulate Chapters I to VI and VIII of the Gas Law as it relates to activities in the gas industry, including transportation and commercialization. Since the publication of this decree, a number of administrative regulations were enacted by the ANP and the MME in order to regulate various issues related to the Gas Law and Decree No. 7,382 that needed to be further clarified. Among those is ANP Resolution No. 51/2013, which prevents a carrier from holding any relevant equity interest in companies holding concessions for gas transport pipelines. Resolution No. 51/2013 applies



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only to the concessions granted after its publication, not affecting, therefore, the transportation of our natural gas production through pipelines operated by TBG and subject to the previous authorization regime.

Another important resolution is ANP Resolution No. 52/2011, which (i) establishes that ANP is responsible for authorizing the activity of commercialization of natural gas, within the competence of the Brazilian federal government; (ii) regulates the registration of the gas seller agent; and (iii) regulates the registration of gas sales and purchase agreements. This resolution was modified in July 2019 by Resolution No. 794/2019, which requires the publication, by the ANP, of all natural gas sales and purchase agreements signed with local gas distributors to attend captive markets.

In June 2016, the MME created the program Gas to Grow, or *Gás para Crescer*, which aims to promote a competitive market environment to achieve the effective development of gas trading in Brazil, enabling the entry of new agents into the gas market.

In December 2018, Decree No. 9,616 amended Decree No. 7,382/2010 to allow the change of gas transmission system from capacity hired under the point-to-point system on long-term contracts to an entry-exit system. More recently, in June 2019, the CNPE established guidelines for promoting competition in the natural gas market, and in July 2019, the New Gas Market program, or *Novo Mercado de Gás*, was created and Decree No. 9,934 was signed. This decree establishes a committee that monitors the implementation of the actions required for the entry of new agents into the natural gas market.

Also, in July 2019, we signed an agreement with CADE (*termo de compromisso de cessação*), which consolidates understandings between the parties on the promotion of competition in the natural gas industry in Brazil. This agreement includes the sale of shareholdings in gas transportation and distribution companies and, among other matters, establishes measures to release capacity in gas transportation pipelines and includes our commitment to negotiate, in good faith, third party access to our processing plants. The purpose of the agreement is to preserve and protect the competitive conditions, aiming to open the Brazilian natural gas market, encouraging new agents to

enter this market, as well as suspending administrative procedures established by CADE to investigate our natural gas business.

There is also a pending bill that intends to modify the Gas Law (Bill No. 6,407/2013), which includes proposals that have been discussed in the context of the Gas to Grow and New Gas Market programs. If the bill is approved, it will result in important changes in the natural gas market, including the exploitation regime of natural gas transport activities.

For more information on our agreement with CADE, see “Portfolio Management” and “Risks – Risk Factors – Emerging Risks” in this annual report.

Price Regulation

Until 1997, the Brazilian federal government had the power to regulate all aspects of the pricing of crude oil, oil products, ethanol, natural gas, electric power and other energy sources. In 2002, the Brazilian federal government eliminated price controls for crude oil and oil products, although it retained regulation over certain existing natural gas sales agreements and electricity agreements (specifically the electric power trade contracts in the regulated market – CCEAR).

For information on our price policy, see “Our Business – Refining, Transportation and Marketing” in this annual report.

Environmental Regulation

All phases of the crude oil and natural gas business present environmental risks and hazards. Our facilities in Brazil are subject to a wide range of federal, state and local laws, regulations and permit requirements relating to the protection of human health and the environment, and they fall under the regulatory authority of CONAMA.

Our offshore activities are subject to the administrative authority of IBAMA, which issues operating and drilling licenses. We are required to submit reports, including safety and pollution monitoring reports to IBAMA in order to maintain our licenses. This way, we maintain an ongoing communication channel with the environmental bodies, in order to improve issues connected with the environmental management of our exploration, production and refining processes of oil and natural gas. In 2018, we designed



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actions and measures, together with IBAMA, to adjust the disposal of water produced in some of our offshore platforms in order to accommodate recently issued requirements by IBAMA. All of these actions are being met by us within the schedules defined with IBAMA.

In addition, in order to help ensuring the safety of navigation, the Brazilian maritime authority also works towards the prevention of environmental pollution, with random or periodic surveys of offshore units.

Most of the onshore environmental, health and safety conditions are controlled either at the federal or the state level depending on where our facilities are located and the type of activity under development. However, it is also possible for these conditions to be controlled on a local basis whenever the activities generate a local impact or are established in a county conservation unit. Under Brazilian law, there is strict and joint liability for environmental damage, mechanisms for enforcement of environmental standards and licensing requirements for polluting activities.

Individuals or entities whose conduct or activities cause harm to the environment are subject to criminal, civil and administrative sanctions. Government environmental protection agencies may also impose administrative sanctions for noncompliance with environmental laws and regulations, including:

- fines;
- partial or total suspension of activities;
- requirements to fund reclamation and environmental projects;
- forfeiture or restriction of tax incentives or benefits;
- closing of establishments or operations; and
- forfeiture or suspension of participation in credit lines with official credit establishments.

For more information see, Notes 12 and 31 to our audited consolidated financial statements.

Government Regulation

As a federal state-owned company, we are subject to certain rules that limit our investments, and we are required to submit our annual capital expenditures budget (*Orçamento Anual de Investimentos*, or OAI) to the ME and the MME.

Following the review by these governmental authorities, the Brazilian Congress must approve our budget. Thus, there may be a reduction or change in our planned investments. As a result, we may not be able to implement all of our planned investments, including those related to the expansion and development of our oil and natural gas fields, which may adversely affect our results of operation and financial condition.

All medium and long-term debt incurred by us or our subsidiaries requires the approval of our Board of Executive Officers, within the parameters established by our Board of Directors, except for the issuance of debentures, which requires the approval of our Board of Directors.

In addition, Law No. 13,303/16 requires us to define in our Bylaws the public interest we pursue and which publicly-oriented actions we are allowed to take in the pursuit of such public interest. In order to comply with Law No. 13,303/16, we amended our Bylaws to include the definition of public interest and to state that the Brazilian federal government may orient our activities to pursue the public interest under certain circumstances, which distinguishes us from any other private company operating in the oil and gas market.

More specifically, the Brazilian federal government may guide us to take publicly-oriented obligations or responsibilities, including executing investment projects and undertaking certain operating costs, when two conditions are met: (i) the undertaking of obligations or responsibilities must be defined by law or regulation and provided for in a contract or agreement entered into with any public entity with powers to negotiate such contract or agreement; and (ii) the investment projects must have their cost and revenues broken down and disclosed in a transparent manner.

Our financial committee and our minority committee, exercising their advisory role to our Board of Directors, are in charge of evaluating whether the obligations and responsibilities undertaken by us, in connection with the pursuit of the public interest, are different from those of any other private company operating in the oil and gas market. The evaluation by our committees is based on certain technical and economic aspects of the planned investment projects and on the analysis of certain operating costs previously adopted by our management.



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Material Contracts

Production-Sharing Agreements (*Contratos de Partilha de Produção*)

First Production Sharing Agreement – 1st Production Sharing Bidding Round

In 2013, a consortium formed by us (with a 40% interest), Shell (with a 20% interest), Total S.A (with a 20% interest), CNODC Brasil Petróleo e Gás Ltda. (with a 10% interest) and CNOOC Petroleum Brasil Ltda. (with a 10% interest) (the “Libra Consortium”), entered into a production sharing agreement with the Brazilian federal government, which holds 41.65% of the Libra Consortium’s profit oil, the ANP, as regulator and supervisor, and PPSA, as manager (the “First Production Sharing Agreement”). Under the First Production Sharing Agreement, the Libra Consortium was awarded the rights and obligations to operate and explore a strategic pre-salt area known as Libra block, located in the ultra-deepwaters of the Santos Basin. For further information on the Production Sharing Agreement, see Exhibit 2.27 to this annual report.

Second and Third Production Sharing Agreements – 2nd and 3rd Production Sharing Bidding Rounds

In 2017, we acquired, in partnership with other international oil companies, three offshore blocks in the 2nd and 3rd bidding rounds under the production sharing system held by the ANP. We are the operator of these blocks (“Second and Third Production Sharing Agreements”). In January 2018, together with our partners, the ANP, PPSA and the Brazilian federal government, we signed the Second and Third Production Sharing Agreements for exploration and production of oil and natural gas.

Under the production sharing system, the consortium submits to the government a percentage of the so-called “surplus in oil profit for the Brazilian federal government,” which is applied to revenue discounted of the production costs and royalties. The only criteria adopted by the ANP to define the winning bidder was the amount of profit oil to the Brazilian federal government, since the bidding rules provided for the fixed value of the signing bonus, the minimum exploratory program and the local content commitments.

The following table summarizes the blocks we acquired, in partnership, in the 2nd and 3rd bidding rounds as part of the production sharing system:

Area	Consortium composition	Petrobras Bonus (R\$ million)	Surplus in profit oil (%)
Entorno de Sapinhoá	Petrobras (45%) Shell (30%) Repsol Sinopec (25%)	90	80.00
Peroba	Petrobras (40%) BP (40%) CNODC (20%)	800	76.96
Alto de Cabo Frio Central	Petrobras (50%) BP (50%)	250	75.86

Fourth and Fifth Production Sharing Agreements – 4th and 5th Production Sharing Bidding Rounds

On June, 7, 2018, we acquired, together with other international companies, three offshore blocks: (i) Dois Irmãos, (ii) Três Marias and (iii) Uirapuru (“Fourth Production Sharing Agreements”) and, together with the First Production Sharing Agreement, and the Second and Third Production Sharing Agreements, the “Production Sharing Agreements”). We will be the operator of these three blocks under the production sharing regime. According to the regime, the consortium submits to the Brazilian federal government a percentage of the “surplus in oil profit for the Brazilian federal government.” Again, the only criteria adopted by the ANP to define the winning bidder was the amount of oil profit to the Brazilian federal government.



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The bidding rules established the fixed value of the signing bonus, the minimum exploratory program, and the local content commitments.

On September 28, 2018, we acquired the block Sudoeste de Tartaruga Verde under the production sharing regime and, as a result, we will be the operator of the corresponding agreement.

Sixth and Transfer of Rights Surplus Production Sharing Agreements – 6th and ToR Surplus Production Sharing Bidding Rounds

On November 6, 2019, we acquired, together with other international companies, the Buzios block, and with 100% of participation, the Itapu block.

On November 7, 2019, we acquired, together with other international company, the Aram block, and we will be the operator of such block.

We will be the operator of these blocks under the production-sharing regime. According to the relevant production-sharing contracts, the appointed operator, on behalf of the parties, offers to the Brazilian federal government a percentage of the “surplus in oil profit for the Brazilian federal government.” The only criteria adopted by the ANP to define the winning bidder was the amount of oil profit to the Brazilian federal government too, since the bidding rules provided for the fixed value of the signing bonus, the minimum exploratory program and the local content commitments.

Basic Terms:

Operating Committee. The PSA Consortia are managed by an operating committee in which we, our partners and PPSA all participate. PPSA represents the interests of the Brazilian federal government and although it will not invest in the blocks, PPSA holds 50% of the operating committee voting rights and also has a casting vote and veto powers, as defined in the Production Sharing Agreements.

Risks, Costs and Compensation. All exploration, development and production activities under the Production Sharing Agreements will be conducted at the expense and risk of the members of the consortium. For commercial discoveries of crude oil and/or natural gas in the blocks, the consortium

will be entitled to recover, on a monthly basis, (i) a portion of the production of oil and gas in the block corresponding to its royalty expenses and (ii) the “cost oil” corresponding to costs incurred (which is the amount associated with capital expenditures incurred and operating costs of the consortium’s exploration and production activities), subject to the conditions, proportions and terms set forth on the Production Sharing Agreements. In addition, for each commercial discovery, the consortia are entitled to receive, on a monthly basis, their share of “profit oil” as defined under the Production Sharing Agreements.

Duration:

The term of the Production Sharing Agreements is 35 years.

Phases:

Our activities under the Production Sharing Agreements are divided into two phases, as follows:

(i) *Exploration phase.* This phase comprises appraisal activities for purposes of determining the commerciality of any discoveries of crude oil and natural gas. The exploration phase began upon the execution of the Production Sharing Agreements and will end for each discovery upon the declaration of commerciality. We will have four years (which may be extended upon ANP’s prior approval) to comply with the minimum work program and other ANP-approved activities provided for in the Production Sharing Agreements.

(ii) *Production Phase.* The production phase for each particular discovery begins as of the date of the declaration of commerciality by the consortia to the ANP, and lasts until the termination of the Production Sharing Agreements. It comprises a development period, during which we will carry out activities pursuant to a development plan approved by the ANP.

Minimum Work Program:

During the exploration phase, we are required to undertake a minimum work program, as specified in the Production Sharing Agreements. We may perform other activities outside the scope of the minimum work program, provided that such activities are approved by the ANP.



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Unitization:

A reservoir covered by a block granted to us in the Production Sharing Agreements may extend to adjacent areas outside the block. In such case, we must notify the ANP immediately after identifying the extension and we will be prevented from performing development and production activities within such block, until we have negotiated unitization agreement with the third-party concessionaire or contractor who has rights over such adjacent area, unless otherwise authorized by the ANP. The ANP will determine the deadline for the execution of unitization agreement by the parties. If the adjacent area is not licensed (i.e., not granted for E&P activities to any other party), the Brazilian federal government, represented by PPSA or by the ANP, shall negotiate with us.

If the parties are unable to reach an agreement within a deadline established by the ANP, the ANP will determine the terms and obligations related to such unitization, on the basis of an expert report, and will also notify us and the third-party or the Brazilian federal government representative, as applicable, of such determination. Until the unitization agreement is approved by the ANP, operations for the development and production of such reservoir must remain suspended, unless otherwise authorized by the ANP. The refusal of any party to execute the unitization agreement will result in the termination of the Production Sharing Agreements and the return to the Brazilian federal government of the area subject to the unitization process.

Environmental:

We are required to preserve the environment and protect the ecosystem in the area subject to the Production Sharing Agreements and to avoid harming local fauna, flora and natural resources. We will be liable for damages to the environment resulting from our operations, including costs related to any remediation measures.

Brazilian Content:

The Production Sharing Agreements specify certain equipment, goods and services, as well as different levels of required local content, in accordance with the different phases under the Production Sharing Agreements. If we fail

to comply with the Brazilian content obligations, we may be subject to fines imposed by the ANP.

The original Libra's Production Sharing Agreement ("Production Sharing Bidding Round 1") gave the Libra's consortium the right to waive the local content obligations in terms of technology, price and schedule. This right was used once, and the ANP conceded waiver to the hull items and certain items of the process plants. By Resolution No 726/2018, the ANP gave Libra consortium the possibility of changing the local content requirements to lower levels, but the possibility of waiver was excluded.

On the Production Sharing Bidding Round 2, the fields bid on had the same local content requirements of their adjacent fields contracts, according to the CNPE Resolution No 7/2017. Such resolution established new local content levels for the Production Sharing Agreements, and the Bidding Rounds 3, 4, 5 and 6 used those levels.

Royalties and Expenses with Research and Development:

Once we begin production in each field, members of the consortia (other than PPSA) will be required to pay monthly royalties of 15% of the oil and natural gas production, to be recovered from a portion of the production of oil and gas in the block. All members of the consortia (other than PPSA) will also be required to invest 1.0% of their annual gross revenues from crude oil and natural gas production under the Production Sharing Agreements in research and development activities related to the oil, gas and biofuel sectors.

Miscellaneous Provisions:

Under the Brazilian production-sharing regime, we can assign our rights and obligations inherent to our participation above 30% in the areas in which we exercised our preemptive right to be the operator.

All members of the consortia (other than PPSA) have a right of first refusal with respect to an eventual assignment of rights and obligations to be made by any other member of the consortium (other than PPSA).

The Production Sharing Agreements shall be terminated in the following circumstances: (i) the expiration of their terms; (ii) if the minimum work program has not been



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completed by the end of the exploration phase; (iii) if there has not been any commercial discovery by the end of the exploration phase; (iv) if the consortium members (other than PPSA) exercise their withdrawal rights during the exploration phase; (v) if the consortium refuses to execute a production individualization agreement after the ANP makes such determination (which termination may be complete or partial) and (vi) any other basis described in the Production Sharing Agreements.

Any breach of the Production Sharing Agreements or of any regulations issued by the ANP may result in sanctions and fines imposed by the ANP on the relevant party, in accordance with applicable legislation and the terms of the Production Sharing Agreements. If any breach of the Production Sharing Agreements is considered by the Brazilian federal government not to be significant, intentional, or a result of negligence, imprudence or recklessness, or it is proved that the consortium has worked diligently to cure such breach, the Brazilian federal government may, instead of terminating the Production Sharing Agreements, propose that the ANP apply designated sanctions on the relevant parties.

We and other consortium members will use our best efforts to settle any disputes. If we are unable to do so, any consortium member may submit such dispute or controversy to an *ad hoc* arbitration following the rules established by the UNCITRAL, or by the consent of the parties in interest, to the ICC, or any other well-regarded arbitration chamber. If a dispute involves only public

administration entities, it may be submitted to conciliation service of the *Câmara de Conciliação e Arbitragem da Administração Federal*, or CCAF, under the AGU. In the event of a dispute involving non-negotiable rights, the parties shall submit the dispute to the federal courts in Brasília, Brazil.

The Production Sharing Agreements are governed by Brazilian law.

Amendment to Transfer of Rights Agreement

The Transfer of Rights Agreement was executed in 2010. Its amendment was approved in 2019 by the TCU and the CNPE and our governing bodies.

The parties involved discussed several scenarios about the revision of the original agreement, as both of them could be simultaneously creditor and/or debtor. The amendment consolidates one such scenario, resulting in a credit of US\$9,058 billion in our favor, which was fully paid in December 2019.

In addition to such credit, the main changes as a result of the amendment to the Transfer of Rights Agreement were (i) the local content clauses that lowered the local content requirements for the production phase (development and production stages) and (ii) the conflict resolution rules that became similar to the rules of the Production Sharing Agreements of the latest ANP bid rounds.

For more information concerning our other material contracts, see “Our Business” and “Operating and Financial Review and Prospects” in this annual report.



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Legal Proceedings

We are currently party to numerous legal proceedings relating to civil, administrative, tax, labor, criminal, environmental and corporate issues arising in the normal course of our business. These proceedings involve claims for substantial amounts of money and other remedies. Several individual disputes account for a significant part of the total amount of claims against us. Our audited consolidated financial statements only include provisions for probable and reasonably estimable losses and expenses we may incur in connection with pending proceedings.

Some of our main legal proceedings are listed below.

Lava Jato Investigation

In 2009, the Brazilian federal police began an investigation aimed at criminal organizations engaged in money laundering in several Brazilian states, known as “Car wash” operation (“Lava Jato”). The Lava Jato investigation is extremely broad and comprises numerous investigations into several criminal practices, spanning crimes and conduct committed by individuals in different parts of the country and different sectors of the Brazilian economy. In 2014, the Lava Jato started to focus part of its investigation on irregularities involving our contractors and suppliers, and uncovered a broad payment scheme that involved a wide range of participants, including our former personnel. It is possible that further information damaging to us and our interests will come to light in the course of the ongoing investigations of corruption by Brazilian authorities.

We are not a target of the Lava Jato investigation and we are formally recognized, by the Brazilian authorities, as a victim of the improper payments scheme. We will continue to pursue legal measures against companies and individuals, including former employees and politicians, who have caused financial and image damages to us. We have been working together with the Brazilian Federal Prosecutor’s Office, the Brazilian federal police, the Federal Revenue Services and other competent authorities since the beginning of the investigation. The total amount of restitution paid to us since the beginning of the Lava Jato through December 31, 2019 was US\$1,132 million (US\$220 million in 2019, US\$457

million in 2018, US\$252 million in 2017, US\$131 million in 2016 and US\$72 million in 2015).

For further information regarding the Lava Jato and its impacts on us, see Note 21 to our audited consolidated financial statements.

Investigations Carried out by Authorities

U.S.: SEC, DoJ and the US Commodity Futures Trading Commission (“CFTC”)

Because our ADRs are traded on the NYSE, we are subject to the SEC and DoJ regulations. In 2014, SEC and DoJ initiated investigations in connection with the facts disclosed in connection with the Lava Jato. We have fully cooperated with their investigations.

In September 2018, we entered into agreements with the SEC and the DoJ related to our internal controls, accounting records and financial statements for the period 2003 to 2012, which fully resolved their respective investigations. Under the terms of these agreements, we paid US\$85.3 million to the DoJ, US\$85.3 million to the SEC and US\$682.6 million to Brazilian authorities. In addition, we also entered into an agreement with the Brazilian Federal Prosecutor’s Office, the Commitments’ Assumption Agreement, in order to regulate how the amount would be used in Brazil. The amount of US\$682.6 million was deposited by us in Brazil, in January 2019.

In our agreements with them, the DoJ and SEC recognize improvements to our compliance program, internal controls and anti-corruption procedures. We have committed to continue evaluating and improving these and other efforts. The resolution of the SEC and DoJ investigations meets our best interests and the best interests of our shareholders, and eliminates uncertainties, risks, burdens and costs of potential litigations in the United States.

In May 2019, the CFTC contacted us with an inquiry regarding trading activities related to the Lava Jato. We reiterate that we will continue to cooperate with regulatory authorities, including the CFTC, regarding any inquiry, reinforcing our commitment to integrity and transparency.



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In September 2019, the Commitment Assumption Agreement was abrogated by the Brazilian federal Supreme Court (“STF”). The new allocation of the amount paid by us is described in the “Allocation Agreement” between the Brazilian Attorney General’s Office and the Presidency of the Chamber of Deputies, with the intervention of the Presidency of the Federal Senate and the Attorney General of the National Treasury, which was approved by the STF and which negotiation was not attended by us.

Brazil: Prosecutor’s Office

In 2015, the state of São Paulo Prosecutor’s Office established a civil proceeding to investigate the existence of potential damages caused by us to investors listed in the Brazilian stock market. However, the Brazilian Federal Prosecutor’s Office assessed this civil proceeding and determined that the São Paulo Public Prosecutor’s Office has no authority over this matter, which must be presided over by the Brazilian Federal Prosecutor’s Office. We have provided all relevant information required by the authorities.

Petrobras’ Investor Claims

USA: Class Action

At the end of 2017, we signed an agreement to settle the consolidated securities class action that had been filed against us and certain other defendants in connection with facts relating to Lava Jato. Under this settlement, we (together with our subsidiary PGF) agreed to pay US\$2,950 million to resolve the claims in three installments of US\$983 million, in March, 2018, US\$983 million, in June, 2018, and a further installment of US\$984 million, in January 2019. Accordingly, we charged US\$3,449 million to our statement of income for the last quarter of 2017 as other income and expenses, taking into account the gross up of tax related to our portion of the settlement.

Certain objectors appealed the District Court’s June 22, 2018 decision to approve the class action settlement.

On August 30, 2019, the United States Court of Appeals for the Second Circuit affirmed that decision. As of September 6, 2019, the settlement is no longer appealable and is therefore final.

On September 24, 2019, the District Court authorized the distribution of the settlement funds to investors who presented eligible claims to the court-approved claims administrator.

The settlement of this class action does not constitute an admission of guilt or of improper practices by Petrobras, which has been recognized by the Brazilian authorities as a victim of the events revealed through the Lava Jato investigation.

Netherlands: Collective action in the Netherlands

In 2017, the Stitching Petrobras Compensation Foundation (“Foundation”) filed a collective action before the district court in Rotterdam, in the Netherlands, against us and our subsidiaries PIBBV and PGF, joint venture PO&G and some of our former officers.

In the collective claim the Foundation allegedly represents the interests of an unidentified group of investors and alleges that as a result of the facts uncovered by the Lava Jato, the defendants acted unlawfully toward investors.

In January 2020, the court considered that shareholders who understand Portuguese and/or who bought shares through intermediaries or other agents that understand such language, among others, are bound by the arbitration clause of our Bylaws, and cannot be party to the collective action filed by the Foundation. The court also considered the binding effect of the US class settlement. In light of this, the Foundation must establish that it represents a sufficient group of investors to justify the continuance of a collective claim in the Netherlands.

The Foundation only seeks declaratory reliefs from the Dutch court, and is not able to demand compensation for damages. Compensation for the alleged damages will only be determined by court rulings if subsequent complaints are filed by individual investors.

At this current stage, due to substantial uncertainties inherent to this kind of proceedings and the highly uncertain impacts of such allegations, it is not possible for us to identify possible risks related to this action and to produce a reliable estimate of eventual loss.

Moreover, currently, it is not possible to determine if investors will be able to file subsequent individual complaints against us and if we will be found responsible for the payment of compensation, as this assessment depends on the outcome of this action.



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We, along with our subsidiaries, deny the allegations presented by the Foundation and intend to defend ourselves vigorously. We are a victim of the corruption scheme uncovered by the Lava Jato and aim to present and prove this before the Dutch court.

Other Related Investor Claims

Arbitration in Brazil

We are also currently a party to five arbitration proceedings brought by Brazilian and foreign investors that purchased our shares traded on the B3, alleging financial losses caused by facts uncovered in the Lava Jato.

Due to substantial uncertainties inherent to these kinds of proceedings and the highly uncertain impacts of such allegations, it is not possible for us to identify possible risks related to this action and to produce a reliable estimate of eventual loss.

Depending on the outcome of these claims, we may have to pay substantial amounts, which may have a significant effect on our financial condition.

On September 17, 2019, the Commitment Assumption Agreement was abrogated by the STF. Thus, we no longer have the ability to use half of the amount paid on January 30, 2019 (US\$682.6 million) to the Brazilian authorities in the event of any convictions in these arbitrations, as provided for in the agreement.

The new allocation of the amount paid is described in the "Allocation Agreement" between the Brazilian Attorney General's Office and the Presidency of the Chamber of Deputies, with the intervention of the Presidency of the Federal Senate and the Attorney General of the National Treasury, which was approved by the STF and whose negotiation was not attended by Petrobras.

We deny the allegations presented by these investors and intend to defend these claims vigorously.

Arbitration in Argentina

In 2018, we were served with an arbitral claim filed by Consumidores Financieros Asociación Civil para su Defensa (the "Association") against us and other individuals and legal entities, before the "Tribunal de Arbitraje General de la Bolsa de Comercio de Buenos Aires" ("Arbitral Tribunal").

Among other issues, the Association alleged our liability for a supposed loss of market value of our shares in Argentina, due to proceedings related to the Lava Jato.

In June 2019, the Arbitral Tribunal decided that the arbitral claim should be considered withdrawn due to the lack of payment of the arbitral fee by the Association. The Association has filed appeals that were rejected by the court of appeals on November 20, 2019. The Association has appealed to the Argentinian Supreme Court, and a final decision is still pending.

Criminal Actions in Argentina

We were accused of these two criminal actions in Argentina, as described below:

- (i) Criminal action alleging non-compliance by us with the obligation to publish as "relevant fact" to the Argentinian market the existence of a class action claim filed by Consumidores Financieros Asociación Civil para su Defensa before the Judicial Commercial Courts (Judicial Commercial Claim), pursuant to provisions of Argentine capital market law. It is worth mentioning that the Judicial Commercial Claim had never been served to us. This criminal court docket is being handled by Criminal Economic Court No. 3 of the city of Buenos Aires. We filed procedural defenses before the criminal court that have not been decided yet.
- (ii) Criminal action alleging fraudulent offer of securities aggravated by allegedly having stated false data in our financial statements issued in 2015. This criminal court docket is being handled by Criminal Economic Court No. 2 of the city of Buenos Aires. We filed procedural defenses before the criminal court that have not been decided yet.

Sete Brasil's Investor Claim and Mediation Procedure

We are currently a party to arbitrations in Brazil and a lawsuit in the District Court of the District of Columbia in Washington, D.C. filed by investors of Sete Brasil, a Project Finance created in order to build rigs with high local content. In these proceedings, the plaintiffs allege that we induced investors to invest in Sete Brasil and that we were among the parties responsible for the financial crisis of Sete Brasil, company which filed judicial recovery proceedings ("recuperação judicial"), in Brazil. The arbitrations are



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in different stages and all of them are confidential. Nonetheless, we still defend that we should not be held responsible. In 2019, we provisioned US\$740 million as expected losses to comply with accounting standards.

In 2016, EIG filed a complaint against us before the federal district court in the District of Columbia, where the court denied our motion to dismiss on various grounds including sovereign immunity and ruled that the claims could proceed to discovery, which is the exchange of legal information and known facts of a case between the parties. We appealed the decision to the United States Court of Appeals for the District of Columbia Circuit, which affirmed the court’s decision. We presented a petition for writ of certiorari to the Supreme Court of the United States that was denied. We subsequently moved the District Court to stay the case pending arbitration, which was denied. We have appealed that decision and that appeal was denied.

In addition, as result of an extrajudicial mediation initiated in 2017 in Brazil to reach a possible solution, our Board of Directors approved the final terms of the agreement to be executed between us and Sete Brasil. The key terms of the settlement are stated in the press release disclosed on March 1, 2018: (i) maintenance of charter and operation contracts referring to four drilling rigs, with termination of signed contracts in relation to the other twenty-four drilling rigs; (ii) the contracts shall have effect for ten years, with a daily rate of US\$299 thousand, including the chartering and operation of the units; (iii) and our removal and the removal of our subsidiaries from the shareholding structure of the companies of Grupo Sete Brasil and FIP Sondas until we no longer hold any shares in such company; and (iv) the resulting dissolution of all other contracts that are not compatible with the terms of the agreement. Magni Partners shall charter the rigs to us and the rigs shall be operated by Etesco. The settlement is subject to suspensive condition and shall be approved by Sete Brasil and other companies involved in the deal.

Other information relating to the arbitration and mediation filed in Brazil is confidential.

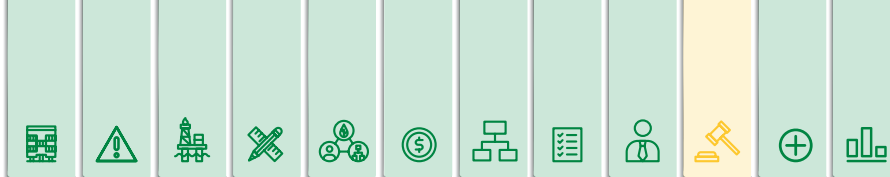
Other Legal proceedings

Legal Proceedings and Preliminary Procedure on TCU – Divestments.

There are some judicial proceedings (mainly civil suits), which allege a supposed lack of publicity and competitiveness in our proceedings for the sale of participation shares in controlled companies and assets, such as exploration and production rights in Oil & Gas Fields (“Divestment Bids”). Some bids were suspended due to injunctions granted under preliminary analysis, which were reversed after we presented our statement of defense and/or appeals. Although the aforementioned court proceedings are still pending on the final awards, there is no injunction preventing any Divestment Bid.

There are constitutional actions filed before the Brazilian Supreme Court challenging the constitutionality of the Decree No. 9,188/2017, which sets forth rules for divestment of assets and controlled affiliates by federal mixed-capital corporations, including us. Due to the preliminary injunction granted on June 27, 2018 by the Supreme Court’s Minister Ricardo Lewandowski (Direct Unconstitutionality Action – ADI 5624 MC/DF), which presumably could affect its Divestments, we have suspended some sales, according to the press release dated July 3, 2018. Such sales were resumed on January 17, 2019 under the legal grounds stated in a legal memorandum rendered by the Federal Attorney’s Office, according to the press release dated January 17, 2019. On June 6, 2019, the court partially revised the injunction to the extent that state companies are allowed to sell their corporate control in affiliates’ companies provided that such state companies were granted a general authorization to do so by the their law of incorporation and that the sale process is competitive and executed in accordance with the constitutional principles applicable to the public administration, pursuant to Federal Decree No. 9,188/2017. Hence, we may seek the divestment of assets and controlled affiliates, without any constraint.

Also, there is a Direct Unconstitutionality Action against Federal Decree No. 9,355/18 (“Federal Decree”) that aims at the immediate suspension of the effects of Federal Decree and a declaration of unconstitutionality for allegedly



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disregarding the provisions of articles 28 to 84 of Law No. 13,303/16 and the principles of legality, morality, impersonality and efficiency.

On December 19, 2018, a preliminary injunction was granted to suspend the effectiveness of the Federal Decree and order us to follow the rules of Law No. 13,303/16 in relation to the procedures for the assignment of exploration and production rights in Brazil (“Decision”). On January 11, 2019, the President of the Supreme Court granted a preliminary injunction to suspend the effects of the Decision until the judgment by the plenary of the court, which has not occurred yet.

With respect to TCU, all projects included in our divestment portfolio (excluding partnerships and acquisitions, subject to another set of rules) follow the methodology deemed appropriate by TCU under administrative procedure TC-013.056/2016-6. Recently, our divestment process methodology was reviewed and forwarded to TCU under administrative procedure TC-009.508/2019-8. The most up-to-date methodology took effect on August 20, 2019.

Labor Proceedings

RMNR

There are a number of lawsuits relating to Minimum Compensation per Level and Working Regime (“RMNR”) with the purpose to review its calculating criteria.

The RMNR consists of a minimum compensation guaranteed to the workforce, based on the salary level, the work regime and condition and the geographic location. This compensation policy was created and implemented in 2007 as a result of collective bargaining with union representatives and approval in employee assemblies, and it was only challenged three years after its implementation. The matter at dispute is whether to include additional working arrangements and special working conditions as a complement to RMNR.

In 2018, the Brazilian Superior Labor Court (“TST”) ruled against us and we filed an appeal against its decision. The STF suspended the effects of the decision issued by the TST and called for the national suspension of the ongoing proceedings relating to RMNR.

Applicable rate

There are also discussions relating to the rate applicable to damages awarded by Brazilian labor courts, as well as its period of application. The STF has initially ruled that application of the official reference rate, or “Taxa Referencial,” is unconstitutional in relation to damages awarded against the Brazilian federal government. Following the STF decision, the TST ruled that the IPCA should apply (as opposed to the Taxa Referencial) since March 2015 and acknowledged payments already made. An appeal was brought against that decision and judgment is pending. Also, judgment is still pending by the STF on the application of Taxa Referencial to labor damages, as opposed to IPCA.

Although we are not a party to any of the lawsuits before the TST and the STF involving these discussions, such lawsuits may have an adverse effect on our provisions. There is no expected date for judgment by the STF and it is possible that the STF decides that its decision should apply only from a certain date onward. However, in the event that the STF decides that the applicable rate should change from Taxa Referencial to IPCA, this may have an adverse effect on our provisions, including RMNR.

Since November 2019, a new Temporary Order (*medida provisória*) 905/2019 approved the use of the IPCA-E and savings account rate to correct labor debts.

Temporary Orders are rules that serve as laws temporarily. Such orders are issued by the Brazilian President, but they need congressional referral to be enacted into law. If congress does not consider an issued temporary order within 120 days, the order is declared null and void.

Unification of Fields

We have filed four arbitrations under the ICC administration challenging the ANP’s decision to unify our unconnected oil fields (Parque das Baleias, Lula and Cernambi; Baúna and Piracaba; Tartaruga Verde and Tartaruga Mestiça). The Parque das Baleias arbitration is already concluded.

In the case of Tartaruga Mestiça and Tartaruga Verde arbitration, the federal court of Rio de Janeiro also upheld the competence-competence principle, in which the arbitral tribunal is entitled to rule on its own jurisdiction of the case. Thus, this arbitration was restarted.



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In relation to the Baúna and Piracaba’s arbitration, a judicial injunction still keeps it suspended.

In addition, the BM-5-11 Consortium, formed with Shell and Petrogal, of which we are the operator, challenged the ANP’s decision on unifying Lula e Cernambi fields. The arbitration remains suspended due to a judicial injunction. Currently, the controversy is under review by the Brazilian superior court. The court will decide which court (the state court or arbitral tribunal) should decide the merits of the case.

Drilling contract with Vantage

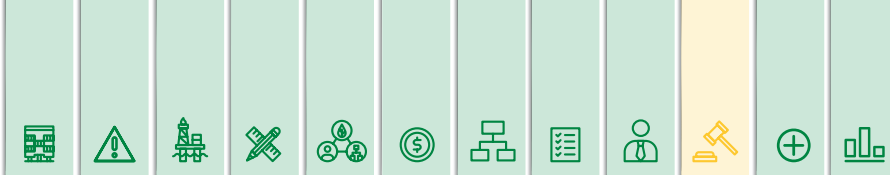
Furthermore, we were a party to an arbitration with Vantage Deepwater Company and Vantage Deepwater Drilling, Inc. (collectively, “Vantage”) administered by the International Centre for Dispute Resolution and related to a drilling contract we entered into with Vantage. In July 2018, a tribunal of three members concluded by majority, with one dissenting opinion, Vantage was entitled to receive US\$622.02 million, plus interest of 15.2% per annum compounded monthly, as compensation for the early termination of said contract and invoices related to the drilling of a well in the Gulf of Mexico. We filed a motion to vacate the award before a Federal Court in Texas, arguing that we had been denied the fundamental safeguards of due process, as expressed by the dissenting arbitrator’s opinion. Vantage sought and obtained attachments from a Dutch court, which were served in 2018, blocking the shares of our Netherlands-based subsidiaries and any amounts and assets due to us, arising from obligations of our Netherlands-based subsidiaries to secure payment of the arbitral award. In May 2019, the Federal Court confirmed the arbitration award and denied our motion to vacate it. In June 2019, our subsidiaries paid approximately US\$700 million related to such decision. The payment ceased interest accrual, allowed the lifting of the pre-judgment attachments of our Netherland-based subsidiaries and avoided other legal constraints, but did not end the dispute. We appealed the decision in June 2019 and will continue to take measures to defend our interests.

Environmental

The state of Rio de Janeiro Prosecutor’s Office filed five public civil actions against us, the State Environmental Institute (“INEA”) and the state of Rio de Janeiro (collectively, the “Defendants”), in 2018, requesting that the Defendants present proof of compliance with environmental licensing regulations related to COMPERJ, complement technical research, re-define certain conditions applicable to the environmental licensing process and compensate for collective damages to property, moral damages and damages to communities affected by any environmental impact related to COMPERJ. The amount claimed is US\$2,096 billion. In August 2019, we signed an agreement (“*termo de ajustamento de conduta*”) in the amount of US\$208 million with the state of Rio de Janeiro, the Prosecutor’s Office and INEA, to conclude one of the civil actions concerning the environmental licensing of COMPERJ. Regarding the four other civil actions, they have been partially settled and an agreement is being negotiated to conclude them. As to the remainder of pending judicial procedures, they are currently suspended.

Additionally, since 2000, we are party to another public civil action regarding the OSPAR pipeline, related to the obligation to compensate damages and alleged moral damages resulting from the environmental accident that occurred in the state of Paraná on July 16, 2000. We had a court decision condemning us and the amount of US\$155 million was provisioned. Clarification appeals have been filed and we are currently considering further appeals.

For further information on our material legal proceedings, see Note 19 to our audited consolidated financial statements.



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Tax Strategy and Effect of Taxes on Our Income

Our tax strategy outlines the compliance with tax laws of Brazil and other countries, where we operate as a corporation that influences the economic and social environment of which we are part. We also aim at engaging with tax authorities in an ethical and transparent manner. Considering that we are the biggest taxpayers in Brazil, our engagement with tax authorities may result in various effects on tax collection at the federal, state and municipal levels, as well as production taxes under the ANP.

We are subject to tax on our income at a Brazilian statutory corporate rate of 34%, comprising of a 25% rate of income tax and a social contribution tax at a 9% rate. Since 2015, we have been recognizing income tax expenses over non-exempt income generated by our foreign subsidiaries based on Brazilian statutory corporate rates as established by Law No. 12,973/2014.

In addition to taxes paid on behalf of consumers to the Brazilian federal government, as well as state and municipal governments, such as the value-added tax (*Imposto sobre Circulação de Mercadorias e Serviços*, or “ICMS”), we are required to pay three main charges on our oil production activities in Brazil under the scope of the ANP: (i) royalties, (ii) special participation and (iii) retention bonuses. See “Tax – Tax Strategy and Effect of Taxes on Our Income – Taxation under Concession Regime for Oil and Gas” and “Risks – Risk Factors – Government Ownership and Country Risks” in this annual report. These charges imposed by the Brazilian federal government are included in our cost of sales.

Taxation under Concession Regime for Oil and Gas

According to Law No. 9,478/1997 and under our concession agreements for exploration and production activities with the ANP, we are required to pay the government the following:

- Signing bonuses paid upon the execution of the concession agreement, which are based on the amount of the winning bid, subject to the minimum signing bonuses

published in the relevant bidding guidelines (*edital de licitação*);

- Annual retention bonuses for the occupation or retention of areas available for exploration and production, at a rate established by the ANP in the relevant bidding guidelines based on the size, location and geological characteristics of the concession block;
- Special participation charges at a rate ranging from 0 to 40% of the net income derived from the production of fields that reach high production volumes or profitability, according to the criteria established in the applicable legislation. Net revenues are gross revenues, based on reference prices for crude oil or natural gas established by Decree No. 2,705 and ANP regulatory acts, less royalties paid, investments in exploration, operational costs and depreciation adjustments and applicable taxes. In 2019, we paid this government take on 16 of our fields, namely Albacora Leste, Barracuda, Baúna, Jubarte (which unified Baleia Azul and Baleia Franca fields), Leste do Urucu, Lula, Manati, Marlim, Marlim Leste, Marlim Sul, Mexilhão, Rio Urucu, Roncador, Sapinhoá and Tartaruga Verde; and
- Royalties to be established in the concession contracts at a rate ranging between 5% and 10% of gross revenues from production, based on reference prices for crude oil or natural gas established in its regulatory acts. In establishing royalty rates in the concession contracts, the ANP also takes consideration the geological risks and expected productivity levels for each concession. Most of our crude oil production is currently paid at the maximum royalty rate.

Law No. 9,478/1997 also requires concessionaires of onshore fields to pay to the owner of the land a participation fee that varies between 0.5% and 1.0% of the sales revenues derived from the production of the field.

New Taxation Model for the Oil and Gas Industry

On December 28, 2017, the Brazilian federal government enacted Law No. 13,586, which outlined a new taxation model for the oil and gas industry and, along with the Decree No. 9,128/2017, established a new special regime



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for exploration, development and production of oil, gas and other liquid hydrocarbons named Repetro-Sped, which will expire in December 2040.

This regime provides for the continuation of total tax relief over goods imported with temporary permanence in Brazil, as previously established by the former Repetro (special customs regime for the export and import of goods designated to exploration and production of oil and natural gas reserves), and adds this relief to goods permanently held in Brazil. Accordingly, the absence of the need to return such goods to foreign countries eliminates future cost of removal. This benefit allowed for the migration of all the goods acquired in the former Repetro to the Repetro-Sped.

Since 2018, we have been transferring the ownership of oil and gas assets under this regime from our foreign subsidiaries to our parent company and the joint ventures (consortia) in Brazil and we expect to finish this process in 2020.

In addition, the legislation prescribes the Repetro-Industrialização, a special tax regime, regulated in 2019, which exempts acquisitions from the O&G supply chain established in Brazil.

Following the creation of Repetro-Sped and Repetro-Industrialização, some Brazilian states, pursuant to a decision by the Brazilian National Council of Finance Policies (CONFAZ), agreed to grant tax incentives relating to the value added tax (ICMS) over transactions under these regimes to the extent each state enacts its specific regulation providing for the tax relief on the oil and gas industry.

Taxation Relating to THE ADS and our Common and Preferred Shares

The following summary contains a description of material Brazilian and U.S. federal income tax considerations that may be relevant to the purchase, ownership and disposition of preferred or common shares or ADSs by a holder. This summary does not describe any tax consequences arising under the laws of any state, locality or taxing jurisdiction other than Brazil and the United States.

This summary is based upon the tax laws of Brazil and the United States as in effect on the date of this annual report,

which are subject to change (possibly with retroactive effect). This summary is also based upon the representations of the depositary and on the assumption that the obligations in the deposit agreement and any related documents will be performed in accordance with their respective terms.

This description is not a comprehensive description of the tax considerations that may be relevant to any particular investor, including tax considerations that arise from rules that are generally applicable to all taxpayers or to certain classes of investors or rules that investors are generally assumed to know. Prospective purchasers of common or preferred shares or ADSs should consult their own tax advisors as to the tax consequences of the acquisition, ownership and disposition of common or preferred shares or ADSs.

There is no income tax treaty between the United States and Brazil. In recent years, the tax authorities of Brazil and the United States have held discussions that may culminate in such a treaty. We cannot predict, however, whether or when a treaty will enter into force or how it will affect the U.S. holders of common or preferred shares or ADSs.

Brazilian Tax Considerations

General

The following discussion summarizes the material Brazilian tax consequences of the acquisition, ownership and disposition of preferred or common shares or ADSs, as the case may be, by a holder that is not deemed to be domiciled in Brazil for purposes of Brazilian taxation, also called a non-Brazilian holder.

Under Brazilian law, investors (non-Brazilian holders) may invest in the preferred or common shares under CMN Resolution No. 4,373 or under Law No. 4,131/1962. The rules of CMN Resolution No. 4,373 allow foreign investors to invest in almost all instruments and to engage in almost all transactions available in the Brazilian financial and capital markets, provided that certain requirements are met. In accordance with CMN Resolution No. 4,373, the definition of foreign investor includes individuals, legal entities, mutual funds and other collective investment entities, domiciled or headquartered abroad.



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Pursuant to this rule, foreign investors must: (i) appoint at least one representative in Brazil with powers to perform actions relating to their foreign investment (such as registration and keeping updated records of all transactions with the Central Bank of Brazil); (ii) complete the appropriate foreign investor registration form; (iii) register as a foreign investor with the CVM; and (iv) register the foreign investment with the Central Bank of Brazil.

Securities and other financial assets held by foreign investors pursuant to CMN Resolution No. 4,373 must be registered or maintained in deposit accounts or under the custody of an entity duly licensed by the CVM. In addition, securities trading is restricted to transactions carried out in the stock exchanges or organized over-the-counter markets authorized by the CVM.

Taxation of Dividends

Generally speaking, dividends paid by us, including stock dividends and other dividends paid in property to the Depositary in respect of the ADSs, or to a non-Brazilian holder in respect of the preferred or common shares, are not subject to withholding income tax in Brazil, to the extent that such amounts are related to profits generated after January 1, 1996.

We must pay to our shareholders (including non-Brazilian holders of common or preferred shares or ADSs) interest on the amount of dividends payable to them, updated by the SELIC rate, from the end of each fiscal year through the date of effective payment of those dividends. These interest payments are considered fixed-yield income and are subject to withholding income tax at varying rates depending on the length of period of interest accrual. The tax rate for payments made to beneficiaries resident or domiciled in Brazil varies from 15%, in case of interest accrued for a period greater than 720 days, 17.5% in case of interest accrued for a period between 361 and 720 days, 20% in case of interest accrued for a period between 181 and 360 days, and to 22.5%, in case of interest accrued for a period up to 180 days. However, when the beneficiary is a non-Brazilian holder the general applicable withholding income tax rate over interest is 15% except in case the beneficiary is resident or domiciled in a country or other jurisdiction that does not impose income tax or imposes it at a maximum income tax

rate lower than 17% (a Low or Nil Tax Jurisdiction) or, based on the position of the Brazilian tax authorities, a country or other jurisdiction where the local legislation does not allow access to information related to the shareholding composition of legal entities, to their ownership or to the identity of the effective beneficiary of the income attributed to shareholders (the “Non-Transparency Rule”), when the applicable withholding income tax rate will be 25%. See “Tax – Tax Strategy and Effect of Taxes on Our Income – Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction” in this annual report.

Taxation on Interest on Capital

Any payment of interest on capital to holders of ADSs or preferred or common shares, whether or not they are Brazilian residents, is subject to Brazilian withholding income tax at the rate of 15% at the time we record such liability, whether or not the effective payment is made at that time. See “Shareholder Information – Dividends – Payment of Dividends and Interest on Capital” in this annual report. In the case of non-Brazilian residents that are resident in a Low or Nil Tax Jurisdiction (including in the view of Brazilian authorities the jurisdictions to which the Non-Transparency Rule applies), the applicable withholding income tax rate is 25%. See “Tax – Tax Strategy and Effect of Taxes on Our Income – Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction” in this annual report. The payment of interest with respect to updating recorded distributions by the SELIC rate that is applicable to payments of dividends applies equally to payments of interest on capital. The determination of whether or not we will make distributions in the form of interest on capital or in the form of dividends is made by our Board of Directors at the time distributions are to be made. We cannot determine how our Board of Directors will make these determinations in connection with future distributions.

Taxation of Gains

For purposes of Brazilian taxation on capital gains, two types of non-Brazilian holders have to be considered: (i) non-Brazilian holders of ADSs, preferred shares or common shares that are not resident or domiciled in a Low or Nil Tax Jurisdiction, and that, in the case of preferred or



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common shares, have registered before the Central Bank of Brazil and the CVM in accordance with CMN Resolution No. 4,373; and (ii) any other non-Brazilian holder, including non-Brazilian holders who invest in Brazil not in accordance with CMN Resolution No. 4,373 (including registration under Law No. 4,131/1962) and who are resident or domiciled in a Low or Nil Tax Jurisdiction. See “Tax – Tax Strategy and Effect of Taxes on Our Income – Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction” in this annual report.

According to Law No. 10,833/2003, capital gains realized on the disposition of assets located in Brazil by non-Brazilian holders, whether or not to other non-residents and whether made outside or within Brazil, may be subject to taxation in Brazil. With respect to the disposition of common or preferred shares, as they are assets located in Brazil, the non-Brazilian holder may be subject to income tax on any gains realized, following the rules described below, regardless of whether the transactions are conducted in Brazil or with a Brazilian resident. We understand the ADSs do not fall within the definition of assets located in Brazil for the purposes of this law, but there is still neither pronouncement from tax authorities nor judicial court rulings in this respect. Therefore, we are unable to predict whether such understanding will prevail in the courts of Brazil.

Although there are grounds to sustain otherwise, the deposit of preferred or common shares in exchange for ADSs may be subject to Brazilian taxation on capital gains if the acquisition cost of the preferred or common shares is lower than the average price per preferred or common share.

The difference between the acquisition cost and the market price of the preferred or common shares will be considered realized capital gain that is subject to taxation as described below. There are grounds to sustain that such taxation is not applicable with respect to non-Brazilian holders registered under the rules of CMN Resolution No. 4,373 and not resident or domiciled in a Low or Nil Tax Jurisdiction.

The withdrawal of ADSs in exchange for preferred or common shares should not be considered as giving rise to a capital gain subject to Brazilian income tax, provided that on receipt of the underlying preferred or common shares, the non-Brazilian holder complies with the registration

procedure with the Central Bank of Brazil as described below in “Registered Capital.”

Capital gains realized by a non-Brazilian holder on a sale or disposition of preferred or common shares carried out on a Brazilian stock exchange (which includes transactions carried out on the organized over-the-counter market) are:

- exempt from income tax when the non-Brazilian holder (i) has registered its investment in accordance with CMN Resolution No. 4,373 and (ii) is not resident or domiciled in a Low or Nil Tax Jurisdiction;
- subject to an income tax at a 25% rate, in cases of gains realized by a non-Brazilian holder resident or domiciled in a Low or Nil Tax Jurisdiction or a jurisdiction to which the Non-Transparency Rule applies. In this case, a withholding income tax at a rate of 0.005% of the sale value is levied on the transaction which can be offset against the eventual income tax due on the capital gain; or
- in all other cases, including a case of capital gains realized by a non-Brazilian holder that is not registered in accordance with CMN Resolution No. 4,373, subject to income tax at the following progressive rates: 15% that do not exceed R\$5 million, 17.5% on the gains between R\$5 million and R\$10 million, 20% on the gains between R\$10 million and R\$30 million and 22.5% on the gains that exceed R\$30 million. In these cases, a withholding income tax at a rate of 0.005% of the sale value is levied on the transaction, which can be offset against the eventual income tax due on the capital gain.

Any capital gains realized on a disposition of preferred or common shares that is carried out outside the Brazilian stock exchange are subject to income tax above rates in case of gains realized by a non-Brazilian holder that is domiciled or resident in a Low or Nil Tax Jurisdiction or a jurisdiction to which the Non-Transparency Rule applies. In this last case, for the capital gains related to transactions conducted on the Brazilian non-organized over-the-counter market with intermediation, the withholding income tax of 0.005% will also apply and can be offset against the eventual income tax due on the capital gain.

In the case of a redemption of preferred or common shares or ADSs or a capital reduction made by us, the positive difference between the amount received by the non-



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Brazilian holder and the acquisition cost of the preferred or common shares or ADSs redeemed or reduced is treated as capital gain derived from the sale or exchange of shares not carried out on a Brazilian stock exchange market and is therefore generally subject to the above rates. See “Tax – Tax Strategy and Effect of Taxes on Our Income – Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction” in this annual report.

Any exercise of preemptive rights relating to the preferred or common shares will not be subject to Brazilian taxation. Any gain on the sale or assignment of preemptive rights will be subject to Brazilian income taxation according to the same rules applicable to the sale or disposition of preferred or common shares.

No assurance can be made that the current preferential treatment of non-Brazilian holders of the ADSs and some non-Brazilian holders of the preferred or common shares under CMN Resolution No. 4,373 will continue to apply in the future.

Additional Recent Rules Regarding Taxation of Gains

On March 16, 2016, the Brazilian federal government converted the Provisional Measure No. 692 into Law No. 13,259, which established progressive income tax rates applicable to capital gains derived from the disposition of assets by Brazilian individuals. Law No. 13,259 provides for new rates that range from 15% to 22.5% depending on the amount of the gain recognized by the Brazilian individual, as follows: (i) 15% on gains not exceeding R\$5 million; (ii) 17.5% on gains that exceed R\$5 million and do not exceed R\$10 million; (iii) 20% on gains that exceed R\$10 million and do not exceed R\$30 million; and (iv) 22.5% on gains exceeding R\$30 million. Pursuant to Section 18 of Law No. 9,249/95, the tax treatment applicable to capital gains earned by Brazilian individuals also applies to capital gains earned by non-Brazilian residents (except in cases that remain subject to the application of specific rules, as explained in Section 149 of such law).

Clarifications on Non-Brazilian Holders Resident or Domiciled in a Low or Nil Tax Jurisdiction

Law No. 9,779/1999 states that, except for limited prescribed circumstances, income derived from transactions by a person resident or domiciled in a Low or Nil Tax Jurisdiction will be subject to withholding income tax at the rate of 25%. A Low or Nil Tax Jurisdiction is generally considered to be a country or other jurisdiction which does not impose any income tax or which imposes such tax at a maximum rate lower than 17%. Under certain circumstances, the Non-Transparency Rule is also taken into account for determining whether a country or other jurisdiction is a Low or Nil Tax Jurisdiction. In addition, Law No. 11,727/2008 introduced the concept of a “privileged tax regime,” which is defined as a tax regime which (i) does not tax income or taxes it at a maximum rate lower than 17%; (ii) grants tax benefits to non-resident entities or individuals (a) without the requirement to carry out a substantial economic activity in the country or other jurisdiction or (b) contingent on the non-exercise of a substantial economic activity in the country or other jurisdiction; (iii) does not tax or that taxes foreign source income at a maximum rate lower than 17%; or (iv) does not provide access to information related to shareholding composition, ownership of assets and rights or economic transactions carried out. We believe that the best interpretation of Law No. 11,727/2008 is that the concept of a “privileged tax regime” will apply solely for purposes of the transfer pricing rules in export and import transactions, deductibility for Brazilian corporate income taxes and the thin capitalization rules and, would therefore generally not have an impact on the taxation of a non-Brazilian holder of preferred or common shares or ADSs, as discussed herein. However, we are unable to ascertain whether the privileged tax regime concept will also apply in the context of the rules applicable to Low or Nil Tax Jurisdictions, although the Brazilian tax authorities appear to agree with our position, in view of the provisions of the Withholding Income Tax Manual (MAFON – 2019), issued by the Brazilian Revenue Service.



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Taxation of Foreign Exchange Transactions (IOF/Exchange)

Brazilian law imposes the IOF/Exchange on the conversion of *reais* into foreign currency and on the conversion of foreign currency into *reais*. Currently, for most foreign currency exchange transactions, the rate of IOF/Exchange is 0.38%. However, foreign exchange transactions related to inflows of funds to Brazil for investments made by foreign investors in the Brazilian financial and capital markets are generally subject to IOF/Exchange at a zero percent rate. Foreign exchange transactions related to outflows of proceeds from Brazil in connection with investments made by foreign investors in the Brazilian financial and capital markets are also subject to the IOF/Exchange tax at a zero percent rate. This zero percent rate applies to payments of dividends and interest on capital received by foreign investors with respect to investments in the Brazilian financial and capital markets, such as investments made by a non-Brazilian holder as provided for in CMN Resolution No. 4,373. The Brazilian executive branch may increase such rates at any time, up to 25% of the amount of the foreign exchange transaction, but not with retroactive effect.

Taxation on Bonds and Securities Transactions (IOF/Bonds)

Brazilian law imposes IOF/Bonds on transactions involving equity securities, bonds and other securities, including those carried out on a Brazilian stock exchange. The rate of IOF/Bonds applicable to transactions involving preferred or common shares is currently zero. However, the Brazilian federal government may increase such rate at any time up to 1.5% of the transaction amount per day, but the tax cannot be applied retroactively.

The IOF on transfer of shares, which are admitted to trading on a stock exchange located in Brazil, with the specific purpose of backing the issuance of depositary receipts traded abroad have been reduced from 1.5% to zero, as of December 24, 2013.

Other Brazilian Taxes

There are no Brazilian inheritance, gift or succession taxes applicable to the ownership, transfer or disposition of preferred or common shares or ADSs by a non-Brazilian

holder, except for gift and inheritance taxes which are levied by certain states of Brazil on gifts made or inheritances bestowed by a non-Brazilian holder to individuals or entities resident or domiciled within such states in Brazil. There are no Brazilian stamp, issue, registration, or similar taxes or duties payable by holders of preferred or common shares or ADSs.

Registered Capital

The amount of an investment in preferred or common shares held by a non-Brazilian holder who obtains registration under CMN Resolution No. 4,373, or by the depositary representing such holder, is eligible for registration with the Central Bank of Brazil; and such registration allows the remittance outside Brazil of foreign currency, converted at the commercial market rate, acquired with the proceeds of distributions on, and amounts realized with respect to dispositions of, such preferred or common shares. The amount registered ("registered capital") for each preferred or common share purchased as part of the international offering or purchased in Brazil after the date hereof, and deposited with the depositary, will be equal to its purchase price (in U.S. dollars). The registered capital for a preferred or common share that is withdrawn upon surrender of an ADS will be the U.S. dollar equivalent of:

- (i) the average price of a preferred or common share on the Brazilian stock exchange on which the highest volume of such shares were traded on the day of withdrawal; or
- (ii) if no preferred or common shares were traded on that day, the average price on the Brazilian stock exchange on which the highest volume of preferred or common shares were traded in the 15 trading sessions immediately preceding the date of such withdrawal.

The U.S. dollar value of the average price of preferred or common shares is determined on the basis of the average of the U.S. dollar/*real* commercial market rates quoted by the Central Bank of Brazil information system on that date (or, if the average price of preferred or common shares is determined under the second option above, price will be determined by the average quoted rates verified on the same 15 preceding trading sessions as described above).

A non-Brazilian holder of preferred or common shares may be subject to delays in effecting such registration, which



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in turn may delay remittances abroad. Such a delay may adversely affect the amount, in U.S. dollars, received by the non-Brazilian holder. See “Risks – Risk Factors – Equity and Debt Securities Risks” in this annual report.

U.S. Federal Income Tax Considerations

This summary describes material U.S. federal income tax consequences that may be relevant to a U.S. Holder (as defined below) from the ownership and disposition of common or preferred shares or ADSs. This summary is based on the U.S. Internal Revenue Code of 1986, as amended (“the Code”), its legislative history, existing and proposed U.S. Treasury regulations promulgated thereunder, published rulings by the U.S. Internal Revenue Service (IRS), and court decisions, all as in effect as of the date hereof, and all of which are subject to change or differing interpretations, possibly with retroactive effect. This summary does not purport to be a comprehensive description of all of the tax consequences that may be relevant to a decision to hold or dispose of common or preferred shares or ADSs. This summary applies only to purchasers of common or preferred shares or ADSs who hold the common or preferred shares or ADSs as “capital assets” (generally, property held for investment), and does not apply to special classes of holders such as dealers or traders in securities or currencies, holders whose functional currency is not the U.S. dollar, holders of 10% or more of our shares, measured by voting power or value (taking into account shares held directly or through depositary arrangements), tax-exempt organizations, partnerships or partners therein, financial institutions, life insurance companies, holders liable for the alternative minimum tax, securities traders who elect to account for their investment in common or preferred shares or ADSs on a mark-to-market basis, persons that enter into a constructive sale transaction with respect to common or preferred shares or ADSs, persons holding common or preferred shares or ADSs in a hedging transaction or as part of a straddle or conversion transaction, or nonresident alien individuals present in the United States for more than 182 days in a taxable year. Moreover, this summary does not address state, local or foreign taxes or the U.S. federal estate and gift taxes.

EACH HOLDER SHOULD CONSULT ITS OWN TAX ADVISOR CONCERNING THE OVERALL TAX CONSEQUENCES IN ITS PARTICULAR CIRCUMSTANCES, INCLUDING THE CONSEQUENCES UNDER LAWS OTHER THAN U.S. FEDERAL INCOME TAX LAWS, OF AN INVESTMENT IN COMMON OR PREFERRED SHARES OR ADSs.

Shares of our preferred stock will be treated as equity for U.S. federal income tax purposes. In general, a holder of an ADS will be treated as the holder of the shares of common or preferred stock represented by those ADSs for U.S. federal income tax purposes, and no gain or loss will be recognized if you exchange ADSs for the shares of common or preferred stock represented by that ADS.

In this discussion, references to ADSs refer to ADSs with respect to both common and preferred shares, and references to a “U.S. Holder” are to a holder of a common or preferred share or ADS that is:

- an individual who is a citizen or resident of the United States;
- a corporation organized under the laws of the United States, any state thereof, or the District of Columbia; or
- otherwise subject to U.S. federal income taxation on a net basis with respect to the share or the ADS.

Taxation of Distributions

A U.S. Holder will recognize ordinary dividend income for U.S. federal income tax purposes in an amount equal to the amount of any cash and the value of any property we distribute as a dividend to the extent that such distribution is paid out of our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes, when such distribution is received by the depositary, in the case of ADSs, or by the U.S. Holder in the case of a holder of common or preferred shares. The amount of any distribution will include distributions characterized as interest on capital and the amount of Brazilian tax withheld on the amount distributed, and the amount of a distribution paid in *reais* will be measured by reference to the exchange rate for converting *reais* into U.S. dollars in effect on the date the distribution is received by the depositary, in the case of ADSs, or by a U.S. Holder in the case of a holder of common or preferred shares. If the depositary, in the case of ADSs, or



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U.S. Holder in the case of a holder of common or preferred shares, does not convert such *reais* into U.S. dollars on the date it receives them, it is possible that the U.S. Holder will recognize foreign currency loss or gain, which would be U.S. source ordinary loss or gain, when the *reais* are converted into U.S. dollars. Dividends paid by us will not be eligible for the dividends received deduction allowed to corporations under the Code.

Subject to certain exceptions for short-term and hedged positions, the U.S. dollar amount of dividends received by a non-corporate U.S. Holder with respect to the ADSs will generally be subject to taxation at preferential rates if the dividends are “qualified dividends.” Dividends paid on the ADSs will be treated as qualified dividends if (i) the ADSs are readily tradable on an established securities market in the United States and (ii) Petrobras was not, in the year prior to the year in which the dividend was paid, and is not, in the year in which the dividend is paid, a “passive foreign investment company” as defined for U.S. federal income tax purposes (a PFIC). The ADSs are listed on the NYSE, and will qualify as readily tradable on an established securities market in the United States so long as they are so listed. Based on our audited consolidated financial statements and relevant market and shareholder data, we believe that we should not be treated as a PFIC for U.S. federal income tax purposes with respect to the 2019 or 2018 taxable year. In addition, based on our audited consolidated financial statements and our current expectations regarding the value and nature of our assets, the sources and nature of our income, and relevant market and shareholder data, we do not anticipate becoming a PFIC for our 2020 taxable year. Based on existing guidance, it is not clear whether dividends received with respect to the shares will be treated as qualified dividends, because the shares are not themselves listed on a U.S. exchange. U.S. Holders of our ADSs should consult their own tax advisors regarding the availability of the reduced dividend tax rate in the light of their particular circumstances.

Distributions out of earnings and profits with respect to the shares or ADSs generally will be treated as dividend income from sources outside of the United States and generally will be treated as “passive category income” for U.S. foreign

tax credit purposes. Subject to certain limitations, Brazilian income tax withheld in connection with any distribution with respect to the shares or ADSs may be claimed as a credit against the U.S. federal income tax liability of a U.S. Holder, or, at the U.S. Holder’s election, such Brazilian withholding tax may be taken as a deduction against taxable income (provided that the U.S. Holder elects to deduct, rather than credit, all foreign income taxes paid or accrued for the relevant taxable year). A U.S. foreign tax credit may not be allowed for Brazilian withholding tax imposed in respect of certain short-term or hedged positions in securities or in respect of arrangements in which a U.S. Holder’s expected economic profit is insubstantial. U.S. Holders should consult their own tax advisors regarding the availability of the U.S. foreign tax credit, including the translation of *reais* into U.S. dollar for these purposes, in light of their particular circumstances.

Holders of ADSs that are foreign corporations or nonresident alien individuals (non-U.S. Holders) generally will not be subject to U.S. federal income tax, including withholding tax, on distributions with respect to shares or ADSs that are treated as dividend income for U.S. federal income tax purposes unless such dividends are effectively connected with the conduct by the holder of a trade or business in the United States.

Taxation of Capital Gains

Upon the sale or other disposition of a share or an ADS, a U.S. Holder will generally recognize U.S. source capital gain or loss for U.S. federal income tax purposes, equal to the difference between the amount realized on the disposition and the U.S. Holder’s tax basis in such share or ADS. Any gain or loss will be long-term capital gain or loss if the shares or ADSs have been held for more than one year. Non-corporate U.S. Holders of shares or ADSs may be eligible for a preferential rate of U.S. federal income tax in respect of long-term capital gains. Capital losses may be deducted from taxable income, subject to certain limitations. For U.S. federal income tax purposes, such disposition would not result in foreign source income to a U.S. Holder. As a result, a U.S. Holder may not be able to use the foreign tax credit associated with any Brazilian income taxes imposed on such gains, unless such holder can use the credit against U.S. tax



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due on other foreign source income. U.S. Holders should consult their own tax advisors regarding the availability of the U.S. foreign tax credit.

Information Reporting and Backup Withholding

The payment of dividends on, and proceeds from the sale or other disposition of, the ADSs or common or preferred shares to a U.S. Holder within the United States (or through certain U.S. related financial intermediaries) will generally be subject to information reporting, and may be subject to “backup withholding” unless the U.S. Holder (i) is an exempt recipient, and demonstrates this fact when so required, or (ii) timely provides a taxpayer identification number and certifies that no loss of exemption from backup withholding has occurred and otherwise complies with applicable requirements of the backup withholding rules. Backup withholding is not an additional tax. The amount of any backup withholding collected from a payment to a U.S. Holder will be allowed as a credit against the U.S. Holder’s U.S. federal income tax liability and may entitle the U.S. Holder to a refund, so long as the required information is furnished to the IRS in a timely manner.

U.S. Holders should consult their own tax advisors about any additional reporting requirements that may arise as a result of their purchasing, holding or disposing of our ADSs, or common or preferred shares.

A non-U.S. Holder generally will be exempt from these information reporting requirements and backup withholding tax, but may be required to comply with certain certification and identification procedures in order to establish its eligibility for such exemption.

Specified Foreign Financial Assets

Certain U.S. Holders that own “specified foreign financial assets” with an aggregate value in excess of US\$50,000 on the last day of the taxable year or US\$75,000 at any time during the taxable year are generally required to file an information statement along with their tax returns, currently on Form 8938, with respect to such assets. “Specified foreign financial assets” include any financial accounts held at a non-U.S. financial institution, as well as securities issued by a non-U.S. issuer (which would include our common and preferred shares and ADSs) that are not held in accounts

maintained by financial institutions. Higher reporting thresholds apply to certain individuals living abroad and to certain married individuals. Regulations extend this reporting requirement to certain entities that are treated as formed or availed of to hold direct or indirect interests in specified foreign financial assets based on certain objective criteria. U.S. Holders who fail to report the required information could be subject to substantial penalties. Prospective investors should consult their own tax advisors concerning the application of these rules to their investment, including the application of the rules to their particular circumstances.

Taxation Relating to PGF’s Notes

The following summary contains a description of material Brazilian, Dutch, European Union and U.S. federal income tax considerations that may be relevant to the purchase, ownership and disposition of PGF’s debt securities (the “notes”). This summary does not describe any tax consequences arising under the laws of any state, locality or taxing jurisdiction other than the Netherlands, Brazil and the United States.

This summary is based on the tax laws of the Netherlands, Brazil and the United States as in effect on the date of this annual report, which are subject to change (possibly with retroactive effect). This description is not a comprehensive description of all tax considerations that may be relevant to any particular investor, including tax considerations that arise from rules generally applicable to all taxpayers or to certain classes of investors or that investors are generally assumed to know. Prospective purchasers of notes should consult their own tax advisors regarding the tax consequences of the acquisition, ownership and disposition of the notes.

There is no tax treaty to avoid double taxation between Brazil and the United States. In recent years, the tax authorities of Brazil and the United States have held discussions that may culminate in such a treaty. We cannot predict, however, whether or when a treaty will enter into force or how it will affect the U.S. Holders of notes.



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Dutch Taxation

The following is a general summary of certain material Dutch tax consequences to holders of the notes in connection with the acquisition, ownership and disposal of notes in a Dutch company. This summary does not purport to describe all possible Dutch tax consequences that may be relevant to a holder or prospective holder of the notes and does not purport to deal with the tax consequences applicable to all categories of investors, some of which may be subject to special rules. In view of its general nature, this general summary should therefore be treated with appropriate caution.

This summary is based on the tax laws of the Netherlands, published regulations thereunder and published authoritative case law, all as in effect on the date hereof, and all of which are subject to change or to different interpretation, possibly with retroactive effect. Where the text refers to the Netherlands, it refers only to the part of the Kingdom of the Netherlands located in Europe.

For Dutch tax purposes, a holder of notes may include, without limitation:

- an owner of one or more notes who, in addition to the title to such notes, has an economic interest in such notes;
- a person who or an entity that holds the entire economic interest in one or more notes;
- a person who or an entity that holds an interest in an entity, such as a partnership or a mutual fund, that is transparent for Dutch tax purposes, the assets of which comprise one or more notes; and
- an individual who or an entity that does not have the legal title to the notes, but to whom the notes are attributed based either on such individual or entity holding a beneficial interest in the notes or based on specific statutory provisions, including statutory provisions pursuant to which the notes are attributed to an individual who is, or who has directly or indirectly inherited the notes from a person who was, the settlor, grantor or similar originator of a trust, foundation or similar entity that holds the notes.

The discussion below is included for general information purposes only and is not Dutch tax advice or a complete

description of all Dutch tax consequences relating to the acquisition, holding and disposal of the notes. Holders or prospective holders of notes should consult their own tax advisers as to the Dutch tax consequences of purchasing, including, without limitation, the consequences of the receipt of interest and the sale or other disposition of notes or coupons, in light of their particular circumstances.

Withholding Tax

All payments of interest and principal made by PGF under the notes can be made free of withholding or deduction for any taxes of any nature imposed, levied, withheld or assessed by the Netherlands or any political subdivision or taxing authority thereof or therein, unless the notes qualify as equity of PGF for Dutch tax purposes.

Taxes on Income and Capital Gains

Please note that the summary in this section does not describe the Dutch tax considerations for:

- holders of the notes if such holders, and in the case of an individual, his or her partner or certain of his or her relatives by blood or marriage in the direct line (including foster children), have a substantial interest (*aanmerkelijk belang*) or deemed substantial interest (*fictief aanmerkelijk belang*) in PGF under the Dutch Income Tax Act 2001 (*Wet inkomstenbelasting 2001*). Generally speaking, a holder of notes has a substantial interest in PGF if it has, directly or indirectly (and, in the case of an individual, alone or together with certain relatives) (i) the ownership of, a right to acquire the ownership of, or certain rights over, shares representing 5% or more of either the total issued and outstanding capital of PGF or the issued and outstanding capital of any class of shares of PGF, or (ii) the ownership of, or certain rights over, profit participating certificates (*winstbewijzen*) that relate to 5% or more of either the annual profit or the liquidation proceeds of PGF. A deemed substantial interest may arise if a substantial interest (or part thereof) has been disposed of, or is deemed to have been disposed of, on a non-recognition basis;
- pension funds, investment institutions (*fiscale beleggingsinstellingen*), exempt investment institutions (*vrijgestelde beleggingsinstellingen*) (as defined in



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the Dutch Corporate Income Tax Act 1969 (*Wet op de vennootschapsbelasting 1969*) and other entities that are, in whole or in part, not subject to or exempt from Dutch corporate income tax; and

- holders of notes who are individuals and for whom the notes or any benefit derived from the notes are a remuneration or deemed to be a remuneration for activities performed by such holders or certain individuals related to such holders (as defined in the Dutch Income Tax Act 2001).

A holder of notes will not be subject to any Dutch taxes on income or capital gains in respect of the notes, including such tax on any payment under the notes or in respect of any gain realized on the disposal, deemed disposal, redemption or exchange of the notes, provided that:

- such holder is neither a resident nor deemed to be a resident of the Netherlands;
- such holder does not have, and is not deemed to have, an enterprise or an interest in an enterprise that, in whole or in part, is either effectively managed in the Netherlands or carried on through a (deemed) permanent establishment (*vaste inrichting*) or a permanent representative (*vaste vertegenwoordiger*) in the Netherlands and to which enterprise or part of an enterprise the notes are attributable;
- if such holder is an individual, such income or capital gains do not form “benefits from miscellaneous activities in the Netherlands” (*resultaat uit overige werkzaamheden in Nederland*), including without limitation activities in the Netherlands with respect to the notes that exceed “normal asset management” (normal, *actief vermogensbeheer*);
- if such holder is an entity, the holder is not entitled to a share in the profits of an enterprise nor a co-entitlement to the net worth of an enterprise, which is effectively managed in the Netherlands, other than by way of securities, and to which enterprise the notes are attributable; and
- if such holder is an individual, the holder is not entitled to a share in the profits of an enterprise that is effectively managed in the Netherlands, other than by way of securities, and to which enterprise the notes are attributable.

A holder of notes will not be treated as a resident of the Netherlands by reason only of the execution, delivery or enforcement of its rights and obligations connected to the notes, the issue of the notes or the performance by PGF of its obligations under the notes.

Gift and Inheritance Taxes

No gift or inheritance taxes will arise in the Netherlands with respect to an acquisition or deemed acquisition of notes by way of a gift by, or on the death of, a holder of notes who is neither resident nor deemed to be resident in the Netherlands for the relevant provisions, unless:

- in case of a gift of the notes under a suspensive condition by an individual who at the date of the gift was neither resident nor deemed to be resident in the Netherlands, such individual is resident or deemed to be resident in the Netherlands at the date of (i) the fulfillment of the condition or (ii) his/her death and the condition of the gift is fulfilled after the date of his/her death; or
- in case of a gift of notes by an individual who at the date of the gift or, in case of a gift under a suspensive condition, at the date of the fulfillment of the condition was neither resident nor deemed to be resident in the Netherlands, such individual dies within 180 days after the date of the gift or fulfillment of the condition, while being resident or deemed to be resident in the Netherlands.

For purposes of Dutch gift and inheritance taxes, amongst others, a person who holds the Dutch nationality will be deemed to be resident in the Netherlands if such person has been resident in the Netherlands at any time during the ten years preceding the date of the gift or his/her death. Additionally, for purposes of Dutch gift tax, amongst others, a person not holding the Dutch nationality will be deemed to be resident in the Netherlands if such person has been resident in the Netherlands at any time during the twelve months preceding the date of the gift.

Value added tax (VAT)

No Dutch VAT will be payable by a holder of the notes in respect of any payment in consideration for the issue of the notes or with respect to any payment by PGF of principal, interest or premium (if any) on the notes.



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Other Taxes and Duties

No other Dutch registration taxes, or any other similar taxes of a documentary nature, such as capital tax or stamp duty, will be payable in the Netherlands by or on behalf of a holder of the notes by reason only of the purchase, ownership and disposal of the notes.

FATCA

Pursuant to certain provisions of the U.S. Internal Revenue Code of 1986 and the U.S. Treasury regulations promulgated thereunder, commonly known as FATCA, a “foreign financial institution” may be required to withhold on certain payments it makes to persons that fail to meet certain certification, reporting or related requirements.

Pursuant to FATCA, holders and beneficial owners of the notes may be required to provide to a financial institution in the chain of payments on the notes information and tax documentation regarding their identities, and in the case of a holder that is an entity, the identities of their direct and indirect owners, and this information may be reported to relevant tax authorities, including the IRS. Moreover, financial institutions through which payments are made, may be required to withhold U.S. tax at a 30% rate on “foreign pass thru payments” (a term not yet defined) paid to an investor who does not provide information sufficient for the institution to determine whether the investor is a U.S. person or should otherwise be treated as holding a “United States account” of the institution, or to an investor that is, or holds the notes directly or indirectly through, a non-U.S. financial institution that is not in compliance with FATCA. Regulations implementing the rules on withholding taxes imposed on “foreign pass thru payments” have not yet been adopted or proposed and the IRS has indicated that any such regulations would not be effective for payments made two years after the date on which final regulations on this issue are published). Holders of our common or preferred shares or ADSs should consult their own tax advisors to obtain a more detailed explanation of FATCA and to learn how FATCA might affect each holder in its particular circumstances. Under a grandfathering rule, this withholding tax will not apply unless the notes are issued or materially modified

after the date that is six months after the date on which final United States Treasury Regulations defining the term “foreign pass thru payment” are filed with the United States Federal Register.

A number of jurisdictions, including the Netherlands, have entered into, or have agreed in substance to, intergovernmental agreements with the United States to implement FATCA (“IGAs”), which modify the way in which FATCA applies in their jurisdictions. Certain holders of the notes therefore may be required to provide information and tax documentation regarding their identities, as well as that of their direct and indirect owners, and this information may be reported to the Dutch tax authorities and ultimately to the IRS.

Holders should consult their own tax advisors regarding how these rules may apply to their investment in the notes.

The Proposed Financial Transactions Tax (FTT)

On February 14, 2013, the European Commission published a proposal (“Commission’s Proposal”) for a directive for a common financial transaction tax, or FTT, in Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovenia, Slovakia and Spain, or the participating member states (“Member States”). However, Estonia has since stated that it will not participate.

Under the Commission’s Proposal, the FTT could apply in certain circumstances to persons both within and outside of the participating Member States. Generally, it would apply to certain dealings in the notes where at least one party is a financial institution, and at least one party is established in a participating Member State. A financial institution may be, or be deemed to be, “established” in a participating Member State in a broad range of circumstances, including (1) by transacting with a person established in a participating Member State or (2) where the financial instrument which is subject to the dealings is issued in a participating Member State.

However, the FTT remains subject to negotiation between the participating Member States and the legality of the proposal is uncertain. The FTT may therefore be altered prior



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to any implementation, the timing of which remains unclear. Additional European Union Member States may decide to participate and/or certain of the participating Member States may decide to withdraw.

The Commission's Proposal has a very broad scope and could, if introduced in its current form, apply to certain dealings in notes in certain circumstances. This could, accordingly, affect the market value of notes and/or limit the ability to resell notes but given the lack of certainty at this stage, it is not possible to predict in full the effects of the proposed FTT. Prospective holders of notes are advised to seek their own professional advice in relation to the FTT.

Brazilian Taxation

The following discussion is a summary of the Brazilian tax considerations relating to an investment in the notes by a non-resident of Brazil. The discussion is based on the tax laws of Brazil as in effect on the date hereof and is subject to any change in Brazilian law that may come into effect after such date. The information set forth below is intended to be a general discussion only and does not address all possible consequences relating to an investment in the notes.

INVESTORS SHOULD CONSULT THEIR OWN TAX ADVISERS AS TO THE CONSEQUENCES OF PURCHASING THE NOTES, INCLUDING, WITHOUT LIMITATION, THE CONSEQUENCES OF THE RECEIPT OF INTEREST AND THE SALE, REDEMPTION OR REPAYMENT OF THE NOTES OR COUPONS.

Generally, an individual, entity, trust or organization domiciled for tax purposes outside Brazil, or a "Non-resident," is taxed in Brazil only when income is derived from Brazilian sources or when the transaction giving rise to such earnings involves assets in Brazil. Therefore, any gains or interest (including original issue discount), fees, commissions, expenses and any other income paid by PGF in respect of the notes issued by them in favor of non-resident holders are not subject to Brazilian taxes.

Interest, fees, commissions, expenses and any other income payable by us as guarantor resident in Brazil to a non-resident are generally subject to income tax withheld at source. The rate of withholding income tax in respect of

interest payments is generally (in case of fixed yields – See "Taxation of Dividends") 15%, unless (i) the holder of the notes is resident or domiciled in a "tax haven jurisdiction" (that is deemed to be a country or jurisdiction which does not impose any tax on income or which imposes such tax at a maximum effective rate lower than 17% or where the local legislation imposes restrictions on disclosing the identities of shareholders, the ownership of investments, or the ultimate beneficiary of earnings distributed to the non-resident – "tax haven jurisdiction"), in which case the applicable rate is 25% or (ii) such other lower rate as provided for in an applicable tax treaty between Brazil and another country where the beneficiary is domiciled. In case the guarantor is required to assume the obligation to pay the principal amount of the notes, Brazilian tax authorities could attempt to impose withholding income tax at the rate of up to 25% as described above. Although Brazilian legislation does not provide a specific tax rule for such cases and there is no official position from tax authorities or precedents from the Brazilian court regarding the matter, we believe that the remittance of funds by us as a guarantor for the payment of the principal amount of the notes will not be subject to income tax in Brazil, because the mere fact that the guarantor is making the payment does not convert the nature of the principal due under the notes into income of the beneficiary.

If the payments with respect to the notes are made by us, as provided for in the guaranties, the non-resident holders will be indemnified so that, after payment of all applicable Brazilian taxes collectable by withholding, deduction or otherwise, with respect to principal, interest and additional amounts payable with respect to the notes (plus any interest and penalties thereon), a non-resident holder will receive an amount equal to the amount that such non-resident holder would have received as if no such Brazilian taxes (plus interest and penalties thereon) were withheld. The Brazilian obligor will, subject to certain exceptions, pay additional amounts in respect of such withholding or deduction so that the non-resident holder receives the net amount due.

Gains on the sale or other disposition of the notes made outside of Brazil by a non-resident, other than a branch or a subsidiary of Brazilian resident, to another non-resident are not subject to Brazilian income tax.



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In addition, payments made from Brazil are subject to the tax on foreign exchange transactions (*IOF/Câmbio*), which is levied on the conversion of Brazilian currency into foreign currency and on the conversion of foreign currency into Brazilian currency at a general rate of 0.38%. Other IOF/Câmbio rates may apply to specific transactions. In any case, the Brazilian federal government may increase, at any time, such rate up to 25% but only with respect to future transactions.

Generally, there are no inheritance, gift, succession, stamp, or other similar taxes in Brazil with respect to the ownership, transfer, assignment or any other disposition of the notes by a non-resident, except for gift and inheritance taxes imposed by some Brazilian states on gifts or bequests by individuals or entities not domiciled or residing in Brazil to individuals or entities domiciled or residing within such states.

U.S. Federal Income Taxation

The following summary sets forth material United States federal income tax considerations that may be relevant to a holder of a note that is, for U.S. federal income purposes, a citizen or resident of the United States or a domestic corporation or that otherwise is subject to U.S. federal income taxation on a net income basis in respect of the notes (a “U.S. Holder”). This summary is based upon the Code, its legislative history, existing and proposed U.S. Treasury regulations promulgated thereunder, published rulings by the IRS, and court decisions, all as in effect as of the date hereof, all of which are subject to change or differing interpretations, possibly with retroactive effect. This summary does not purport to discuss all aspects of the U.S. federal income taxation which may be relevant to special classes of investors, such as financial institutions, insurance companies, dealers or traders in securities or currencies, securities traders who elect to account for their investment in notes on a mark-to-market basis, regulated investment companies, tax-exempt organizations, partnerships or partners therein, holders that are subject to the alternative minimum tax, certain short-term holders of notes, persons that hedge their exposure in the notes or hold notes as part of a position in a “straddle” or as part of a hedging transaction or “conversion transaction” for U.S.

federal tax purposes, persons that enter into a “constructive sale” transaction with respect to the notes, nonresident alien individuals present in the United States for more than 182 days in a taxable year, or U.S. Holders whose functional currency is not the U.S. dollar. U.S. Holders should be aware that the U.S. federal income tax consequences of holding the notes may be materially different for investors described in the prior sentence.

In addition, this summary does not discuss any foreign, state or local tax considerations. This summary only applies to original purchasers of notes who have purchased notes at the original issue price and hold the notes as “capital assets” (generally, property held for investment). U.S. Holders of notes denominated in a currency other than US\$ should consult their tax advisors regarding the application of foreign currency gain or loss rules to the notes and the treatment of any foreign currency received in respect of the notes.

EACH INVESTOR SHOULD CONSULT ITS OWN TAX ADVISOR CONCERNING THE OVERALL TAX CONSEQUENCES IN ITS PARTICULAR CIRCUMSTANCES, INCLUDING THE CONSEQUENCES UNDER LAWS OTHER THAN U.S. FEDERAL INCOME TAX LAWS, OF AN INVESTMENT IN THE NOTES.

Book/Tax Conformity

U.S. Holders that use an accrual method of accounting for tax purposes (“accrual method holders”) generally are required to include certain amounts in income no later than the time such amounts are reflected on certain financial statements (the “book/tax conformity rule”). The application of the book/tax conformity rule thus may require the accrual of income earlier than would be the case under the general tax rules described below. It is not entirely clear to what types of income the book/tax conformity rule applies, or, in some cases, how the rule is to be applied if it is applicable. However, recently released proposed regulations generally would exclude, among other items, original issue discount and market discount (in either case, whether or not *de minimis*) from the applicability of the book/tax conformity rule. Although the proposed regulations generally will not be effective until taxable years beginning after the date



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on which they are issued in final form, taxpayers generally are permitted to elect to rely on their provisions currently. Accrual method holders should consult with their tax advisors regarding the potential applicability of the book/tax conformity rule to their particular situation.

Payments of Interest

Payment of “qualified stated interest,” as defined below, on a note (including additional amounts, if any) generally will be taxable to a U.S. Holder as ordinary interest income when such interest is accrued or is actually or constructively received, in accordance with the U.S. Holder’s applicable method of accounting for U.S. federal tax purposes. In general, if a note is issued with an “issue price” that is less than its “stated redemption price at maturity” by more than a *de minimis* amount, such note will be considered to have “original issue discount,” or OID. For this purpose, the “issue price” generally is the first price at which a substantial amount of such notes is sold to investors for money. A U.S. Holder should consult its own tax advisors regarding the issue price for a note, in particular where the note has been issued pursuant to an exchange offer or a reopening or the note’s terms have been amended. The stated redemption price at maturity of a note generally includes all payments on the note other than payments of qualified stated interest.

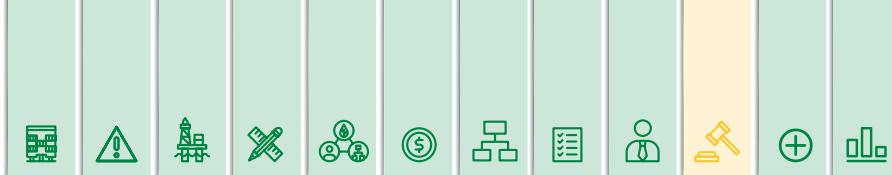
In general, each U.S. Holder of a note, whether such holder uses the cash or the accrual method of tax accounting, will be required to include in gross income as ordinary interest income the sum of the “daily portions” of OID on the note, if any, for all days during the taxable year that the U.S. Holder owns the note. The daily portions of OID on a note are determined by allocating to each day in any accrual period a ratable portion of the OID allocable to that accrual period. In general, in the case of an initial holder, the amount of OID on a note allocable to each accrual period is determined by (i) multiplying the “adjusted issue price,” as defined below, of the note at the beginning of the accrual period by the yield to maturity of the note, and (ii) subtracting from that product the amount of qualified stated interest allocable to that accrual period. U.S. Holders should be aware that they generally must include OID in gross income as ordinary interest income for U.S. federal income tax purposes as

it accrues, in advance of the receipt of cash attributable to that income. The “adjusted issue price” of a note at the beginning of any accrual period will generally be the sum of its issue price (generally including accrued interest, if any) and the amount of OID allocable to all prior accrual periods, reduced by the amount of all payments other than payments of qualified stated interest (if any) made with respect to such note in all prior accrual periods. The term “qualified stated interest” generally means stated interest that is unconditionally payable in cash or property (other than debt instruments of the issuer) at least annually during the entire term of a note at a single fixed rate of interest, or subject to certain conditions, based on one or more interest indices.

Interest income, including OID, in respect of the notes will constitute foreign source income for U.S. federal income tax purposes and, with certain exceptions, will be treated separately, together with other items of “passive category income,” for purposes of computing the foreign tax credit allowable under the U.S. federal income tax laws. The calculation of foreign tax credits involves the application of complex rules that depend on a U.S. Holder’s particular circumstances. U.S. Holders should consult their own tax advisors regarding the availability of foreign tax credits and the treatment of additional amounts.

Sale or Disposition of Notes

A U.S. Holder generally will recognize capital gain or loss upon the sale, exchange, retirement or other disposition of a note in an amount equal to the difference between the amount realized upon such sale, exchange, retirement or other disposition (other than amounts attributable to accrued qualified stated interest, which will be taxed as such) and such U.S. Holder’s adjusted tax basis in the note. A U.S. Holder’s adjusted tax basis in the note generally will equal the U.S. Holder’s cost for the note increased by any amounts included in gross income by such U.S. Holder as OID, if any, and reduced by any payments other than payments of qualified stated interest on that note. Gain or loss realized by a U.S. Holder on the sale, exchange, retirement or other disposition of a note generally will be U.S. source gain or loss for U.S. federal income tax purposes unless it is attributable to an office or other fixed place of business outside the



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United States and certain other conditions are met. The gain or loss realized by a U.S. Holder will be capital gain or loss, and will be long-term capital gain or loss if the notes were held for more than one year. The net amount of long-term capital gain recognized by an individual holder generally is subject to taxation at preferential rates. Capital losses may be deducted from taxable income, subject to certain limitations.

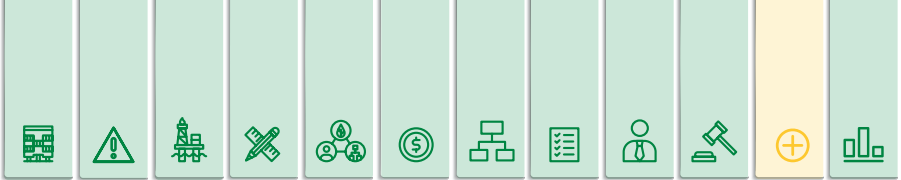
Backup Withholding and Information Reporting

A U.S. Holder may, under certain circumstances, be subject to “backup withholding” with respect to certain payments to that U.S. Holder, unless the holder (i) is an exempt recipient, and demonstrates this fact when so required, or (ii) provides a correct taxpayer identification number, certifies that it is not subject to backup withholding and otherwise complies with applicable requirements of the backup withholding rules. Any amount withheld under these rules generally will be creditable against the U.S. Holder’s U.S. federal income tax liability. While non-U.S. Holders generally are exempt from backup withholding, a non-U.S. Holder may, in certain circumstances, be required to comply with certain information and identification procedures in order to prove entitlement to this exemption.

U.S. Holders should consult their own tax advisors about any additional reporting requirements that may arise as a result of their purchasing, holding or disposing of the notes.

Specified Foreign Financial Assets

Certain U.S. Holders that own “specified foreign financial assets” with an aggregate value in excess of US\$50,000 on the last day of the taxable year or US\$75,000 at any time during the taxable year are generally required to file an information statement along with their tax returns, currently on Form 8938, with respect to such assets. “Specified foreign financial assets” include any financial accounts held at a non-U.S. financial institution, as well as securities issued by a non-U.S. issuer (which would include the notes) that are not held in accounts maintained by financial institutions. Higher reporting thresholds apply to certain individuals living abroad and to certain married individuals. Regulations extend this reporting requirement to certain entities that are treated as formed or availed of to hold direct or indirect interests in specified foreign financial assets based on certain objective criteria. U.S. Holders who fail to report the required information could be subject to substantial penalties. Prospective investors should consult their own tax advisors concerning the application of these rules to their investment in the notes, including the application of the rules to their particular circumstances.



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No.	Description
1.1	Amended Bylaws of Petróleo Brasileiro S.A.-Petrobras, dated as of March 04, 2020.
2.1	Indenture, dated as of December 15, 2006, between Petrobras International Finance Company and The Bank of New York, as Trustee (incorporated by reference to Exhibit 4.9 to the Registration Statement of Petrobras and Petrobras International Finance Company on Form F-3, filed with the Securities and Exchange Commission on December 18, 2006 (File Nos. 333-139459 and 333-139459-01))
2.2	Fourth Supplemental Indenture, dated as of October 30, 2009, among Petrobras International Finance Company, Petrobras and The Bank of New York Mellon, as Trustee, relating to the 6.875% Global Notes due 2040 (incorporated by reference to Exhibit 2.36 to the Annual Report on Form 20-F of Petrobras and Petrobras International Finance Company, filed with the Securities and Exchange Commission on May 20, 2010 (File Nos. 001-15106 and 001-33121))
2.3	Guaranty for the 6.875% Global Notes due 2040, dated as of October 30, 2009, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 2.38 to the Annual Report on Form 20-F of Petrobras and Petrobras International Finance Company, filed with the Securities and Exchange Commission on May 20, 2010 (File Nos. 001-15106 and 001-33121))
2.4	Description of Securities
2.5	Transfer of Rights Agreement, dated as of September 3, 2010, among Petrobras, the Brazilian Federal Government and the National Petroleum, Natural Gas and Biofuels Agency (incorporated by reference to Exhibit 2.47 to the Annual Report on Form 20-F of Petrobras and Petrobras International Finance Company, filed with the Securities and Exchange Commission on May 26, 2011 (File Nos. 001-15106 and 001-33121))
2.6	Ninth Supplemental Indenture, dated as of December 9, 2011, among Petrobras International Finance Company, Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as Principal Paying Agent and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg Paying Agent, relating to the 5.875% Global Notes due 2022 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on December 9, 2011 (File Nos. 001-15106 and 001-33121))
2.7	Guaranty for the 5.875% Global Notes due 2022, dated as of December 9, 2011, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on December 9, 2011 (File Nos. 001-15106 and 001-33121))
2.8	Tenth Supplemental Indenture, dated as of December 12, 2011, among Petrobras International Finance Company, Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as Principal Paying Agent and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg Paying Agent, relating to the 6.250% Global Notes due 2026 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on December 12, 2011 (File Nos. 001-15106 and 001-33121))
2.9	Guaranty for the 6.250% Global Notes due 2026, dated as of December 12, 2011, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on December 12, 2011 (File Nos. 001-15106 and 001-33121))



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2.10	Further Amended and Restated Deposit Agreement, dated as of January 2, 2020, among Petrobras, JPMorgan Chase Bank, N.A., as depositary, and registered holders and beneficial owners from time to time of the ADSs, representing the common shares of Petrobras, and Form of ADR evidencing ADSs representing the common shares of Petrobras
2.11	Further Amended and Restated Deposit Agreement, dated as of January 2, 2020, among Petrobras, JPMorgan Chase Bank, N.A., as depositary, and registered holders and beneficial owners from time to time of the ADSs, representing the preferred shares of Petrobras, and Form of ADR evidencing ADSs representing the preferred shares of Petrobras
2.12	Amended and Restated Sixth Supplemental Indenture, dated as of February 6, 2012, among Petrobras International Finance Company, Petrobras and The Bank of New York Mellon, as Trustee, relating to the 5.375% Global Notes due 2021 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on February 6, 2012 (File Nos. 001-15106 and 001-33121))
2.13	Amended and Restated Seventh Supplemental Indenture, dated as of February 6, 2012, among Petrobras International Finance Company, Petrobras and The Bank of New York Mellon, as Trustee, relating to the 6.750% Global Notes due 2041 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on February 6, 2012 (File Nos. 001-15106 and 001-33121))
2.14	Amended and Restated Guaranty for the 5.375% Global Notes due 2021, dated as of February 6, 2012, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on February 6, 2012 (File Nos. 001-15106 and 001-33121))
2.15	Amended and Restated Guaranty for the 6.750% Global Notes due 2041, dated as of February 6, 2012, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras and Petrobras International Finance Company, furnished to the Securities and Exchange Commission on February 6, 2012 (File Nos. 001-15106 and 001-33121))
2.16	Sixth Supplemental Indenture, dated as of February 10, 2012, among Petrobras International Finance Company, Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 2.11 to the Annual Report on Form 20-F of Petrobras and Petrobras International Finance Company, filed with the Securities and Exchange Commission on April 2, 2012 (File Nos. 001-15106 and 001-33121))
2.17	Thirteenth Supplemental Indenture, dated as of February 10, 2012, among Petrobras International Finance Company, Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 2.60 to the Annual Report on Form 20-F of Petrobras and Petrobras International Finance Company, filed with the Securities and Exchange Commission on April 2, 2012 (File Nos. 001-15106 and 001-33121))
2.18	Indenture, dated as of August 29, 2012, between Petrobras Global Finance B.V. and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.5 to the Registration Statement on Form F-3 of Petrobras, Petrobras International Finance Company and Petrobras Global Finance B.V., filed with the Securities and Exchange Commission on August 29, 2012 (File Nos. 333-183618, 333-183618-01 and 333-183618-02))
2.19	Second Supplemental Indenture, dated as of October 1, 2012, among Petrobras Global Finance B.V., Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as principal paying agent, and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg paying agent, relating to the 4.25% Global Notes due 2023 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on October 1, 2012 (File No. 001-15106))



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2.20	Third Supplemental Indenture, dated as of October 1, 2012, among Petrobras Global Finance B.V., Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as principal paying agent, and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg paying agent, relating to the 5.375% Global Notes due 2029 (incorporated by reference to Exhibit 4.8 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on October 1, 2012 (File No. 001-15106))
2.21	Guaranty for the 4.25% Global Notes due 2023, dated as of October 1, 2012, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on October 1, 2012 (File No. 001-15106))
2.22	Guaranty for the 5.375% Global Notes due 2029, dated as of October 1, 2012, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.7 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on October 1, 2012 (File No. 001-15106))
2.23	Sixth Supplemental Indenture, dated as of May 20, 2013, between Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 4.375% Global Notes due 2023 (incorporated by reference to Exhibit 4.8 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 20, 2013 (File No. 001-15106))
2.24	Seventh Supplemental Indenture, dated as of May 20, 2013, between Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 5.625% Global Notes due 2043 (incorporated by reference to Exhibit 4.11 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 20, 2013 (File No. 001-15106))
2.25	Guaranty for the 4.375% Global Notes due 2023, dated as of May 20, 2013, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.7 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 20, 2013 (File No. 001-15106))
2.26	Guaranty for the 5.625% Global Notes due 2043, dated as of May 20, 2013, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.10 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 20, 2013 (File No. 001-15106))
2.27	Production Sharing Agreement, dated as of December 2, 2013, among Petrobras, Shell Brasil Petróleo Ltda., Total E&P do Brasil Ltda., CNODC Brasil Petróleo e Gás Ltda. and CNOOC Petroleum Brasil Ltda., the Brazilian Federal Government, Pré-Sal Petróleo S.A. - PPSA and the National Petroleum, Natural Gas and Biofuels Agency (incorporated by reference to the Annual Report on Form 20-F of Petrobras, filed with the Securities and Exchange Commission on April 30, 2014 (File No. 001-15106))
2.28	Eleventh Supplemental Indenture, dated as of January 14, 2014, among Petrobras Global Finance B.V., Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as principal paying agent, and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg paying agent, relating to the 3.750% Global Notes due 2021 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106))
2.29	Twelfth Supplemental Indenture, dated as of January 14, 2014, among Petrobras Global Finance B.V., Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as principal paying agent, and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg paying agent, relating to the 4.750% Global Notes due 2025 (incorporated by reference to Exhibit 4.8 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106))



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2.30	Thirteenth Supplemental Indenture, dated as of January 14, 2014, among Petrobras Global Finance B.V., Petrobras, The Bank of New York Mellon, as Trustee, The Bank of New York Mellon, London Branch, as principal paying agent, and The Bank of New York Mellon (Luxembourg) S.A., as Luxembourg paying agent, relating to the 6.625% Global Notes due 2034 (incorporated by reference to Exhibit 4.11 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106))
2.31	Guaranty for the 3.750% Global Notes due 2021, dated as of January 14, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106))
2.32	Guaranty for the 4.750% Global Notes due 2025, dated as of January 14, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.7 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106))
2.33	Guaranty for the 6.625% Global Notes due 2034, dated as of January 14, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.10 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 14, 2014 (File No. 001-15106))
2.34	Sixteenth Supplemental Indenture, dated as of March 17, 2014, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 6.250% Global Notes due 2024 (incorporated by reference to Exhibit 4.8 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106))
2.35	Seventeenth Supplemental Indenture, dated as of March 17, 2014, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 7.250% Global Notes due 2044 (incorporated by reference to Exhibit 4.11 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106))
2.36	Nineteenth Supplemental Indenture, dated as of March 17, 2014, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the Floating Rate Global Notes due 2020 (incorporated by reference to Exhibit 4.17 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106))
2.37	Guaranty for the 6.250% Global Notes due 2024, dated as of March 17, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.7 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106))
2.38	Guaranty for the 7.250% Global Notes due 2044, dated as of March 17, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.10 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106))
2.39	Guaranty for the Floating Rate Global Notes due 2020, dated as of March 17, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.16 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 17, 2014 (File No. 001-15106))
2.40	Seventh Supplemental Indenture, dated as of December 28, 2014, among Petrobras International Finance Company S.A., Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 15, 2015 (File No. 001-15106))



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2.41	Fourteenth Supplemental Indenture, dated as of December 28, 2014, among Petrobras International Finance Company S.A., Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 15, 2015 (File No. 001-15106))
2.42	First Amendment to the Guaranties, dated as of December 28, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.3 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 15, 2015 (File No. 001-15106))
2.43	Twentieth Supplemental Indenture, dated as of June 5, 2015, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 6.850% Global Notes due 2115 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 5, 2015 (File No. 001-15106))
2.44	Guaranty for the 6.850% Global Notes due 2115, dated as of June 5, 2015, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on June 5, 2015 (File No. 001-15106))
2.45	Twenty-First Supplemental Indenture, dated as of May 23, 2016, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 8.375% Global Notes due 2021 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 23, 2016 (File No. 01-15106))
2.46	Amended and Restated Twenty-First Supplemental Indenture, dated as of July 13, 2016, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 8.375% Global Notes due 2021 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 13, 2016 (File No. 01-15106))
2.47	Twenty-Second Supplemental Indenture, dated as of May 23, 2016, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 8.750% Global Notes due 2026 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 23, 2016 (File No. 01-15106))
2.48	Amended and Restated Twenty-Second Supplemental Indenture, dated as of July 13, 2016, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 8.750% Global Notes due 2026 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 13, 2016 (File No. 01-15106))
2.49	Twenty-Third Supplemental Indenture, dated as of January 17, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 6.125% Global Notes due 2022 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 17, 2017 (File No. 01-15106))
2.50	Twenty-Fourth Supplemental Indenture, dated as of January 17, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 7.375% Global Notes due 2027 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on January 17, 2017 (File No. 01-15106))
2.51	Guaranty for the 8.375% Global Notes due 2021, dated as of May 23, 2016, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 23, 2016 (File No. 01-15106))



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2.52	Amended and Restated Guaranty for the 8.375% Global Notes due 2021, dated as of July 13, 2016, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 13, 2016 (File No. 01-15106))
2.53	Guaranty for the 8.750% Global Notes due 2026, dated as of May 23, 2016, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 23, 2016 (File No. 01-15106))
2.54	Amended and Restated Guaranty for the 8.750% Global Notes due 2026, dated as of July 13, 2016, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 13, 2016 (File No. 01-15106))
2.55	Amended and Restated Guaranty for the 6.125% Global Notes due 2022, dated as of May 22, 2017, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 01-15106))
2.56	Amended and Restated Guaranty for the 7.375% Global Notes due 2027, dated as of May 22, 2017, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.4 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 01-15106))
2.57	Amended and Restated Twenty-Third Supplemental Indenture, dated as of January 17, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 6.125% Global Notes due 2022 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 01-15106))
2.58	Amended and Restated Twenty-Fourth Supplemental Indenture, dated as of May 22, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 7.375% Global Notes due 2027 (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 01-15106))
2.59	Amended and Restated Seventeenth Supplemental Indenture, dated as of May 22, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as Trustee, relating to the 7.250% Global Notes due 2044 (incorporated by reference to Exhibit 4.8 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 01-15106))
2.60	Indenture, dated as of September 27, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as trustee, relating to the 5.299% Global Notes due 2025.
2.61	Indenture, dated as of September 27, 2017, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, as trustee, relating to the 5.999% Global Notes due 2028.
2.62	Guaranty for the 5.299% Global Notes due 2025, dated as of September 27, 2017, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.96 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 27, 2018 (File No. 333-226375))
2.63	Guaranty for the 5.999% Global Notes due 2028, dated as of September 27, 2017, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.97 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on July 27, 2018 (File No. 333-226375))
2.64	Twenty-Fifth Supplemental Indenture, dated as of February 1, 2018, among Petrobras Global Finance B.V., Petrobras and The Bank of New York Mellon, relating to the 5.750% Global Notes due 2029 (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on February 1, 2018 (File No. 001-15106))



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2.65	Guaranty for the 5.750% Global Notes due 2029, dated as of February 1, 2018, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on February 1, 2018 (File No. 001-15106))
2.66	Indenture, dated as of August 28, 2018 between Petrobras and The Bank of New York, as Trustee (incorporated by reference to Exhibit 4.3 to the Registration Statement of Petrobras and Petrobras Global Finance on Form F-3, filed with the Securities and Exchange Commission on August 28, 2018 (File Nos. 333-227087 and 333-227087-01))
2.67	Indenture, dated as of August 28, 2018 between Petrobras Global Finance B.V. and The Bank of New York, as Trustee (incorporated by reference to Exhibit 4.4 to the Registration Statement of Petrobras and Petrobras Global Finance B.V. on Form F-3, filed with the Securities and Exchange Commission on August 28, 2018 (File Nos. 333-227087 and 333-227087-01))
2.68	Amended And Restated Guaranty for the 5.750% Global Notes due 2029, dated as of March 19, 2019, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.1 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 19, 2019 (File No. 001-15106))
2.69	Amended And Restated Twenty-Fifth Supplemental Indenture for the 5.750% Global Notes due 2029, dated as of March 19, 2019, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.2 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 19, 2019 (File No. 001-15106))
2.70	Guaranty for the 6.90% Global Notes due 2049, dated as of March 19, 2019, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.5 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 19, 2019 (File No. 001-15106))
2.71	First Supplemental Indenture for the 6.90% Global Notes due 2049, dated as of March 19, 2019, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.6 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on March 19, 2019 (File No. 001-15106))
2.72	Amended and Restated Guaranty of the Amended and Restated Guaranty of the 7.250% Global Notes due 2044, dated as of March 17, 2014, between Petrobras and The Bank of New York Mellon, as Trustee (incorporated by reference to Exhibit 4.7 to Form 6-K of Petrobras, furnished to the Securities and Exchange Commission on May 22, 2017 (File No. 001-15106))
4.1	Form of Concession Agreement for Exploration, Development and Production of crude oil and natural gas executed between Petrobras and the ANP (incorporated by reference to Exhibit 10.1 of Petrobras' Registration Statement on Form F-1 filed with the Securities and Exchange Commission on July 14, 2000 (File No. 333-12298)). This was a paper filing, and is not available on the SEC website.
4.2	Purchase and Sale Agreement of natural gas, executed between Petrobras and Yacimientos Petroliferos Fiscales Bolivianos-YPFB (together with and English version) (incorporated by reference to Exhibit 10.2 to Petrobras' Registration Statement on Form F-1 filed with the Securities and Exchange Commission on July 14, 2000 (File No. 333-12298)). This was a paper filing, and is not available on the SEC website. Until the moment seven GSA Additives have been concluded since its celebration on August 16, 1996, so the GSA remains in force.
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13.1	Certifications Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
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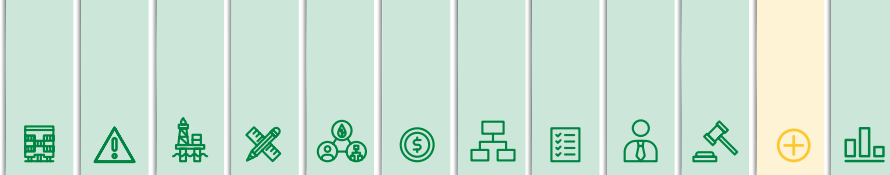
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Signatures

The registrant hereby certifies that it meets all the requirements for filing on Form 20-F and has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Rio de Janeiro, on March 20, 2020.

Petróleo Brasileiro S.A. – PETROBRAS

By: _____

Name: Roberto da Cunha Castello Branco

Title: Chief Executive Officer

By: _____

Name: Andrea Marques de Almeida

Title: Chief Financial Officer and Chief Investor Relations Officer

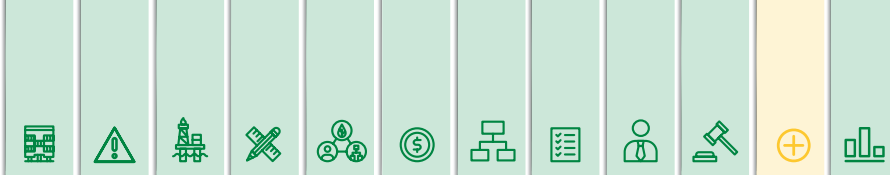


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Abbreviations

bbl	Barrels
bbl/d	Barrels per day
bcf	Billion cubic feet
bn	Billion (thousand million)
bnbbl	Billion barrels
bncf	Billion cubic feet
bnm ³	Billion cubic meters
bnboe	Billion barrels of oil equivalent
boe	Barrels of oil equivalent
boed	Barrels of oil equivalent per day
cf	Cubic feet
GWh	One gigawatt of power supplied or demanded for one hour
km	Kilometer
km ²	Square kilometers
m ³	Cubic meter
mdbl	Thousand barrels
mdbl/d	Thousand barrels per day
mboe	Thousand barrels of oil equivalent
mboed	Thousand barrels of oil equivalent per day
mcf	Thousand cubic feet
mcf/d	Thousand cubic feet per day
mm ³	Thousand cubic meters
mm ³ /d	Thousand cubic meters per day
mm ³ /y	Thousand cubic meter per year
mmbbl	Million barrels
mmbbl/d	Million barrels per day
mmboe	Million barrels of oil equivalent
mmboed	Million barrels of oil equivalent per day
mmcf	Million cubic feet
mmcf/d	Million cubic feet per day
mmm ³	Million cubic meters
mmm ³ /d	Million cubic meters per day
mmt	Million metric tons
mmt/y	Million metric tons per year
MW	Megawatts
MWavg	Amount of energy (in MWh) divided by the time (in hours) in which such energy is produced or consumed
MWh	One megawatt of power supplied or demanded for one hour
ppm	Parts per million
R\$	Brazilian <i>reais</i>
t	Metric ton
Tcf	Trillion cubic feet
US\$	United States dollars
/d	Per day
/y	Per year



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1 acre	= 43,560 square feet	= 0.004047 km ²
1 barrel	= 42 U.S. gallons	= Approximately 0.13 t of oil
1 boe	= 1 barrel of crude oil equivalent	= 6,000 cf of natural gas
1 m ³ of natural gas	= 35.315 cf	= 0.0059 boe
1 km	= 0.6214 miles	
1 meter	= 3.2808 feet	
1 t of crude oil	= 1,000 kilograms of crude oil	= Approximately 7.5 barrels of crude oil (assuming an atmospheric pressure index gravity of 37°API)



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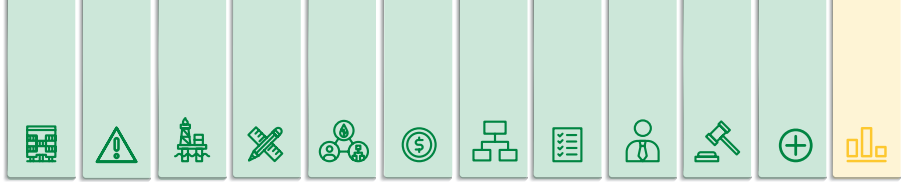
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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Petróleo Brasileiro S.A. - Petrobras
Rio de Janeiro – RJ

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statement of financial position of Petróleo Brasileiro S.A. – Petrobras and subsidiaries (“the Company”) as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively, the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the Company’s internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated March 20, 2020, expressed an unqualified opinion on the effectiveness of the Company’s internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2.3 to the consolidated financial statements, the Company has changed its method of accounting for lease arrangements as of January 1, 2019 due to the adoption of IFRS 16 “Leases”.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.



Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Assessment of the valuation of the obligations for the defined benefit pension and health care plans

As discussed in notes 4.4 and 18 of the consolidated financial statements as of December 31, 2019, the Company sponsors defined benefit pension plans and health care plans that provide supplementary retirement benefits and medical care to its employees. As of December 31, 2019, the obligations under these pension and health care plans were USD 26,494 million. The determination of the Company's defined benefit pension and health care obligation with respect to these plans is dependent, in part, on the selection of certain actuarial assumptions. These assumptions include the discount rate and projected medical costs. The Company hires external actuaries to assist in the process of determining the actuarial assumptions and valuing the obligations under its pension and health care plans.

We identified the assessment of the valuation of the obligations for the defined benefit pension and health care plans as a critical audit matter because it required subjective auditor judgment. The discount rates and projected medical costs used to determine the obligations were challenging to audit as minor changes in these assumptions had a significant impact on the measurement of the obligations for the defined benefit pension and health care plans.

The primary procedures we performed to address this critical audit matter included the following:

- we tested certain internal controls over the Company's process for estimating the defined benefit pension and health care obligations. This included controls related to the development, review and approval of the discount rates and projected medical costs;
- we evaluated the scope, competency, and objectivity of the external actuaries that the Company hired to assist in estimating the obligations for the defined benefit pension and health care plans. This included assessing the nature and scope of the work they were engaged to perform and their professional qualifications and experience; and
- we involved actuarial professionals with specialized skills and knowledge, who assisted in evaluating the Company's discount rates and projected medical costs including by comparing them to external sources.

Evaluation of the impairment testing of exploration and production cash generating units ("CGUs")

As discussed in notes 4.1(b), 4.2, 4.3 and 25 to the consolidated financial statements as of December 31, 2019, for the purposes of impairment testing, the Company identifies its cash generating units ("CGUs"), estimates the recoverable amount of these CGUs and compares this amount to their carrying value. The estimation of the recoverable amount is based on cash flow projections for the CGUs. The carrying value of the exploration and production CGUs as of December 31, 2019 was USD 106,189 million. For the year ended December 31, 2019, the amount of provision expense recognized in relation to the exploration and production CGUs was USD 2,499 million.

We identified the evaluation of the impairment testing of exploration and production CGUs as a critical audit matter because there is a high degree of complexity and subjectivity of auditor judgment involved in evaluating the Company's definition of these CGUs and the estimate of the recoverable amount. The definition of exploration and production CGUs requires auditor judgment in the consideration of operational factors that impact the interdependencies between oil and gas assets. These interdependencies alter the aggregation or segregation of the oil and gas assets into CGUs. The cash flow projections used to determine the recoverable amount are dependent on certain assumptions including: average Brent oil price; exchange rate; capital and operating expenditure and volume and timing of recovery of the oil and gas reserves. The recoverable amount is also sensitive to minor changes in the discount rate. The assessment of these assumptions required significant auditor judgment.



The primary procedures we performed to address this critical audit matter included the following:

- we tested certain internal controls over the Company's impairment assessment process. These included controls related to the review and approval of the Company's determination of the CGUs and of the key assumptions used to estimate the recoverable amount;
- for changes in exploration and production CGUs during the year, we assessed the operational factors considered by the Company when defining these changes by comparing to information obtained from internal and external sources;
- we evaluated the Company's projected recovery of oil and gas reserves by comparing with volumes certified by external specialist hired by the Company and with historical production;
- we evaluated future capital and operating expenditures by comparing to the latest approved business and management plan and long-term budgets; and
- we evaluated the Company's ability to accurately project cash flows by comparing the prior years' estimated cash flows for the year ended December 31, 2019 with actual cash flows in this year.

In addition, we involved a valuation professional with specialized skill and knowledge, who assisted in evaluating key inputs used in the impairment testing such as the discount rates, average Brent oil prices and the exchange rates by comparing them against available external market data.

Evaluation of provisions and disclosures for certain specific labor, civil and tax lawsuits

As discussed in notes 4.5 and 19 to the consolidated financial statements as of December 31, 2019, the Company is involved in labor, civil and tax lawsuits during the normal course of its activities. The Company records provisions for these lawsuits when it is probable that an outflow of resource embodying economic benefits will be required to settle a present obligation and when the outflow can be reasonably estimated. The Company discloses a contingency whenever the likelihood of loss of the lawsuit is considered possible, or when the likelihood of loss is considered probable but it is not possible to reasonably estimate the amount of the outflow.

We identified the evaluation of certain specific legal proceedings and the related provisions recognized and/or disclosures made as a critical audit matter because it required challenging auditor judgment and effort due to the subjective nature of the estimates and assumptions. Specifically judgments about the likelihood of loss and estimates of the amounts that would be paid in the event of loss.

The primary procedures we performed to address this critical audit matter included the following:

- we tested certain internal controls over the Company's evaluation of lawsuits. These included controls related to the review and approval of the determination of the likelihood of loss and the estimate of the loss amount, as well as controls over the financial statement disclosures;
- we evaluated the scope, competency, and objectivity of the internal and external legal counsel that determined the likelihood of loss and the estimate of the loss amount. This included assessing the nature and scope of the work they were engaged to perform and their professional qualifications and experience;
- we obtained and evaluated letters received directly from the Company's external legal counsel that included an assessment of the likelihood of loss and the estimate of the loss amount. For certain specific legal proceedings, we compared these assessments and estimates to those used by the Company and evaluated the sufficiency of the Company's legal contingency disclosures; and
- we evaluated the Company's ability to accurately estimate amounts to be paid under lawsuits by comparing a sample of amounts paid upon resolution of legal proceedings during the year to the amounts provided for as of the prior year end.

Evaluation of the estimate of provision for decommissioning costs

As discussed in notes 4.1(c), 4.6 and 20 to the consolidated financial statements as of December 31, 2019, the provision for decommissioning costs reflects the obligation to restore the environment and dismantle and remove oil and gas production facilities upon abandonment. As of December 31, 2019, the Provision for decommissioning costs balance was USD17,460 million. The Company's estimate of the provision for decommissioning costs includes assumptions in relation to the extent of the obligations assumed for environmental restoration and the dismantlement and removal of oil and gas production facilities as well as the cost and timing of this work.

We identified the evaluation of the estimate of the provision for decommissioning costs as a critical audit matter because of the subjective auditor judgment that is involved to evaluate the key assumptions used in the estimate such as the extent of the decommissioning work that will be required by contract and regulations and the criteria to



be met when the decommissioning actually occurs and the costs and related timing of the future payments that will be incurred in the decommissioning process.

The primary procedures we performed to address this critical audit matter included the following:

- we tested certain internal controls over the Company's process to estimate the provision for decommissioning costs. This included controls relating to the development, review and approval of the key assumptions, including estimates of the timing of abandonment and estimated costs of decommissioning;
- we assessed the estimates of timing until abandonment used by the Company, by comparing the production curves and life of the oil and gas reserves used with reserve volumes certified by external specialist hired by the Company;
- we assessed the estimated costs of decommissioning by comparing with external industry reports;
- we evaluated the scope, competency, and objectivity of the internal engineers that estimated the production curves and life of the oil and gas reserves and the external specialist hired by the Company that certified the reserve volumes. This included assessing the nature and scope of the work they were engaged to perform and their professional qualifications and experience;
- we evaluated the Company's ability to accurately forecast costs of decommissioning work, by comparing a sample of actual expenditure incurred with the decommissioning of oil and gas production facilities during the year to the Company's forecasts of that expenditure in the prior year.

/s/ KPMG Auditores Independentes

We have served as the Company's auditor since 2017.

KPMG Auditores Independentes
Rio de Janeiro – Brazil
February 19, 2020



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Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Petróleo Brasileiro S.A. - Petrobras
Rio de Janeiro – RJ

Opinion on Internal Control Over Financial Reporting

We have audited Petróleo Brasileiro S.A. – Petrobras and subsidiaries' ("the Company") internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated statement of financial position of the Company as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively, the "consolidated financial statements"), and our report dated February 19, 2020 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.



Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ KPMG Auditores Independentes

KPMG Auditores Independentes
Rio de Janeiro – Brazil
March 20, 2020

Management Report on Internal Control over Financial Reporting

Our management is responsible for establishing, adequately maintaining and assessing the effectiveness of internal control over financial reporting. Such internal control is a process designed by, or under the supervision of our CEO and CFO, and effected by our Board of Directors, management and other employees.

The internal control over financial reporting is designed to provide reasonable assurances regarding the reliability of financial reporting and of the preparation of our consolidated financial statements for external purposes, in accordance with IFRS, as issued by the IASB.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk of becoming inadequate because of changes in its conditions and assumptions.

Our management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2019 based on the criteria established in the guide called “Internal Controls — Integrated Framework (2013)” issued by the Committee of Sponsoring Organizations of Treadway Commission (“COSO”). Our management has concluded that our internal control over financial reporting was effective.

Audit of the Effectiveness of Internal Control over Financial Reporting

Our independent registered public accounting firm has audited the effectiveness of our internal control over financial reporting, as stated in their report as of December 31, 2019, which is included herein.

Roberto Castello Branco
Chief Executive Officer

Andrea Marques de Almeida
Chief Financial Officer

Petróleo Brasileiro S.A. – Petrobras

Consolidated Statement of Financial Position

December 31, 2019 and December 31, 2018

(Expressed in millions of US Dollars, unless otherwise indicated)



Assets	Note	12.31.2019	12.31.2018	Liabilities	Note	12.31.2019	12.31.2018
Current assets				Current liabilities			
Cash and cash equivalents	7.1	7,372	13,899	Trade payables	15	5,601	6,327
Marketable securities	7.2	888	1,083	Finance debt	32.1	4,469	3,667
Trade and other receivables	13.1	3,762	5,746	Lease liability	33	5,737	23
Inventories	14	8,189	8,987	Income taxes payable	16.1	276	211
Recoverable income taxes	16.1	2,493	739	Other taxes payable	16.1	3,424	3,556
Other recoverable taxes	16.1	1,051	1,296	Dividends payable	34.6	1,558	1,109
Escrow account - Class action agreement	19.4	-	1,881	Short-term benefits	17	1,645	1,658
Others		1,493	1,485	Pension and medical benefits	18	887	810
		25,248	35,116	Provisions for legal proceedings	19.1	-	3,482
Assets classified as held for sale	30	2,564	1,946	Agreement with US Authorities	21.1	-	783
		27,812	37,062	Others		1,973	2,442
						25,570	24,068
				Liabilities related to assets classified as held for sale	30	3,246	983
						28,816	25,051
Non-current assets				Non-current liabilities			
Long-term receivables				Finance debt	32.1	58,791	80,508
Trade and other receivables	13.1	2,567	5,492	Lease liability	33	18,124	162
Marketable securities	7.2	58	53	Income taxes payable	16.1	504	552
Judicial deposits	19.2	8,236	6,711	Deferred income taxes	16.6	1,760	654
Deferred income taxes	16.6	1,388	2,680	Pension and medical benefits	18	25,607	21,940
Other tax assets	16.1	3,939	3,540	Provisions for legal proceedings	19.1	3,113	3,923
Advances to suppliers		326	666	Provision for decommissioning costs	20	17,460	15,133
Others		1,177	2,917	Others		1,350	970
		17,691	22,059			126,709	123,842
				Total liabilities		155,525	148,893
Investments	29	5,499	2,759	Equity			
Property, plant and equipment	23.1	159,265	157,383	Share capital (net of share issuance costs)	34.1	107,101	107,101
Intangible assets	24.1	19,473	2,805	Capital reserve and capital transactions		1,064	1,067
		201,928	185,006	Profit reserves		65,627	58,161
				Accumulated other comprehensive (deficit)		(100,469)	(94,785)
				Attributable to the shareholders of Petrobras		73,323	71,544
				Non-controlling interests	29.5	892	1,631
						74,215	73,175
Total assets		229,740	222,068	Total liabilities and equity		229,740	222,068

The notes form an integral part of these financial statements.

Petróleo Brasileiro S.A. – Petrobras

Consolidated Statement of Income
Years ending December 31, 2019, 2018 and
2017



and

(Expressed in millions of US Dollars, unless otherwise indicated)

	Note	2019	2018 Reclassified	2017 Reclassified
Sales revenues	8.2	76,589	84,638	77,884
Cost of sales	9.1	(45,732)	(52,184)	(51,198)
Gross profit		30,857	32,454	26,686
Income (expenses)				
Selling expenses	9.2	(4,476)	(3,827)	(3,614)
General and administrative expenses	9.3	(2,124)	(2,239)	(2,656)
Exploration costs	26	(799)	(524)	(800)
Research and development expenses		(576)	(641)	(572)
Other taxes		(619)	(670)	(1,789)
Impairment of assets	25	(2,848)	(2,005)	(1,191)
Other income and expenses	10	1,199	(5,760)	(5,511)
		(10,243)	(15,666)	(16,133)
Income before finance income (expense), results in equity-accounted investments and		20,614	16,788	10,553
Finance income		1,330	2,381	928
Finance expenses		(7,086)	(5,675)	(7,006)
Foreign exchange gains (losses) and inflation indexation charges		(3,008)	(3,190)	(3,641)
Net finance income (expense)	11	(8,764)	(6,484)	(9,719)
Results of equity-accounted investments	29.2	153	523	673
Net income before income taxes		12,003	10,827	1,507
Income taxes	16.5	(4,200)	(4,256)	(1,697)
Net income (loss) from continuing operations for the year		7,803	6,571	(190)
Net income from discontinued operations for the year	10.2	2,560	843	359
Net income for the year		10,363	7,414	169
Non-controlling interests		212	241	260
Net income (loss) from continuing operations		143	(1)	157
Net income from discontinued operations		69	242	103
Net income (loss) attributable to shareholders of Petrobras		10,151	7,173	(91)
Net income (loss) from continuing operations		7,660	6,572	(347)
Net income from discontinued operations		2,491	601	256
Basic and diluted earnings per common and preferred share - in U.S. dollars	34.7	0.78	0.55	(0.01)

The notes form an integral part of these financial statements.

Petróleo Brasileiro S.A. – Petrobras
Consolidated Statement of Comprehensive



Income

Years ending December 31, 2019 and 2018

(Expressed in millions of US Dollars, unless otherwise indicated)

	2019	2018 Reclassified	2017 Reclassified
Net income for the year	10,363	7,414	169
Items that will not be reclassified to the statement of income:			
Actuarial gains (losses) on post-employment defined benefit plans			
Recognized in equity	(5,589)	(3,130)	1,908
Deferred income tax	1,491	(119)	(273)
	(4,098)	(3,249)	1,635
Unrealized gains (losses) on equity instruments measured at fair value through other comprehensive income			
Recognized in equity	-	(5)	-
Deferred income tax	-	2	-
	-	(3)	-
Share of other comprehensive income (losses) in equity-accounted investments	-	-	(1)
Items that may be reclassified subsequently to the statement of income:			
Unrealized gains (losses) on cash flow hedge – highly probable future exports			
Recognized in equity	(3,510)	(8,950)	(543)
Reclassified to the statement of income	3,136	3,315	3,154
Deferred income tax	126	1,916	(887)
	(248)	(3,719)	1,724
Cumulative translation adjustments (*)			
Recognized in equity	(1,465)	(6,409)	(851)
Reclassified to the statement of income	34	-	37
	(1,431)	(6,409)	(814)
Share of other comprehensive income in equity-accounted investments	69	(135)	156
Unrealized gains (losses) on equity instruments measured at fair value through other comprehensive income			
Recognized in equity	-	-	15
Deferred income tax	-	-	(4)
	-	-	11
Unrealized gains (losses) on cash flow hedge – others			
Recognized in equity	-	-	(5)
Total other comprehensive income (loss)	(5,708)	(13,515)	2,706
Total comprehensive income (loss)	4,655	(6,101)	2,875
Comprehensive income attributable to non-controlling interests	186	65	291
Comprehensive income (loss) attributable to shareholders of Petrobras	4,469	(6,166)	2,584

(*) It includes a US\$ 131 loss (a US\$ 236 loss in 2018 and a US\$ 49 loss in 2017), of cumulative translation adjustments in associates and joint ventures.

The notes form an integral part of these financial statements.

Petróleo Brasileiro S.A. – Petrobras

Consolidated Statement of Cash Flows

Years ending December 31, 2019, 2018 and 2017

(Expressed in millions of US Dollars, unless otherwise indicated)



	2019	2018 Reclassified	2017 Reclassified
Cash flows from Operating activities			
Net income for the year	10,363	7,414	169
Adjustments for:			
Net income from discontinued operations	(2,560)	(843)	(359)
Pension and medical benefits (actuarial expense)	2,086	2,018	2,569
Results of equity-accounted investments	(153)	(523)	(673)
Depreciation, depletion and amortization	14,836	11,912	13,166
Impairment of assets (reversal)	2,848	2,005	1,191
Allowance (reversals) for credit loss on trade and other receivables	87	91	720
Exploratory expenditure write-offs	308	87	279
Foreign exchange, indexation and finance charges	8,460	7,941	9,413
Deferred income taxes, net	2,798	370	400
Revision and unwinding of discount on the provision for decommissioning costs	950	31	425
Inventory write-down (write-back) to net realizable value	15	421	66
Provision for the class action agreement	-	-	3,449
Disposal/write-offs of assets, remeasurement of investment retained with loss of control and reclassification of CTA	(6,012)	(416)	(1,656)
Decrease (Increase) in assets			
Trade and other receivables, net	2,233	(1,535)	(879)
Inventories	(281)	(2,108)	(171)
Judicial deposits	(2,144)	(2,040)	(1,669)
Escrow account - Class action agreement	1,819	(2,019)	-
Other assets	(219)	461	(126)
Increase (Decrease) in liabilities			
Trade payables	(989)	858	(121)
Other taxes payable	225	2,265	2,960
Pension and medical benefits	(1,882)	(1,002)	(876)
Provisions for legal proceedings	(3,767)	1,686	305
Short-term benefits	185	529	(755)
Provision for decommissioning costs	(512)	(500)	(426)
Agreement with US authorities	(768)	(85)	-
Other liabilities	(319)	996	83
Income taxes paid	(2,330)	(2,567)	(769)
Net cash provided by operating activities from continuing operations	25,277	25,447	26,715
Discontinued operations – net cash provided by operating activities	323	906	397
Net cash provided by operating activities	25,600	26,353	27,112
Cash flows from Investing activities			
Acquisition of PP&E and intangibles assets (except for the Bidding for oil surplus of Transfer of rights agreement)	(8,556)	(11,905)	(13,546)
Bidding for oil surplus of Transfer of rights agreement	(15,341)	-	-
Investments in investees	(7)	(44)	(2,069)
Proceeds from disposal of assets - Divestment	10,413	5,791	3,087
Reimbursement on the Transfer of rights agreement	8,361	-	-
Divestment (Investment) in marketable securities	198	704	(861)
Dividends received	1,436	994	662
Net cash used in investing activities from continuing operations	(3,496)	(4,460)	(12,727)
Discontinued operations – net cash provided by (used in) investing activities	1,812	(44)	727
Net cash used in investing activities	(1,684)	(4,504)	(12,000)
Cash flows from Financing activities			
Investments by non-controlling interest	(29)	43	(797)
Proceeds from financing	7,464	10,707	27,075
Repayment of finance debt - principal	(27,273)	(34,013)	(33,618)
Repayment of finance debt - interest	(4,501)	(5,703)	(6,500)
Repayment of lease liability - principal	(5,207)	-	-
Dividends paid to Shareholders of Petrobras	(1,877)	(625)	-
Dividends paid to non-controlling interests	(138)	(103)	(167)
Proceeds from sale of interest without loss of control	-	-	1,511
Net cash used in financing activities from continuing operations	(31,561)	(29,694)	(12,496)
Discontinued operations – net cash used in financing activities	(508)	(156)	(1,177)
Net cash used in financing activities	(32,069)	(29,850)	(13,673)
Effect of exchange rate changes on cash and cash equivalents	1,631	(619)	(125)
Net increase (decrease) in cash and cash equivalents	(6,522)	(8,620)	1,314
Cash and cash equivalents at the beginning of the period	13,899	22,519	21,205
Cash and cash equivalents at the end of the period	7,377	13,899	22,519

The notes form an integral part of these financial statements.

Petróleo Brasileiro S.A. – Petrobras

Consolidated Statement of Changes in Shareholders' Equity

Years ending December 31, 2019, 2018 and 2017

(Expressed in millions of US Dollars, unless otherwise indicated)



	Share capital (net of share issuance costs)			Accumulated other comprehensive income (deficit) and deemed cost				Profit Reserves					Equity attributable to shareholders of Petrobras	Non-controlling interests	Total consolidated equity
	Share Capital	Share issuance costs	Capital reserve, Capital Transactions and Treasury shares	Cumulative translation adjustment	Cash flow hedge - highly probable future exports	Actuarial gains (losses) on defined benefit pension plans	Other comprehensive income (loss) and deemed cost	Legal	Statutory	Tax incentives	Profit retention	Retained earnings			
	107,380	(279)	628	(60,248)	(11,297)	(11,600)	(948)	7,919	2,182	720	42,322	-	76,779	771	77,550
Balance at January 1, 2017		107,101	628				(84,093)				53,143	-	76,779	771	77,550
Realization of deemed cost	-	-	-	-	-	-	(4)	-	-	-	-	4	-	-	-
Capital transactions	-	-	439	-	-	-	-	-	-	-	-	-	439	792	1,231
Net income	-	-	-	-	-	-	-	-	-	-	-	(91)	(91)	260	169
Other comprehensive income	-	-	-	(795)	1,724	1,585	161	-	-	-	-	-	2,675	31	2,706
Appropriations:															
Transfer to reserves	-	-	-	-	-	-	-	-	-	-	(87)	87	-	-	-
Dividends	-	-	-	-	-	-	-	-	-	-	-	-	-	(154)	(154)
Balance at December 31, 2017	107,380	(279)	1,067	(61,043)	(9,573)	(10,015)	(791)	7,919	2,182	720	42,235	-	79,802	1,700	81,502
Initial application of IFRS 9		107,101	1,067				(81,422)				53,056	-	79,802	1,700	81,502
	107,380	(279)	1,067	(61,043)	(9,573)	(10,015)	(811)	7,919	2,182	720	42,235	(222)	79,560	1,685	81,245
Balance at January 1, 2018		107,101	1,067				(81,442)				53,056	(222)	79,560	1,685	81,245
Realization of deemed cost	-	-	-	-	-	-	(4)	-	-	-	-	4	-	-	-
Capital transactions	-	-	2	-	-	-	-	-	-	-	-	-	2	115	117
Net income	-	-	-	-	-	-	-	-	-	-	-	7,173	7,173	241	7,414
Other comprehensive income	-	-	-	(6,273)	(3,719)	(3,209)	(138)	-	-	-	-	-	(13,339)	(176)	(13,515)
Appropriations:															
Transfer to reserves	-	-	-	-	-	-	-	338	270	203	4,294	(5,105)	-	-	-
Dividends	-	-	-	-	-	-	-	-	-	-	-	(1,850)	(1,850)	(234)	(2,084)
Balance at December 31, 2018	107,380	(279)	1,067	(67,316)	(13,292)	(13,224)	(953)	8,257	2,452	923	46,529	-	71,544	1,631	73,175
	107,380	(279)	1,067	(67,316)	(13,292)	(13,224)	(953)	8,257	2,452	923	46,529	-	71,544	1,631	73,175
Balance at December 31, 2018		107,101	1,067				(94,785)				58,161	-	71,544	1,631	73,175
Realization of deemed cost	-	-	-	-	-	-	(2)	-	-	-	-	2	-	-	-
Capital transactions	-	-	(3)	-	-	-	-	-	-	-	-	-	(3)	(658)	(661)
Net income	-	-	-	-	-	-	-	-	-	-	-	10,151	10,151	212	10,363
Other comprehensive income (loss)	-	-	-	(1,405)	(248)	(4,098)	69	-	-	-	-	-	(5,682)	(26)	(5,708)
Appropriations:															
Transfer to reserves	-	-	-	-	-	-	-	488	250	179	6,549	(7,466)	-	-	-
Dividends	-	-	-	-	-	-	-	-	-	-	-	(2,687)	(2,687)	(267)	(2,954)
Balance at December 31, 2019	107,380	(279)	1,064	(68,721)	(13,540)	(17,322)	(886)	8,745	2,702	1,102	53,078	-	73,323	892	74,215
	107,380	(279)	1,064	(68,721)	(13,540)	(17,322)	(886)	8,745	2,702	1,102	53,078	-	73,323	892	74,215

The notes form an integral part of these financial statements.

1. The Company and its operations

Petróleo Brasileiro S.A. (Petrobras), hereinafter referred to as “Petrobras” or “Company,” is a partially state-owned enterprise, controlled by the Brazilian Federal Government, of indefinite duration, governed by the terms and conditions under the Brazilian Corporate Law (Law 6,404 of December 15, 1976), Law 13,303 of June 30, 2016 and its Bylaws.

Petrobras’ shares are listed on the Brazilian stock exchange (B3) in the Level 2 Corporate Governance special listing segment and, therefore, the Company, its shareholders, its managers and fiscal council members are subject to provisions under its regulation (Level 2 Regulation - *Regulamento de Listagem do Nível 2 de Governança Corporativa da Brasil Bolsa Balcão* – B3). The provisions of the Level 2 Regulation, which are based on high standards of corporate governance, shall prevail over statutory provisions in the event of harm to the rights of public offers investors provided for in the Company’s Bylaws, except when otherwise determined by other regulation. On February 13, 2020, as requested, Petrobras had its disassociation from the B3 State-Owned Governance Program approved.

The Company is dedicated to prospecting, drilling, refining, processing, trading and transporting crude oil from producing onshore and offshore oil fields and from shale or other rocks, as well as oil products, natural gas and other liquid hydrocarbons. In addition, Petrobras carries out energy related activities, such as research, development, production, transport, distribution and trading of all forms of energy, as well as other related or similar activities.

Petrobras may perform any of the activities related to its corporate purpose, directly, through its wholly-owned subsidiaries, controlled companies, alone or through joint ventures with third parties, in Brazil or abroad.

The economic activities linked to its business purpose shall be undertaken by the Company in free competition with other companies according to market conditions, in compliance with the other principles and guidelines of Laws no. 9,478/97 and 10,438/02 (oil & gas and electricity sector regulations, respectively). However, Petrobras may have its activities, provided they are in compliance with its corporate purpose, guided by the Brazilian Federal Government to contribute to the public interest that justified its creation, aiming to meet national energy policy objectives when:

I – established by law or regulation, as well as under agreements provisions with a public entity that is competent to establish such obligation, abiding with the broad publicly stated of such instruments; and

II – the cost and revenues thereof have been broken down and disseminated in a transparent manner.

In this case, the Company’s Investment Committee and Minority Shareholders Committee, exercising their advisory role to the Board of Directors, shall assess and measure the difference between such market conditions and the operating result or economic return of the transaction, based on technical and economic criteria for investment valuation and specific operating costs and results under the Company’s operations. In this case, for every financial year, the Brazilian Federal Government shall compensate the Company.

2. Basis of preparation

2.1. Statement of compliance and authorization of financial statements

These consolidated financial statements have been prepared and are being presented in accordance with the International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

The consolidated financial statements have been prepared under the historical cost convention, except when otherwise indicated. The significant accounting policies used in the preparation of these financial statements are set out in their respective explanatory notes.

The preparation of the financial statements requires the use of estimates and assumptions which may affect the application of accounting policies and reported amounts of assets, liabilities, revenues and expenses. Although our

management periodically reviews these assumptions and judgments, the actual results could differ from these estimates. For further information on accounting estimates, see note 4.

As presented in note 30.2, with the additional sale of the Company’s interest in the subsidiary Petrobras Distribuidora (BR), carried out through a secondary public offering (follow-on), in July 2019, all requirements were met to classify this investment as a discontinued operation, in accordance with IFRS 5 - Non-current Assets Held for Sale and Discontinued Operations, since it represented a separate major line of business. Thus, the consolidated statements of income and cash flows present net income, operating, investing and financing cash flows relating to this investment in separate line items, as a net result of discontinued operations. Additionally, the consolidated statements of income and cash flows for the years ended December 31, 2018 and 2017 were adjusted in a similar manner.

The annual consolidated financial statements were approved and authorized for issue by the Company’s Board of Directors in a meeting held on February 19, 2020.

2.2. Functional and presentation currency

The functional currency of Petrobras and all of its Brazilian subsidiaries is the Brazilian Real. The functional currency of the Petrobras direct subsidiaries that operate outside Brazil is the U.S. dollar.

Petrobras has selected the U.S. dollar as its presentation currency to facilitate a more direct comparison to other oil and gas companies. The financial statements have been translated from the functional currency (Brazilian real) into the presentation currency (U.S. dollar). All assets and liabilities are translated into U.S. dollars at the closing exchange rate at the date of the financial statements; income and expenses, as well as cash flows are translated into U.S. dollars using the average exchange rates prevailing during the period. All exchange differences arising from the translation of the consolidated financial statements from the functional currency into the presentation currency are recognized as cumulative translation adjustments (CTA) within accumulated other comprehensive income in the consolidated statements of changes in shareholders’ equity.

Brazilian Real x U.S. Dollar	Dec 19	Sep 19	Jun 19	Mar 19	Dec 18	Sep 18	Jun 18	Mar 18	Dec 17	Sep 17	Jun 17	Mar 17
Quarterly average exchange rate	4.12	3.97	3.92	3.77	3.81	3.95	3.61	3.24	3.25	3.16	3.22	3.15
Period-end exchange rate	4.03	4.16	3.83	3.90	3.87	4.00	3.86	3.32	3.31	3.17	3.31	3.17

2.3. Initial adoption of new accounting standards

At January 1, 2019, the Company adopted IFRS 16 – Leases. A number of other new standards are also effective from January 1, 2019 but they do not have material effect on the Company’s financial statements.

2.3.1. IFRS 16 – Leases

Among the changes arising from IFRS 16, this standard eliminated the classification of leases as either operating or finance leases for lessees, providing for a single lessee accounting model in which all leases result in the recognition of a right-of-use asset and a lease liability. For more information regarding the effects of the adoption of IFRS 16, see notes 10, 21 and 31.

Following the adoption of IFRS 16, lease payments under operating leases are not charged to operating results on accrual basis. Instead, depreciation of the right to use a leased asset, as well as the finance expenses and foreign exchange gains or losses over the lease liability, affect the results.

In the statement of cash flows, the lease payments previously presented within Cash flows from operating and investing activities are presented from 2019 onwards as Cash flows from financing activities (US\$ 5,207 in 2019), comprising the settlement of lease liabilities. However, such change does not affect the Company’s cash and cash equivalents balance.

According to the transition provisions set forth in IFRS 16, the Company applied this standard retrospectively with the cumulative effect of its initial application recognized at January 1, 2019, without restatement of prior period information, and the following practical expedients were chosen:

- a) Application of this standard to contracts that were previously identified as leases (note 18.2 to the Company's audited financial statements ended December 31, 2018);
- b) Lease liabilities measured at the present value of the remaining lease payments, net of applicable recoverable taxes, discounted by the lessee's incremental borrowing rate at the date of initial application;
- c) Recognition of right-of-use assets at an amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments relating to that lease recognized in the statement of financial position immediately before the date of initial application, excluding initial direct costs.

The Company applies the short-term lease exemption and recognizes payments associated with such leases as expenses over the term of the arrangements.

At January 1, 2019, the Company accounted for right-of-use assets and lease liabilities at the same amount (US\$ 26,575) and, as a result, the impacts arising from the initial application of this standard did not affect equity. The right-of-use assets are presented as Property, Plant and Equipment (PP&E), and the lease liabilities are presented as a separate line item in the statement of financial position.

Right-of-use by underlying asset at January 1, 2019

Oil and gas producing units	12,925
Vessels	11,996
Lands and buildings	1,011
Others	643
Total	26,575

The incremental borrowing rate at the date of initial application was 6.06%.

Reconciliation between operating lease commitments disclosed as of December 31, 2018 and lease liabilities recognized at the date of initial application is presented below:

Commitment to operating lease as of December 31, 2018	95,379
Commitments for which lease terms have not commenced	(54,825)
Discount	(9,980)
Short-term leases and others	(3,999)
Initial application	26,575
Finance lease (IAS 17) recognized at December 31, 2018	185
Lease liability at January 1, 2019	26,760

The changes arising from the adoption of IFRS 16 did not impact the Company's business practice and there was no need to renegotiate covenant clauses in finance debts.

2.4. Order of presentation of the explanatory notes

As recommended in the Conceptual Framework for Financial Reporting, the expectations of users of financial statements regarding the Company's returns depend on their assessment of the amount, timing and uncertainty of (the prospects for) future net cash inflows to the entity and on their assessment of management's stewardships of the entity's economic resources.

Thus, we promoted a change in the order of the explanatory notes in order to align the Company's financial statements with the users' view, in addition to emphasizing the importance of the Company's Strategic Management.

Thus, after the explanatory notes presenting the Company and its operations, and those related to the conceptual structure applied in the preparation of the financial statements, it begins with the explanatory note on Capital Management, followed by the other notes, following primarily the groupings of cash flow statement activities.

3. Summary of significant accounting policies

The accounting policies used in the preparation of the annual financial statements of the Company, for the year ended December 31, 2019, are set out at the end of each explanatory note, consistently with those adopted and disclosed in the financial statements of the previous years, except for the changes arising from the adoption of IFRS 16 – Leases and IFRIC 23 - Uncertainty over Income Tax Treatments, which became effective on January 1, 2019.

4. Critical accounting policies: key estimates and judgments

The preparation of the consolidated financial information requires the use of estimates and judgments for certain transactions and their impacts on assets, liabilities, income and expenses. The assumptions are based on past transactions and other relevant information and are periodically reviewed by management, although the actual results could differ from these estimates.

Information about those areas that require significant judgment or involve a higher degree of complexity in the application of the accounting policies and that could materially affect the Company's financial condition and results of operations is set out as follows.

4.1. Oil and gas reserves

Oil and gas reserves are estimated based on economic, geological and engineering information, such as well logs, pressure data and drilling fluid sample data and are used as the basis for calculating unit-of-production depreciation, depletion and amortization rates, impairment testing, decommissioning costs estimates and for projections of high probable future exports subject to cash flow hedge.

These estimates require the application of judgment and are reviewed at least annually based on a re-evaluation of already available geological, reservoir or production data and new geological, reservoir or production data, as well as changes in prices and costs that are used in the estimation of reserves. Revisions can also result from significant changes in the Company's development strategy or in the production capacity.

The Company determines its oil and gas reserves both pursuant to the U.S. Securities and Exchange Commission - SEC and the ANP/SPE (Brazilian Agency of Petroleum, Natural Gas and Biofuels / Society of Petroleum Engineers) criteria. The main differences between the two criteria are: selling price of crude oil (ANP/SPE establishes the use of the Company's forecasted price, while SEC determines the use of an average price considering each first day of the last 12 months); concession period (ANP permission for the use of reserve quantities after the concession period). Additionally, pursuant to the SEC criteria, only proved reserves are determined, while proved and unproved reserves are determined pursuant to the ANP/SPE criteria.

According to the definitions prescribed by the SEC, proved oil and gas reserves are those quantities of oil and gas which, by analysis of geoscientific and engineering data, can be estimated with reasonable certainty to be economically producible from a given date forward, from known reservoirs and under existing economic conditions, operating methods, and government regulation. Proved reserves are subdivided into developed and undeveloped reserves.

Proved developed oil and gas reserves are those that can be expected to be recovered through: (i) existing wells with existing equipment and operating methods; (ii) extraction technology installed and operational at the time of the reserves estimate, extracting oil and gas in other ways than using wells.

Although the Company is reasonably certain that proved reserves will be produced, the timing and amount recovered can be affected by a number of factors including completion of development projects, reservoir performance, regulatory aspects and significant changes in long-term oil and gas price levels.

Detailed information on reserves is presented as unaudited supplementary information.

a) Impacts of oil and gas reserves on depreciation, depletion and amortization

Depreciation, depletion and amortization are measured based on estimates of reserves prepared by the Company's technicians in a manner consistent with SEC definitions. Reviews to the Company's proved developed and undeveloped reserves impact prospectively the amounts of depreciation, depletion and amortization recognized in the statement of income and the carrying amounts of oil and gas properties assets.

Therefore, considering all other variables being constant, a decrease in estimated proved reserves would increase, prospectively, depreciation, depletion and amortization expense, while an increase in reserves would reduce depreciation, depletion and amortization.

Note 23 provides more detailed information on depreciation, amortization and depletion.

b) Impacts of oil and gas reserves on impairment testing

The Company assesses the recoverability of the carrying amounts of oil and gas exploration and development assets annually, regardless of any absence of impairment indication. The measurement of their value in use is based on proved and probable reserves pursuant to the ANP/SPE definitions. Note 4.2 provides further information on other assumptions used in impairment testing.

c) Impacts of oil and gas reserves on decommissioning costs estimates

The timing of abandonment and dismantling areas is based on the length of reserves depletion, in accordance with ANP/SPE definitions. Therefore, the review of the timing of reserves depletion may impact the provision for decommissioning cost estimates. Note 4.6 provides further information on other assumptions used in estimating the provision for decommissioning costs.

d) Impacts of oil and gas reserves on highly probable future exports subject to cash flow hedge accounting

The Company estimates highly probable future exports in accordance with future exports forecasted in the scope of its Strategic Plan projections, which are driven by proved and probable reserves estimates. Changes in such estimates may impact future exports forecasts and, consequently, hedge relationship designations may also be impacted. Note 4.8 provides further information on other assumptions used in determining highly probably future exports.

4.2. Main assumptions for impairment testing

Impairment testing involves uncertainties mainly related to its key assumptions: average Brent prices and Brazilian real/U.S. dollar average exchange rate. These assumptions are relevant to virtually all of the Company's operating segments and a significant number of interdependent variables are derived from these key assumptions and there is a high degree of complexity in their application in determining value in use for impairment tests.

The markets for crude oil and natural gas have a history of significant price volatility and although prices can drop precipitously, industry prices over the long term tends to continue being driven by market supply and demand fundamentals.

Projections relating to the key assumptions are derived from the Strategic Plan for the first five years and consistent with the Strategic Plan for the following years. These assumptions are consistent with market evidence, such as

independent macro-economic forecasts, industry commentators and experts. Back testing analysis and feedback process in order to continually improve forecast techniques are also performed.

The Company's oil price forecast model is based on a nonlinear relationship between variables reflecting market supply and demand fundamentals. This model also takes into account other relevant factors, such as historical idle capacity, industry costs, oil and gas production forecasted by specialized firms, the relationship between the oil price and the U.S. dollar exchange rate, as well as the impact of OPEC on the oil market.

The Real/U.S. dollar exchange rate projections are based on econometric models that take into account long-term assumptions involving observable inputs, such as country risk, commodity prices, interest rates and the value of the U.S. Dollar relative to a basket of foreign currencies (U.S. Dollar Index – USDX).

Changes in the economic environment may result in changing assumptions and, consequently, the recognition of impairment charges on certain assets or CGUs. For example, the Brent price directly impacts the Company's sales revenue and refining margins, while the Brazilian real/U.S. dollar exchange rate mainly impacts our capital and operating expenditures.

Changes in the economic and political environment may also result in higher country risk projections that would increase discount rates for impairment testing.

In addition, changes in reserve volumes, production curve expectations and lifting costs could trigger the need for impairment assessment, as well as capital expenditure decisions, which are also affected by the Company's plan to reduce its leverage, may result in postponement or termination of projects, reducing their economic feasibility.

The recoverable amount of certain assets may not substantially exceed their carrying amounts and, therefore, it is reasonably possible that outcomes in future periods that are different from the current assumptions may result in the recognition of additional impairment charges on these assets, as described in note 25.1.1.

4.3. Identifying cash-generating units for impairment testing

Identifying cash-generating units (CGUs) requires management assumptions and judgment, based on the Company's business and management model. Changes in the aggregation of assets into CGUs may occur due to a review of investment, strategic or operational factors, which could result in changes in the interdependencies between those assets and, consequently, alter the aggregation or breakdown of assets into CGUs. Therefore, this change could result in additional impairment charges or reversals. The primary considerations in relation to identifying the CGUs are set out below:

a) Exploration and Production CGUs:

i) Crude oil and natural gas producing properties CGU: comprises exploration and development assets related to crude oil and natural gas fields and groups of fields in Brazil and abroad. At December 31, 2019, Exploration and Production CGUs had 124 fields and 41 groups. Changes in the aggregation of CGUs are presented in note 25.

ii) Drilling rigs are not part of any CGU and are assessed for impairment separately.

b) Refining, transportation and marketing CGUs:

i) Downstream CGU: comprises refineries and associated assets, terminals and pipelines, as well as logistics assets operated by Transpetro, with a combined and centralized operation of logistical and refining assets in Brazil. These assets are managed with a common goal of achieving efficiency, profitability and strategic value long term on a nationwide basis. They are not operated for the generation of profit by asset/location. The operational planning is made in a centralized manner and these assets are not managed, measured or evaluated by their individual results. The refineries do not have autonomy to choose the oil to be processed, the mix of oil products to produce, the markets in which these products will be traded, which amounts will be exported, which intermediaries will be received and to decide

the sales prices of oil products. The operational decisions are analyzed through an integrated model of operational planning for market supply. This model evaluates the solutions to supply the market considering all the options for production, importing, exporting, logistics and inventories seeking a comprehensive optimum of Petrobras and not the profit of each unit. The decision regarding a new investment is not based on the profitability of the project for the asset where it will be installed, but for the Petrobras Group. The model in which the entire planning is based, used in the studies of technical and economic feasibility of new investments in refining, may, in its indications, allocate a lower economic kind of oil to a certain refinery or define a lower economic mix of products to it, or even force it to supply more distant markets (area of influence), leading it to operate with reduced margins if seen individually, in case this is the best for the integrated system as a whole. Pipelines and terminals are an integral part and interdependent portion of the refining assets, required to supply the market.

ii) CGU Comperj – comprises assets under construction of the first refining unit of Petrochemical Complex of Rio de Janeiro;

iii) CGU Second Refining Unit of RNEST – comprises assets under construction of the second refining unit of Abreu e Lima refinery;

iv) Transportation CGU: comprises assets relating to Transpetro's fleet of vessels;

v) PANAMAX CGU: comprises three Panamax class vessels under construction (EI-512, EI-513 and EI-514);

vi) Hidrovia CGU: comprises the fleet of vessels under construction of the Hidrovia project (transportation of ethanol along the Tietê River);

vii) SIX CGU: shale processing plant; and

viii) Other operations abroad defined as the smallest group of assets that generates independent cash flows.

c) Gas & Power CGUs:

i) Natural gas CGU: comprises natural gas pipelines, natural gas processing plants, consolidating the purchase, transportation and treatment of natural gas businesses, in order to enable the commercialization of natural gas and its liquids (LPG, NGL and ethane);

ii) CGU nitrogen fertilizer plants: the nitrogen fertilizer plants have been assessed for impairment separately;

iii) Power CGU: comprises the thermoelectric power generation plants;

iv) Fafens CGUs: The fertilizer plants Fafen BA and Fafen SE have been assessed for impairment separately since 2017;

v) Other CGUs: operations abroad defined as the smallest group of assets that generates largely independent cash flows.

d) Biofuels business CGUs:

i) Biodiesel CGU: an integrated unit of biodiesel plants defined based on the production planning and operation process, that takes into consideration domestic market conditions, the production capacity of each plant, as well as the results of biofuels auctions and raw materials supply.

ii) Quixadá CGU: comprises the assets of Quixadá Biofuel Plant. This plant is assessed for impairment separately due to the decision to discontinue its operations.

Investments in associates and joint ventures, including goodwill, are assessed for impairment separately.

Further information on impairment testing is set out in note 25.

4.4. Pension and other post-retirement benefits

The actuarial obligations and net expenses related to defined benefit pension and health care post-retirement plans are computed based on several financial and demographic assumptions, of which the most significant are:

- Discount rate: comprises the projected future inflation in addition to an equivalent real interest rate that matches the duration of the pension and health care obligations with the future yield curve of long-term Brazilian Government Bonds; and
- Medical costs: comprise the projected growth rates based on per capita health care benefits paid over the last five years, which are used as a basis for projections, converged to the general price inflation index within 30 years.

These and other estimates are reviewed at least annually and may differ materially from actual results due to changing market and financial conditions, as well as actual results of actuarial assumptions.

The sensitivity analysis of discount rates and changes in medical costs as well as additional information about actuarial assumptions are set out in note 18.

4.5. Estimates related to contingencies and legal proceedings

The Company is defendant in arbitrations and in legal and administrative proceedings involving civil, tax, labor and environmental issues arising from the normal course of its business, and makes use of estimates to recognize the amounts and the probability of outflow of resources, based on reports and technical assessments from legal advisors and on management's assessment.

These estimates are performed individually, or aggregated if there are cases with similar characteristics, primarily considering factors such as assessment of the plaintiff's demands, consistency of the existing evidence, jurisprudence on similar cases and doctrine on the subject. Specifically for lawsuits by outsourced employees, the Company estimates the expected loss based on a statistical procedure, due to the number of actions with similar characteristics.

Arbitral, legal and administrative decisions against the Company, new jurisprudence and changes of existing evidence can result in changes regarding the probability of outflow of resources and on the estimated amounts, according to the assessment of the legal basis.

Note 19 provides further detailed information about contingencies and legal proceedings.

4.6. Decommissioning costs estimates

The Company has legal and constructive obligations to remove equipment and restore onshore and offshore areas at the end of operations. Its most significant asset removal obligations involve removal and disposal of offshore oil and gas production facilities in Brazil and abroad. Estimates of costs for future environmental cleanup and remediation activities are based on current information about costs and expected plans for remediation. The recognition of these obligations must be at present value, using a risk-free discount rate, adjusted to the Company's credit risk. Due to the long term until the abandonment, changes in the discount rate can cause significant variations in the recognized amount.

These estimates require performing complex calculations that involve significant judgment since: i) the obligations are long-term; ii) the contracts and regulations contain subjective definitions of the removal and remediation practices and criteria involved when the events actually occur; and iii) asset removal technologies and costs are constantly changing, along with regulations, environmental, safety and public relations considerations.

The Company conducts studies to incorporate technologies and procedures to optimize the process of abandonment, considering industry best practices. However, the timing and amounts of future cash flows are subject to significant uncertainty.

Note 20 provides further detailed information about the decommissioning provisions.

4.7. Deferred income taxes

The recognition of deferred taxes involves significant estimates and judgments by the Company. Deferred tax assets are recognized to the extent that it is probable that taxable profit will be available against which a deductible temporary difference can be utilized or it is probable that the entity will have sufficient taxable profit in future periods. In evaluating whether it will have sufficient taxable profit in future periods to support the recognition of deferred tax assets, the Company uses future projections and estimates based on its Strategic Plan, which is approved by the Board of Directors annually. Future taxable profits projections are mainly based on the following assumptions: i) Brent crude oil prices; ii) foreign exchange rates; and iii) the Company's projected net finance expenses (income).

Changes in deferred tax assets and liabilities are presented in note 16.6.

4.8. Cash flow hedge accounting involving the Company's future exports

The Company determines its future exports as "highly probable future exports" based on its current Strategic Plan. The highly probable future exports are determined by a percentage of projected exports revenue over the mid and long term, taking into account the Company's operational and capital expenditure optimization model, limited to a threshold based on a historical percentage of the oil production that is usually sold abroad. Future exports forecasts are reviewed whenever the Company reviews its Strategic Plan assumptions. The approach for determining exports as highly probable future exports is reviewed annually, at least.

See note 36.2 for more detailed information about cash flow hedge accounting and a sensitivity analysis of the cash flow hedge involving future exports.

4.9. Write-off – overpayments incorrectly capitalized

As described in note 21, in the third quarter of 2014, the Company developed an estimation methodology and wrote off US\$2,527 of capitalized costs representing the estimated amounts that Petrobras had overpaid for the acquisition of property, plant and equipment.

The Company has continuously monitored the results of the Lava Jato investigation and the availability of other information related to the scheme of improper payments. In preparing the financial statements for the year ended December 31, 2019, the Company has not identified any additional information that would impact the adopted calculation methodology and consequently require additional write-offs.

4.10. Expected credit losses on financial assets

Expected credit losses on financial assets are based on assumptions relating to risk of default, the determination of whether or not there has been a significant increase in credit risk and expectation of recovery, among others. The Company uses judgment for such assumptions in addition to information from credit rating agencies and inputs based on collection delays.

4.11. Leases

The Company uses incremental borrowing rates to determine the present value of the lease payments, when the interest rate implicit in the lease cannot be readily determined. The incremental borrowing rates used to determine the present value of the remaining lease payments were determined mainly based on the Company's cost of funding based on yields of bonds issued by the Company, adjusted by terms and currency of the lease arrangements, economic environment of the country where the lessee operates and similar collaterals.

4.12. Uncertainty over Income Tax Treatments

Uncertainties over income tax treatments represent the risks that the tax authority does not accept a certain tax treatment applied by the Company. The Company estimates the probability of acceptance of an uncertain tax treatment by the tax authority based on technical assessments by its legal advisors, considering precedent jurisprudence applicable to current tax legislation, which may be impacted mainly by changes in tax rules or court decisions which may affect the analysis of the fundamentals of uncertainty.

5. New standards and interpretations

5.1. New International Financial Reporting Standards not yet adopted

Standard	Description	Effective on
<i>Definition of a Business – Amendments to IFRS 3</i>	This amended IFRS 3 to narrow and clarify the definition of a business, and to permit a simplified assessment of whether an acquired set of activities and assets is a group of assets rather than a business.	January 1, 2020, prospective application.
<i>Interest Rate Benchmark Reform – Amendments to IFRS 9, IFRS 7 and IAS 39</i>	Amendments to IFRS 9- <i>Financial Instruments</i> , IFRS 7- <i>Financial Instruments: Disclosures</i> , and IAS 39- <i>Financial instruments: recognition and measurement</i> , in order to include temporary exceptions to current hedge accounting requirements, to offset the effects of uncertainties caused by the interest rate benchmark reform, relating to the transition to the Interbank Offered Rate (IBOR) recommended by the Financial Stability Board (FSB).	January 1, 2020, retrospective application.
<i>Definition of Material – Amendments to IAS 1 and IAS 8</i>	Amendments to IAS 1 - <i>Presentation of Financial Statements</i> and IAS 8 - <i>Accounting Policies, Changes in Accounting Estimates and Errors</i> , updating the definition of "material" in order to establish that information is material if its omission, distortion or obscurity can reasonably influence the decision making of the primary users of the financial statements.	January 1, 2020, prospective application.
<i>IFRS 17 – Insurance Contracts</i>	IFRS 4 – <i>Insurance Contracts</i> will be superseded by IFRS 17, which establishes the requirements to be applied in the recognition and disclosure of insurance and reinsurance contracts.	January 1, 2021, prospective application.

As for the amendments listed above, the Company estimates no impact arising from the initial application on its consolidated financial statements. In relation to IFRS 17 - Insurance Contracts, the Company is evaluating the applicability on the financial statements.

6. Capital Management

The Company's objectives in its capital management is to achieve an adequate level of return on its capital structure in order to safeguard its ability to continue as a going concern, adding value to its shareholders and investors. Its main sources of funding have been cash provided by its operating activities and divestments.

In 2019, the Company reported earnings per share of US\$ 0.78 (US\$ 0.55 in 2018) and is proposing to the Shareholder's General Meeting the distribution of dividends of US\$ 0.2320 (US\$ 0.2397 in 2018) per preferred share and US\$ 0.1864 (US\$ 0.0681 in 2018) per common shares and, as detailed in note 34.

In line with the assumptions in the 2020-2024 Strategic Plan, the Company does not foresee net proceeds from financing over the next five years. However, the Company has continually assessed options of funding following its liability management strategy, aiming at improving its debt repayment profile and achieving a lower cost of its debt along with an indebtedness level matching the capital expenditures. Currently, the average repayment term is 10.80 years (9.14 years as of December 31, 2018).

As a part of the financing planning, the Company expects to raise funds by means of its partnership and divestment program outlined by its portfolio management.

7. Cash and cash equivalents and Marketable securities

7.1. Cash and cash equivalents

	<u>12.31.2019</u>	<u>12.31.2018</u>
Cash at bank and in hand	572	863
Short-term financial investments		
- In Brazil		
Brazilian interbank deposit rate investment funds and other short-term deposits	1,699	1,875
Other investment funds	4	12
	<u>1,703</u>	<u>1,887</u>
- Abroad		
Time deposits	7	3,823
Automatic investing accounts and interest checking accounts	4,620	6,708
Other financial investments	470	618
	<u>5,097</u>	<u>11,149</u>
Total short-term financial investments	<u>6,800</u>	<u>13,036</u>
Total cash and cash equivalents	<u>7,372</u>	<u>13,899</u>

Short-term financial investments in Brazil primarily consist of investments in funds holding Brazilian Federal Government Bonds that can be redeemed immediately, as well as reverse repurchase agreements that mature within three months as of the date of their acquisition. Short-term financial investments abroad comprise highly-liquid automatic investment accounts, interest checking accounts and other short-term fixed income instruments.

The principal uses of funds in the year ended December 31, 2019 were for debt service obligations, including prepayment of debts and lease payments (US\$ 36,981) and acquisition of PP&E and intangibles assets, including the bidding for oil surplus of the Transfer of Rights Agreement (US\$ 23,897). These funds were principally provided by operating activities (US\$ 25,373), disposal of assets (US\$ 10,413), reimbursement on the Transfer of Rights Agreement (US\$ 8,361) and proceeds from financing (US\$ 7,464).

The Company uses revolving credit facilities, which allowed the reduction in cash and cash equivalents without compromising the Company's liquidity. For additional information, see note 32.4.

7.1.1. Accounting Policy

Cash and cash equivalents comprise cash in hand, term deposits with banks and short-term highly-liquid financial investments that are readily convertible to known amounts of cash, are subject to insignificant risk of changes in value and have a maturity of three months or less from the date of acquisition.

7.2. Marketable securities

	12.31.2019			12.31.2018		
	In Brazil	Abroad	Total	In Brazil	Abroad	Total
Fair value through profit or loss	875	-	875	1,083	-	1,083
Fair value through other comprehensive income	7	-	7	8	-	8
Amortized cost	45	19	64	45	-	45
Total	927	19	946	1,136	-	1,136
Current	875	13	888	1,083	-	1,083
Non-current	52	6	58	53	-	53

Marketable securities classified as fair value through profit or loss refer mainly to investments in Brazilian Federal Government Bonds. These financial investments have maturities of more than three months and are generally classified as current assets due to their maturity or the expectation of their realization in the short term.

7.2.1. Accounting Policy

Marketable securities are initially measured at fair value and their subsequent measurement depends on their classification:

- Amortized cost: when the contractual terms of the security give rise on specified dates to cash flows arising from payments of principal and interest on the principal amount outstanding, and the business model's objective is to hold the security in order to collect contractual cash flows. The interest income is based on the effective interest method.
- Fair value through other comprehensive income: equity instruments not held for trading purposes for which the Company has made an irrevocable election in their initial recognition to present changes in fair value in other comprehensive income rather than within profit or loss;
- Fair value through profit or loss: if the marketable security do not meet the criteria for the two aforementioned categories.

8. Sales revenues

8.1. Revenues from contracts with customers

As an integrated energy company, revenues from contracts with customers derive from different products sold by the Company's operating segments, taking into consideration specific characteristics of the markets where they operate. For additional information about the operating segments of the Company, its activities and its respective products sold, see note 12.

The determination of transaction prices derives from methodologies and policies based on the parameters of these markets, reflecting operating risks, level of market share, changes in exchange rates and international commodity prices, including Brent oil prices, oil products such as diesel and gasoline, and the Henry Hub Index.

Revenues from sales are recognized at the moment the control is transferred to the client, that occurs upon delivery at the contractual agreed place or when the service is provided. Generally, prices for products and services are fixed prior

to or shortly after delivery. Therefore, no significant changes in transactions prices are expected to be recognized in periods after the satisfaction of the performance obligations, except for some exports in which final prices are linked to changes in commodity price after their transfer of control. Sales proceeds are generally collected in the short-term, thus there are no significant financing components.

In addition, the Company acts as an agent in the biofuel business, where there is no control of the biodiesel purchased from the producers and sold to distributors at any time during the sale operation. Those revenues totaled US\$ 46 in 2019.

8.2. Net sales revenues

	2019	2018 Reclassified	2017 Reclassified
Diesel	23,007	23,450	19,642
Diesel subsidy	-	1,415	-
Gasoline	9,810	11,690	12,231
Liquefied petroleum gas	4,159	4,490	3,999
Jet fuel	3,832	4,208	3,264
Naphtha	1,669	2,455	2,637
Fuel oil (including bunker fuel)	1,026	1,233	1,419
Other oil products	3,410	3,769	3,258
Subtotal oil products	46,913	52,710	46,450
Natural gas	5,929	5,425	5,001
Renewables and nitrogen products	245	366	3,498
Breakage	645	687	-
Electricity	1,322	2,027	3,616
Services, agency and others	940	1,370	1,223
Domestic market	55,994	62,585	59,788
Exports	18,085	15,413	12,677
Sales abroad (*)	2,510	6,640	5,419
Foreign market	20,595	22,053	18,096
Sales revenues	76,589	84,638	77,884

(*) Sales revenues from operations outside of Brazil, including trading and excluding exports.

Following the reduction of the investment in BR Distribuidora on July 25, 2019, this company became a non-consolidated entity. Hence, sales to this associate represent more than 10% of the Company sales revenues, mainly associated with the refining, transportation and marketing segment.

8.3. Remaining performance obligations

The company has current sales contracts with original expected duration of more than 1 year, in which volumes of goods or services for future sales are determined with their respective payment terms.

The estimated remaining values of these contracts at the end of 2019 presented below are based on volumes of goods and services for future sales, as well as prices prevailing at December 31, 2019 or practiced in recent sales when they reflect the more directly observable information:

	Total	Expected recognition within 1 year
Domestic market		
Gasoline	3,853	3,853
Diesel	6,538	6,538
Natural gas	15,929	4,714
Services and others	5,722	1,542
Naphtha	3,722	3,722
Electricity	4,286	718

Other oil products	45	45
Jet fuel	943	943
Foreign market		
Exports	18,465	2,655
Sales abroad	-	-
Total	59,503	24,730

The revenues will be recognized once goods are transferred and services are provided to the customers and their measurement and timing of recognition will be subject to future demands, changes in commodities prices, exchange rates and other market factors.

The table above does not include information on contracts with original expected duration of one year or less, such as spot-market contracts, variable considerations which are constrained, and information on contracts only establishing general terms and conditions (Master Agreements), for which volumes and prices will only be defined in subsequent contracts.

In addition, electricity sales are mainly driven by demands to generate electricity from thermoelectric power plants, according to the Brazilian National Electric System Operator (ONS) requests. These requests are substantially affected by Brazilian hydrological conditions, thus, the table above presents fixed amounts representing sales of certified capacity in accordance with the installed capacity of the Company.

8.4. Contract liabilities

The balance of contract liabilities carried on the statement of financial position at December 31, 2019 amounted to US\$ 128 (US\$ 245 at December 31, 2018). This amount is classified as other current liabilities and primarily comprises advances from customers in take and ship or pay contracts, that, will be recognized as revenue based on future sales of natural gas or following the non-exercise of the right by the customer.

8.5. Accounting policy for revenues

The Company evaluates contracts with customers that will be subject to revenue recognition and identifies the distinct goods and services promised in each of them.

Performance obligations are promises to transfer to the customer goods or services (or a bundle of goods or services) that are distinct, or series of distinct goods or services that are substantially the same and that have the same pattern of transfer to the customer.

Revenues are measured based on the amount of consideration to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer, excluding amounts collected on behalf of third parties. Transaction prices are based on contractually stated prices, reflecting the Company's pricing methodologies and policies based on market parameters.

When transferring a good, that is, when the customer obtains its control, the company satisfies the performance obligation and recognizes the respective revenue, which usually occurs at a point in time upon delivery.

9. Costs and expenses by nature

9.1. Cost of sales

	2019	2018 Reclassified	2017 Reclassified
	Jan-Dec	Jan-Dec	Jan-Dec
Raw material, products for resale, materials and third-party services (*)	(20,694)	(26,810)	(27,388)
Depreciation, depletion and amortization	(12,036)	(10,954)	(12,309)
Production taxes	(9,741)	(10,905)	(7,895)
Employee compensation	(3,261)	(3,515)	(3,606)
Total	(45,732)	(52,184)	(51,198)

(*) It Includes short-term leases and inventory turnover.

9.2. Selling expenses

	2019	2018 Reclassified	2017 Reclassified
	Jan-Dec	Jan-Dec	Jan-Dec
Materials, third-party services, rent and other related costs	(3,664)	(3,445)	(3,033)
Depreciation, depletion and amortization	(549)	(145)	(75)
Allowance for expected credit losses	(49)	(32)	(288)
Employee compensation	(214)	(205)	(218)
Total	(4,476)	(3,827)	(3,614)

9.3. General and administrative expenses

	2019	2018 Reclassified	2017 Reclassified
	Jan-Dec	Jan-Dec	Jan-Dec
Employee compensation	(1,427)	(1,500)	(1,605)
Materials, third-party services, freight, rent and other related costs	(539)	(626)	(911)
Depreciation, depletion and amortization	(158)	(113)	(140)
Total	(2,124)	(2,239)	(2,656)

10. Other income and expenses

	2019	2018 Reclassified	2017 Reclassified
Gains / (losses) related to legal, administrative and arbitration proceedings	(1,520)	(2,283)	(861)
Pension and medical benefits - retirees	(1,371)	(1,401)	(1,791)
Unscheduled stoppages and pre-operating expenses	(1,321)	(1,282)	(1,598)
Variable compensation program	(643)	(265)	-
Gains/(losses) with Commodities Derivatives	(370)	(416)	-
Voluntary Separation Plan - PDV	(198)	2	-
Profit sharing	(43)	(442)	(145)
Employee Career and Compensation Plan - PCR	(2)	(293)	-
Agreement with US Authorities	-	(895)	-
Institutional relations and cultural projects	(180)	(178)	(208)
Operating expenses with thermoelectric power plants	(128)	(107)	(67)
Government grants	238	248	91
Results on disposal/write-offs of assets and on remeasurement of investment retained with loss of control	6,046	416	1,725
Expenses/Reimbursements from E&P partnership operations	383	331	372
Amounts recovered from Lava Jato investigation	220	457	252
Equalization of expenses - Production Individualization Agreements	2	(279)	-
Gains / (losses) on decommissioning of returned/abandoned areas	(155)	621	337
Provision for the class action agreement	-	-	(3,449)
Others	241	6	(169)
Total	1,199	(5,760)	(5,511)

11. Net finance income (expense)

	2019	2018	2017
	Jan-Dec	Reclassified Jan-Dec	Reclassified Jan-Dec
Finance income	1,330	2,381	928
Income from investments and marketable securities (Government Bonds)	558	563	472
Discount and premium on repurchase of debt securities	5	323	-
Gains from signed agreements (electric sector)	79	724	-
Other income, net	688	771	456
Finance expenses	(7,086)	(5,675)	(7,006)
Interest on finance debt	(4,847)	(5,920)	(6,685)
Unwinding of discount on lease liabilities	(1,514)	(10)	(19)
Discount and premium on repurchase of debt securities	(860)	(651)	(338)
Capitalized borrowing costs	1,332	1,814	1,976
Unwinding of discount on the provision for decommissioning costs	(795)	(652)	(762)
Other finance expenses and income, net	(402)	(256)	(1,178)
Foreign exchange gains (losses) and indexation charges	(3,008)	(3,190)	(3,641)
Foreign Exchange gains (losses)	(72)	(66)	(857)
Reclassification of hedge accounting to the Statement of Income	(3,136)	(3,315)	(3,154)
Other foreign exchange gains (losses) and indexation charges, net	200	191	370
Total	(8,764)	(6,484)	(9,719)

12. Net income by operating segment

Consolidated Statement of Income by operating segment

						2019
	Exploration and Production	Refining, Transportation & Marketing	Gas & Power	Corporate and other business	Eliminations	Total
Sales revenues	50,462	67,538	11,493	1,221	(54,125)	76,589
Intersegments	49,400	9,432	3,308	226	(54,125)	8,241
Third parties	1,062	58,106	8,185	995	-	68,348
Cost of sales	(27,304)	(61,578)	(7,713)	(1,167)	52,030	(45,732)
Gross profit (loss)	23,158	5,960	3,780	54	(2,095)	30,857
Income (expenses)	(4,181)	(4,334)	2,580	(4,282)	(26)	(10,243)
Selling	-	(2,164)	(2,260)	(31)	(21)	(4,476)
General and administrative	(254)	(336)	(134)	(1,401)	1	(2,124)
Exploration costs	(799)	-	-	-	-	(799)
Research and development	(394)	(11)	(15)	(156)	-	(576)
Other taxes	(127)	(151)	(152)	(189)	-	(619)
Impairment of assets	(1,956)	(697)	(194)	1	(2)	(2,848)
Other income and expenses	(651)	(975)	5,335	(2,506)	(4)	1,199
Net income / (loss) before financial results and income taxes	18,977	1,626	6,360	(4,228)	(2,121)	20,614
Net finance income (expenses) (*)	-	-	-	(8,764)	-	(8,764)
Results in equity-accounted investments	86	(151)	103	115	-	153
Net income / (loss) before income taxes	19,063	1,475	6,463	(12,877)	(2,121)	12,003
Income taxes	(6,451)	(552)	(2,162)	4,245	720	(4,200)
Net income from continuing operations for the period	12,612	923	4,301	(8,632)	(1,401)	7,803
Net income from discontinued operations for the period	-	-	3	2,557	-	2,560
Net income for the period	12,612	923	4,304	(6,075)	(1,401)	10,363
Attributable to:						
Non-controlling interests	(12)	(98)	124	198	-	212
Net income from continuing operations	(12)	(98)	121	132	-	143
Net income from discontinued operations	-	-	3	66	-	69
Shareholders of Petrobras	12,624	1,021	4,180	(6,273)	(1,401)	10,151
Net income from continuing operations	12,624	1,021	4,179	(8,763)	(1,401)	7,660
Net income from discontinued operations	-	-	1	2,490	-	2,491

Petróleo Brasileiro S.A. – Petrobras

Notes to the financial statements

(Expressed in millions of US Dollars, unless otherwise indicated)



2018 - Reclassified

	Exploration and Production	Refining, Transportation & Marketing	Gas & Power	Corporate and other business	Eliminations	Total
Sales revenues	52,382	73,448	12,241	1,731	(55,164)	84,638
Intersegments	50,052	16,655	3,701	205	(55,164)	15,449
Third parties	2,330	56,793	8,540	1,526	-	69,189
Cost of sales	(28,968)	(67,011)	(9,023)	(1,611)	54,429	(52,184)
Gross profit (loss)	23,414	6,437	3,218	120	(735)	32,454
Income (expenses)	(5,068)	(3,437)	(2,461)	(4,662)	(38)	(15,666)
Selling	(80)	(1,777)	(1,867)	(76)	(27)	(3,827)
General and administrative	(257)	(376)	(152)	(1,453)	(1)	(2,239)
Exploration costs	(524)	-	-	-	-	(524)
Research and development	(443)	(11)	(21)	(166)	-	(641)
Other taxes	(115)	(207)	(65)	(283)	-	(670)
Impairment of assets	(1,391)	(442)	(190)	18	-	(2,005)
Other income and expenses	(2,258)	(624)	(166)	(2,702)	(10)	(5,760)
Net income / (loss) before financial results and income	18,346	3,000	757	(4,542)	(773)	16,788
Net finance income (expenses) (*)	-	-	-	(6,484)	-	(6,484)
Results in equity-accounted investments	75	362	95	(9)	-	523
Net income / (loss) before income taxes	18,421	3,362	852	(11,035)	(773)	10,827
Income taxes	(6,236)	(1,020)	(257)	2,994	263	(4,256)
Net income from continuing operations for the period	12,185	2,342	595	(8,041)	(510)	6,571
Net income from discontinued operations for the period	-	-	15	828	-	843
Net income for the period	12,185	2,342	610	(7,213)	(510)	7,414
Non-controlling interests	(5)	(51)	128	169	-	241
Net income from continuing operations	(5)	(51)	124	(69)	-	(1)
Net income from discontinued operations	-	-	4	238	-	242
Net income attributable to shareholders of Petrobras	12,190	2,393	482	(7,382)	(510)	7,173
Net income from continuing operations	12,190	2,393	471	(7,972)	(510)	6,572
Net income from discontinued operations	-	-	11	590	-	601

2017 - Reclassified

	Exploration and Production	Refining, Transportation & Marketing	Gas & Power	Corporate and other business	Eliminations	Total
Sales revenues	42,184	67,037	12,340	1,583	(45,260)	77,884
Intersegments	40,762	16,142	3,261	201	(45,260)	15,106
Third parties	1,422	50,895	9,079	1,382	-	62,778
Cost of sales	(27,937)	(57,778)	(8,807)	(1,476)	44,800	(51,198)
Gross profit (loss)	14,247	9,259	3,533	107	(460)	26,686
Income (expenses)	(3,750)	(3,603)	(659)	(8,194)	73	(16,133)
Selling	(125)	(1,731)	(1,776)	(63)	81	(3,614)
General and administrative	(331)	(457)	(165)	(1,703)	-	(2,656)
Exploration costs	(800)	-	-	-	-	(800)
Research and development	(333)	(13)	(26)	(200)	-	(572)
Other taxes	(503)	(203)	(258)	(825)	-	(1,789)
Impairment of assets	43	(781)	(446)	(7)	-	(1,191)
Other income and expenses	(1,701)	(418)	2,012	(5,396)	(8)	(5,511)
Net income / (loss) before financial results and income	10,497	5,656	2,874	(8,087)	(387)	10,553
Net finance income (expenses) (*)	-	-	-	(9,719)	-	(9,719)
Results in equity-accounted investments	136	443	117	(23)	-	673
Net income / (loss) before income taxes	10,633	6,099	2,991	(17,829)	(387)	1,507
Income taxes	(3,571)	(1,922)	(977)	4,641	132	(1,697)
Net income from continuing operations for the period	7,062	4,177	2,014	(13,188)	(255)	(190)
Net income from discontinued operations for the period	-	-	17	342	-	359
Net income for the period	7,062	4,177	2,031	(12,846)	(255)	169
Non-controlling interests	41	(58)	119	158	-	260
Net income from continuing operations	41	(58)	123	51	-	157
Net income from discontinued operations	-	-	(4)	107	-	103
Net income attributable to shareholders of Petrobras	7,021	4,235	1,912	(13,004)	(255)	(91)
Net income from continuing operations	7,021	4,235	1,891	(13,239)	(255)	(347)
Net income from discontinued operations	-	-	21	235	-	256

The consolidated amounts of intersegment sales (remaining after eliminations) relates to sales from the RT&M to BR, which is presented as discontinued operation within Corporate and other business.

12.1. Accounting policy for operating segments

The information related to the Company's operating segments is prepared based on available financial information directly attributable to each segment, or items that can be allocated to each segment on a reasonable basis. This information is presented by business activity, as used by the Company's Board of Executive Officers (Chief Operating Decision Maker – CODM) on the decision-making process of resource allocation and performance evaluation.

The measurement of segment results includes transactions carried out with third parties, including associates and joint ventures, as well as transactions between operating segments. Transfers between operating segments are recognized at internal transfer prices derived from methodologies that take into account market parameters and are eliminated only to provide reconciliations to the consolidated financial statements.

As a result of the divestments in 2019, the strategy of repositioning its portfolio as set out in the 2020–2024 Strategic Plan, approved on November 27, 2019, as well as the materiality of the remaining businesses, the Company reassessed the presentation of the Distribution and Biofuels businesses, which are now included in the segment Corporate and

other businesses. Thus, comparative information has been reclassified. Accordingly, the company's business segments disclosed separately are:

Exploration and Production (E&P): this segment covers the activities of exploration, development and production of crude oil, NGL (natural gas liquid) and natural gas in Brazil and abroad, for the primary purpose of supplying its domestic refineries. The E&P segment also operates through partnerships with other companies and includes holding interest in foreign entities operating in this segment.

As an integrated energy company with a focus on oil and gas, intersegment sales revenue refers mainly to oil transfers to the Refining, Transportation and Marketing segment, aiming to supply the Company's refineries and meet the domestic demand for oil products. These transactions are measured by internal transfer prices based on international oil prices and their respective exchange rate impacts, taking into account the specific characteristics of the transferred oil stream.

In addition, the E&P segment revenues include transfers of natural gas to the natural gas processing plants within Gas and Power segment. These transactions are measured at internal transfer prices based on the international prices of this commodity.

Revenue from sales to third parties mainly reflects services rendered relating to E&P activities, sales of the E&P's natural gas processing plants, as well as the oil and natural gas operations carried out by subsidiaries abroad.

Refining, Transportation and Marketing (RT&M): this segment covers the refining, logistics, transport and trading of crude oil and oil products activities in Brazil and abroad, as well as exports of ethanol. This segment also includes the petrochemical operations, such as extraction and processing of shale and holding interests in petrochemical companies in Brazil.

This segment carries out the acquisition of crude oil from the E&P segment, imports oil for refinery slate, and acquires oil products in international markets taking advantage of the existing price differentials between the cost of processing domestic oil and that of importing oil products.

Intersegment revenues primarily reflect the sale of derivatives for the distribution segment at market prices and the operations for the Gas and Power and E&P segments at internal transfer price.

Revenues from sales to third parties primarily reflect the trading of oil products in Brazil and the export and trade of oil and oil products by foreign subsidiaries.

Gas and Power: this segment covers the activities of logistic and trading of natural gas and electricity, transportation and trading of LNG (liquefied natural gas), generation and electricity by means of thermoelectric power plants, as well as holding interests in transporters and distributors of natural gas in Brazil and abroad. It also includes natural gas processing and fertilizers production.

Intersegment revenues primarily reflect the transfers of natural gas processed, liquefied petroleum gas (LPG) and NGL to RT&M. These transactions are measured at internal transfer prices.

This segment purchases national natural gas from the E&P segment, from partners and third parties, imports natural gas from Bolivia and LNG to meet national demand.

Revenues from sales to third parties primarily reflect natural gas processed to distributors, as well as generation and trading of electricity.

The Corporate segment comprises items that cannot be attributed to the other segments, as well as distribution and biofuels businesses. Corporate items comprise those related to corporate financial management, corporate overhead and other expenses, including actuarial expenses related to the pension and medical benefits for retired employees and their dependents. Distribution business reflects the interest in the associate BR Distribuidora (investments and results

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in equity-accounted investments), as well as the distribution of derivatives abroad (South America). Until July 2019 and the previous years for comparative purposes, it also includes net income from discontinued operations, as set out in note 30. Biofuels businesses reflects production activities of biodiesel, its co-products and ethanol.

13. Trade and other receivables

13.1. Trade and other receivables, net

	12.31.2019	12.31.2018
Receivables from contracts with customers		
Third parties	4,481	6,614
Related parties		
Investees (note 37.1)	794	682
Receivables from the electricity sector (note 13.4) (*)	334	4,400
Subtotal	5,609	11,696
Other trade receivables		
Third parties		
Receivables from divestments (**)	1,434	1,296
Lease receivables	482	519
Other receivables	831	1,325
Related parties		
Diesel subsidy (note 37.1)	-	400
Petroleum and alcohol accounts - receivables from Brazilian Government (note 37.1)	304	307
Subtotal	3,051	3,847
Total trade receivables	8,660	15,543
Expected credit losses (ECL) - Third parties	(2,286)	(3,390)
Expected credit losses (ECL) - Related parties	(45)	(915)
Total trade receivables, net	6,329	11,238
Current	3,762	5,746
Non-current	2,567	5,492

(*) It includes the amount of US\$ 176 at December 31, 2019 (US\$ 199 at December 31, 2018) regarding finance lease receivable from Amazonas Distribuidora de Energia.

(**) It comprises receivable from the divestment of NTS and contingent payments from the sale of interest in Roncador field.

Trade and other receivables are generally classified as measured at amortized cost, except for receivables with final prices linked to changes in commodity price after their transfer of control, which are classified as measured at fair value through profit or loss, amounting to US\$ 357 as of December 31, 2019.

13.2. Aging of trade and other receivables – third parties

	12.31.2019		12.31.2018	
	Trade receivables	Expected credit losses	Trade receivables	Expected credit losses
Current	4,658	(142)	5,863	(360)
Overdue:				
1-90 days	251	(38)	484	(54)
91-180 days	24	(8)	35	(12)
181-365 days	49	(13)	48	(20)
More than 365 days	2,245	(2,085)	3,325	(2,944)
Total	7,227	(2,286)	9,755	(3,390)

13.3. Changes in provision for expected credit losses

	Jan-Dec/2019	Jan-Dec/2018
Opening balance	4,305	5,945
Initial application of IFRS 9	-	122
Additions	217	104
Write-offs	(1,241)	(1,253)
Transfer of assets held for sale	(871)	6
Cumulative translation adjustment	(79)	(619)
Closing balance	2,331	4,305
Current	1,103	1,715
Non-current	1,228	2,590

In the year ended December 31, 2019, the write-offs primarily relate to the termination of a lawsuit, as set out in note 13.4.

In 2018, it primarily reflect the effects related to the agreements signed with Eletrobras.

13.4. Trade receivables – electricity sector (isolated electricity system in the northern region of Brazil)

Receivables from electricity sector	Receivables outside the scope of DAAs			Lease receivables	Others	Total
	of DAAs	DAA 2014	DAA 2018			
Receivables	1,348	2,560	739	199	1	4,847
ECL	(1,182)	(5)	(1)	-	(1)	(1,189)
Balance at December 31, 2018	166	2,555	738	199	-	3,658
Sales	857	-	-	-	-	857
Amounts received	(832)	(2,466)	(667)	(39)	-	(4,004)
Interest	12	114	36	30	-	192
Derecognition of receivables	(879)	-	-	-	-	(879)
Agreements in 2018	-	-	217	-	-	217
Discount on transfer of rights	-	(128)	-	-	-	(128)
(Additions)/reversals of ECL	(19)	2	-	(8)	-	(25)
Derecognition of receivables - ECL	866	-	-	-	-	866
Transfer to assets held for sale (*)	(6)	(23)	(200)	-	-	(229)
CTA	(11)	(54)	(16)	(6)	-	(87)
Balance at December 31, 2019	154	-	108	176	-	438
Receivables	214	-	108	183	-	505
ECL	(60)	-	-	(7)	-	(67)
Balance at December 31, 2019	154	-	108	176	-	438

(*) Amounts relate to BR receivables that were transferred to assets held for sale at June 30, 2019.

	Receivables	ECL	Total
Related parties - Eletrobras Group			
Eletrobras	108	-	108
Amazonas Geração e Transmissão - AmGT	226	(44)	182
Total	334	(44)	290
Third parties			
Cia de Gás do Amazonas - CIGÁS	156	(8)	148
Cia de Eletricidade do Amapá - CEA	15	(15)	-
Others	-	-	-
Total	171	(23)	148
Balance at December 31, 2019	505	(67)	438
Balance at December 31, 2018	4,847	(1,189)	3,658

As a result of the conclusion of the privatization of the energy distributors of the electricity system, in April 2019, all the conditions precedent set forth in the Debt Assumption Agreements (DAAs), signed between the distributors and Petrobras, were met and, thus, Eletrobras became the debtor of all the related amounts.

Following the additional sale of Petrobras's interest in BR Distribuidora, the amount of US\$ 229, relating to the receivables assigned to this company, was transferred to assets held for sale in the second quarter of 2019, and finally were derecognized in the third quarter of 2019, at the closing of this sale.

On July 31, 2019, Petrobras, Eletrobras and Amazonas Energia requested the termination of the lawsuit filed by Petrobras against debtors Eletrobras and Amazonas Energia, in the amount of US\$ 766, as set out in an out-of-court settlement signed by these three companies, and in the Debt Assumption Agreement signed on December 3, 2018 (DAA 2018). Thus, in the third quarter of 2019, the disputed receivables and the corresponding provision for expected credit losses (ECL) were derecognized, with no net effect in the statement of income, since the totality of the credits were covered by the ECL.

The remaining balance of DAA 2018, in which Amazonas Energia (AME) was debtor and later assumed by Eletrobras after the implementation of all conditions contained in the debt acknowledgement, is US\$ 108.

On September 20, 2019, Petrobras and Apolo Fundo de Investimento em Direitos Creditórios entered into an assignment agreement without recourse relating to the all credit rights under the debt acknowledgement by energy distributors in 2014 (DAA 2014), whose financial settlement occurred for the amount of US\$ 2,251, with a US\$ 128 discount, recognized as a finance expense in 2019.

Regarding the gas supply, following the assignment of the gas trading agreement from Amazonas Energia (AME) to Amazonas Geração e Transmissão (AmGT), which occurred in December 2018, no further delays or defaults were identified.

13.5. Accounting policy for trade receivables

Trade receivables are generally classified at amortized cost, except for certain receivables classified at fair value through profit or loss, whose cash flows are distinct from the receipt of principal and interest, including receivables with final prices linked to changes in commodity price after their transfer of control.

When the Company is the lessor in a finance lease, a receivable is recognized at the amount of the net investment in the lease, consisting of the lease payments receivable and any unguaranteed residual value accruing to the Company, discounted at the interest rate implicit in the lease.

The Company measures expected credit losses for short-term trade receivables using a provision matrix based on historical observed default rates adjusted by current and forward-looking information when applicable and available without undue cost or effort.

The Company measures the allowance for expected credit losses of other trade receivables based on their 12-month expected credit losses unless their credit risk has increased significantly since their initial recognition, in which case the allowance is based on their lifetime expected credit losses.

When determining whether there has been a significant increase in credit risk, the Company compares the risk of default on initial recognition and at the reporting date.

Regardless of the assessment of significant increase in credit risk, a delinquency period of 30 days past due triggers the definition of significant increase in credit risk on a financial asset, unless otherwise demonstrated by reasonable and supportable information.

The Company assumes that the credit risk on the trade receivable has not increased significantly since initial recognition if the receivable is considered to have low credit risk at the reporting date. Low credit risk is determined based on external credit ratings or internal methodologies.

The Company assumes that a default occurs whenever the counterparty does not comply with the legal obligation to pay its debts when due or, depending on the instrument, when it is at least 90 days past due.

The measurement of expected credit loss comprises the difference between all contractual cash flows that are due to the Company and all the cash flows that the Company expects to receive, discounted at the original effective interest rate weighted by the probability of default.

14. Inventories

	12.31.2019	12.31.2018
Crude oil	3,905	4,150
Oil products	2,274	2,758
Intermediate products	586	610
Natural gas and Liquefied Natural Gas (LNG)	173	122
Biofuels	28	150
Fertilizers	28	78
Total products	6,994	7,868
Materials, supplies and others	1,195	1,119
Total	8,189	8,987

In the year ended December 31, 2019, the Company recognized a US\$ 15 loss within cost of sales, adjusting inventories to net realizable value (a US\$ 420 loss within cost of sales in the year ended December 31, 2018) primarily due to changes in international prices of crude oil and oil products.

At December 31, 2019, the Company had pledged crude oil and oil products volumes as collateral for the Terms of Financial Commitment (TFC) signed by Petrobras and Petros in 2008, in the amount of US\$ 3,525 (US\$ 4,496 at December 31, 2018), as set out in note 18.

14.1. Accounting policy for inventories

Inventories are determined by the weighted average cost method adjusted to the net realizable value when it is lower than its carrying amount.

Net realizable value is the estimated selling price of inventory in the ordinary course of business, less estimated cost of completion and estimated expenses to complete its sale.

Crude oil and LNG inventories can be traded or used for production of oil products and/or electricity generation, respectively.

Intermediate products are those product streams that have been through at least one of the refining processes, but still need further treatment, processing or converting to be available for sale.

Biofuels mainly include ethanol and biodiesel inventories.

Materials, supplies and others mainly comprise production supplies and operating materials used in the operations of the Company, stated at the average purchase cost, not exceeding replacement cost.

15. Trade payables

	12.31.2019	12.31.2018
Third parties in Brazil	2,560	4,008
Third parties abroad	2,045	1,572
Related parties	996	747
Balance in current liabilities	5,601	6,327

16. Taxes

16.1. Income taxes and other taxes

Income taxes	Current assets		Current liabilities		Non-current liabilities	
	12.31.2019	12.31.2018	12.31.2019	12.31.2018	12.31.2019	12.31.2018
Taxes in Brazil						
Income taxes	2,485	733	71	66	-	-
Income taxes - Tax settlement programs	-	-	57	56	504	552
	2,485	733	128	122	504	552
Taxes abroad	8	6	148	89	-	-
Total	2,493	739	276	211	504	552

Other taxes	Current assets		Non-current assets		Current liabilities		Non-current liabilities (*)	
	12.31.2019	12.31.2018	12.31.2019	12.31.2018	12.31.2019	12.31.2018	12.31.2019	12.31.2018
Taxes in Brazil								
Current / Deferred ICMS (VAT)	555	781	364	700	759	922	-	-
Current / Deferred PIS and COFINS	417	442	2,591	1,831	252	309	44	-
Claim to recover PIS and COFINS	-	-	820	837	-	-	-	-
CIDE	31	22	-	-	45	50	-	-
Production taxes	-	-	-	-	1,929	1,757	266	-
Withholding income taxes	-	-	-	-	232	308	-	-
Tax Settlement Program	-	-	-	-	-	2	-	-
Others	31	36	153	158	189	184	225	107
Total in Brazil	1,034	1,281	3,928	3,526	3,406	3,532	535	107
Taxes abroad	17	15	11	14	18	24	-	-
Total	1,051	1,296	3,939	3,540	3,424	3,556	535	107

Income taxes credits refer mainly to the carryforward of unused tax losses in the computation process of income taxes, in addition to the negative balance of IRPJ and CSLL related to 2018 and 2019.

Deferred PIS and COFINS credits mainly refer to the acquisition of goods and services for assets under construction, since their use are allowed after these assets enter into production.

In 2019, provisions for current and non-current recoverable taxes (ICMS, PIS and COFINS) were recognized, in the amount US\$ 243, mainly due to changes in the scope of projects in progress, reflecting the vision of the Company's Strategic Plan, as well as uncertainties related to the realization of credits in electricity trading operations.

Recovery of PIS and COFINS

The Company filed civil lawsuits against the Brazilian Federal Government claiming to recover PIS and COFINS paid over finance income and foreign exchange variation gains, from February 1999 to January 2004.

The court granted to the Company, in all the lawsuits, the definitive right to recover those taxes, but it requires previous examination and approval by the court of the settlement reports (court-ordered liquidation stage). In 2017, there were a settlement reports issued in favor of the Company relating to the most significant amount to be recovered. However, final approvals by the court are still pending.

As of December 31, 2019, the Company had non-current receivables of US\$ 820 (US\$ 837 as of December 31, 2018) related to PIS and COFINS, which are indexed to inflation.

16.2. Tax amnesty programs – State Tax (Programas de Anistias Estaduais)

In 2019, in accordance with its current corporate governance process and following cost-benefit analysis, the Company elected to settle in cash VAT (ICMS) tax disputes by joining states amnesty settlement programs and taking advance of their reliefs, as shown below:

State	State Law/Decree n°	Benefits received	Disputes (*)	Reduction Benefit	Amount to be paid after benefit (**)
BA	14,085/2019	Reduction of 90% of fines and interest and 50% of Vat tax forgiveness	449	(344)	105
PE	414/2019	Reduction of 90% of interest and 43% of the fines	335	(224)	111
AM	202/2019	Reduction of 95% of fines and interest	196	(135)	61
CE	33,135/2019	Reduction of 90% of fines and interest and 50% of Vat tax forgiveness	127	(98)	29
AL	5,900/96	Reduction of 90% of fines and interest	83	(63)	20
SE	40,486/2019	Reduction of 90% of fines and interest	41	(26)	15
RS	54,853/2019 and 54,887/2019	Reduction of 60% and 90% of fines and interest and 50% of Vat tax forgiveness	76	(58)	18
			1,307	(948)	359

(*) US\$ 1.2 billion refers to previous disputes for which the likelihood of losses were deemed possible, as set out in note 19.

(*) Amounts recognized as other taxes (US\$ 230), other expenses (US\$ 103), and finance expenses (US\$ 33).

16.3. Brazilian federal settlement programs

In 2018 the Company settled most of the debts relating to the tax settlement programs it joined in 2017. These programs were created by the Brazilian Federal Government, which enabled the settlement of significant disputes with Brazilian tax authorities and other Brazilian federal agencies, in which the Company was a defendant, with certain benefits, such as the use of tax loss carry forwards and reduction in interests, penalties and related charges.

As of December 31, 2019, there is an open balance relating to the Special Tax Settlement Program (PERT), which covered the lawsuit related to the Brazilian Federal Revenue Service, with respect to a notice of deficiency issued due to the use

of expenses arising from the Terms of Financial Commitment (TFC), signed by Petrobras and Petros Plan in 2008, as deductible in determining taxable profit for the calculation of income taxes (IRPJ and CSLL).

The following table presents changes in the balance of this program:

	12.31.2018	Payments	Use of tax loss carryforwards	Inflation indexation	Others	CTA	12.31.2019
PERT							
Income taxes	607	(55)	-	30	-	(23)	559
Others taxes	-	-	-	-	1	-	1
	608	(55)	-	30	-	(23)	560
Current							56
Non-current							504

The following table presents the settlement years of the outstanding amounts under this program:

	2020	2021	2022	2023	2024	2025 onwards	Total
PERT	56	56	56	56	56	280	560
Total	56	56	56	56	56	280	560

16.4. New Taxation Model for the Oil and Gas Industry

Law No. 13,586, enacted in 2017, outlined a new taxation model for the oil and gas industry and, along with the Decree 9,128/2017, established a new special regime for exploration, development and production of oil, gas and other liquid hydrocarbons named Repetro-Sped.

Following the application of this new regime, the Company expects greater legal stability in the oil and gas industry in Brazil, which may encourage higher investments and reduce the number of litigations involving the industry players.

Regarding the Repetro-Sped, this regime provides for the continuation of total tax relief over goods imported with temporary permanence in Brazil, as previously governed by the former Repetro (Special Customs Regime for the Export and Import of Goods designated to Exploration and Production of Oil and Natural Gas Reserves), and adds this relief to goods permanently held in Brazil, through the final acquisition of these by Petrobras and Brazilian Consortiums. For goods that were already in the country on December 31, 2017, the Company initiated the transfer of ownership of the oil and gas assets of PNBV and its subsidiaries to the parent company and consortiums in Brazil, which will take place before the end of 2020. Therefore, due to the fact that these assets no longer need to return abroad at the end of the contract, their respective operational and financial removal costs were eliminated. The regime will expire in December 2040. As a result of these transfers, there was a corporate restructuring of companies abroad, as mentioned in note 30.2.

On September 4, 2019, IN RFB No. 1,901 was released, regulating Repetro-Industrialization. This taxation model allows the beneficiary company to be able to import or purchase in domestic market, with the relief of federal taxes, raw materials, intermediate products and packaging materials to be fully used in the production.

Following the creation of Repetro-Sped, the Brazilian states, pursuant to a decision of the Brazilian National Council of Finance Policies (CONFAZ), agreed to grant tax incentives relating to VAT (ICMS) over transactions in the scope of this regime to the extent each state enacts its specific regulation providing for the tax relief for the oil and gas industry.

At the date of issuance of these financial statements, the states enacting new regulations governing the VAT tax incentives authorized by CONFAZ were: Amazonas, Bahia, Ceará, Espírito Santo, Rio de Janeiro, Rio Grande do Norte, São Paulo, Sergipe, Minas Gerais and Piauí.

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Finally, on December 17, 2019, the ICMS 220 Agreement was released, aiming to amend ICMS Agreement 03/2018, improving the rules applicable and clarifying several points such as the tax competence in interstate operations and the responsibility for the payment of ICMS. These amendments were promoted to incorporate the ICMS into the Repetro-Industrialization model.

16.5. Deferred income taxes - non-current

The changes in the deferred income taxes (corporate income tax (IRPJ, 25%) and social contribution on net income (CSLL, 9%) are presented as follows:

	Property, Plant and Equipment		Loans, trade and other receivables / payables and financing (**)	Finance leases	Provision for legal proceedings	Tax losses	Inventories	Employee		Total
	Exploration and decommissioning costs	Others (*)						Benefits	Others	
Balance at January 1, 2018	(10,692)	(498)	1,661	(130)	2,201	6,031	569	2,688	534	2,364
Recognized in the statement of income for the year	2,048	(1,109)	(1,509)	(134)	208	(244)	(49)	192	(167)	(764)
Recognized in shareholders' equity	-	-	1,916	-	-	-	-	(119)	2	1,799
Cumulative translation adjustment	1,397	205	(260)	28	(345)	(668)	(65)	(417)	(34)	(159)
Use of tax credits	-	-	-	-	-	(1,117)	-	-	(105)	(1,222)
Others	-	(26)	18	89	2	15	-	11	(101)	8
Balance at December 31, 2018	(7,247)	(1,428)	1,826	(147)	2,066	4,017	455	2,355	129	2,026
Initial application of IFRS9	-	-	-	-	-	-	-	-	-	-
Balance at January 1, 2019	(7,247)	(1,428)	1,826	(147)	2,066	4,017	455	2,355	129	2,026
Recognized in the statement of income for the year	1,497	(2,711)	(95)	(4)	(1,142)	(886)	217	146	180	(2,798)
Recognized in the statement of income of discontinued operation (***)	-	-	-	-	-	-	-	-	(612)	(612)
Recognized in shareholders' equity	-	-	(203)	329	-	-	-	1,491	-	1,617
Cumulative translation adjustment	242	92	(114)	(9)	(51)	(54)	(17)	(56)	25	58
Use of tax credits	-	-	-	-	-	(352)	-	-	23	(329)
Transfers to held for sale	-	444	(55)	17	(87)	(175)	(23)	(216)	(181)	(276)
Others	-	14	(16)	2	(4)	(39)	(2)	(10)	(3)	(58)
Balance at December 31, 2019	(5,508)	(3,589)	1,343	188	782	2,511	630	3,710	(439)	(372)
Deferred tax assets										2,680
Deferred tax liabilities										(654)
Balance at December 31, 2018										2,026
Deferred tax assets										1,388
Deferred tax liabilities										(1,760)
Balance at December 31, 2019										(372)

(*) It mainly includes impairment adjustments, capitalized borrowing costs, and expansion of the base of assets to calculate accelerated depreciation.

(**) The amounts presented as Loans, trade and other receivables/payables and financing relate to the tax effect on exchange rate variation recognized within other comprehensive income (cash flow hedge accounting) as set out in note 36.2.

(***) For more information on the discontinued operation, see note 30.

The Company recognizes the deferred tax assets based on assessment of uncertainty over income tax treatments in the context of applicable tax laws, as well as projections of future taxable profits in a ten-year perspective supported by the Business and Management Plan, which is revised annually.

Timing of reversal of deferred income taxes

Deferred tax assets were recognized based on projections of taxable profit in future periods supported by the Company's 2020-2024 Strategic Plan. The main goals and objectives outlined in this plan include business restructuring, a divestment plan, demobilization of assets and reducing operating expenses.

Management considers that the deferred tax assets will be realized to the extent the deferred tax liabilities are reversed and expected taxable events occur based on its 2020-2024 Strategic Plan.

The estimated schedule of recovery/reversal of net deferred tax assets (liabilities) recoverable (payable) as of December 31, 2018 is set out in the following table:

	Assets	Liabilities
2020	928	21
2021	24	39
2022	46	19
2023	20	288
2024	32	705
2025 and thereafter	338	688
Recognized deferred tax assets	1,388	1,760
Brazil	245	-
Abroad	1,414	-
Unrecognized deferred tax assets	1,659	-
Total	3,047	1,760

At December 31, 2018, the Company had tax loss carryforwards arising from offshore subsidiaries, for which no deferred tax assets had been recognized. These tax losses totaling U\$ 1,414 (US\$ 1,472 as of December 31, 2018) arose mainly from oil and gas exploration and production and refining activities in the United States of US\$ 1,346 (US\$ 1,398 as of December 31, 2017), as well as activities in Spain in the amount of US\$ 68 (US\$ 69 as of December 31, 2017).

An aging of the unrecognized tax carryforwards, from companies abroad is set out below:

	Unrecognized deferred tax assets
2021	45
2022	1
2023	13
2024	9
2025	3
2026 - 2028	234
2029 - 2031	292
2032 - 2034	563
2035 - 2037	254
Total	1,414

16.6. Reconciliation between statutory tax rate and effective tax expense rate

The following table provides the reconciliation of Brazilian statutory tax rate to the Company's effective rate on income before income taxes:

	2019	2018 Reclassified	2017 - Reclassified
Net income before income taxes	12,003	10,827	1,507
Nominal income taxes computed based on Brazilian statutory corporate tax rates (34%)	(4,081)	(3,681)	(513)
· Tax benefits from the deduction of interest on capital distribution	728	553	(53)
· Different jurisdictional tax rates for companies abroad	1,056	355	669
· Brazilian income taxes on income of companies incorporated outside Brazil (*)	(175)	(41)	(70)
· Tax incentives (**)	443	74	168
· Tax loss carryforwards (unrecognized tax losses) (***)	(682)	(484)	(146)
· Non-taxable income (non-deductible expenses), net (****)	(1,556)	(780)	(454)
· Tax settlement programs (*****)	-	-	(1,373)
· Agreement with US authorities	-	(293)	-
· Others	69	41	75
Income taxes expense	(4,200)	(4,256)	(1,697)
Deferred income taxes	(2,798)	(370)	(400)
Current income taxes	(1,402)	(3,886)	(1,297)
Total	(4,200)	(4,256)	(1,697)
Effective tax rate of income taxes	35.0%	39.3%	112.6%

(*) It relates to Brazilian income taxes on earnings of offshore investees, as established by Law No. 12,973/2014.

(**) It includes tax incentives granted by dutch authorities.

(***) As of December 31, 2019, it includes US\$ 674 regarding uncertainty over income tax treatments adopted by subsidiaries abroad.

(****) It includes results in equity-accounted investments, expenses relating to health care plan and provisions for legal proceedings.

(*****) Income taxes in the scope of PRT and PERT and reversals of losses carry forwards from 2012 to 2017.

16.7. Accounting policy for income taxes

Income tax expense for the period includes current and deferred taxes, recognized in the statement of income of the period, except when the tax arises from a transaction or event which is recognized directly in equity. Income tax expense comprises current and deferred taxes based on the rates of 25% for income tax (IRPJ) and 9% for social contribution on net income (CSLL), and the offsetting of the carryforward of credit losses and negative basis of CSLL, limited to 30% of taxable income for the year. Since 2015, income tax expenses on profits arising from subsidiaries abroad are recognized as established by Law No. 12,973 / 2014.

16.7.1. Current income taxes

Current income taxes are computed based on taxable profit for the year, determined in accordance with the rules established by the taxation authorities, using tax rates that have been enacted or substantively enacted at the end of the reporting period.

Current income taxes are offset when they relate to income taxes levied on the same taxable entity and by the same tax authority, when there is a legal right and the entity has the intention to set off current tax assets and current tax liabilities, simultaneously.

16.7.2. Deferred income taxes

Deferred income taxes are recognized on temporary differences between the tax base of an asset or liability and its carrying amount. They are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period.

Deferred tax assets are generally recognized for all deductible temporary differences and carryforward of unused tax losses or credits to the extent that it is probable that taxable profit will be available against which those deductible temporary differences can be utilized. When there are insufficient taxable temporary differences relating to the same taxation authority and the same taxable entity, a deferred tax is recognized to the extent that it is probable that the

entity will have sufficient taxable profit in future periods, based on projections approved by management and supported by the Company's Strategic Plan.

Deferred tax assets and deferred tax liabilities are offset when they relate to income taxes levied on the same taxable entity, when a legally enforceable right to set off current tax assets and current tax liabilities exists and when the deferred tax assets and deferred tax liabilities relate to taxes levied by the same tax authority on the same taxable entity.

17. Short-term and other benefits

	12.31.2019	31.12.2018
Accrued vacation pay	660	781
Profit sharing	16	355
Employees variable compensation program	655	269
Voluntary Severance Program (PDV)	140	36
Salaries and related charges	212	217
Total	1,683	1,658
Current	1,645	1,658
Non-current	38	-

Performance Award Program

In the first quarter of 2019, the Board of Directors approved a new variable remuneration model for all the Company's employees for 2019: the Performance Award Program (*Programa de Prêmio por Performance* - PPP). This program is in line with the Strategic Plan, focusing on meritocracy and bringing flexibility to a scenario in which the Company seeks more efficiency and alignment with the best management practices.

The PPP will be paid in a lump sum payment if the Company presents a net income higher than R\$ 10 billion in 2019 and the estimated amount of disbursement will depend on certain factors such as individual employee performance and results of the areas, as well as performance metrics of the Company.

This new model replaces other benefits related to variable compensation, such as profit sharing and the Variable Compensation Program – PRVE.

In 2019, the Company recognized a US\$ 655 expense relating to the PPP for the employees within other income and expenses.

Voluntary Severance Programs

On April 24, 2019, the Board of Directors approved the Company's Voluntary Severance Program (PDV). Petrobras employees may join the program from May 2, 2019 to June 30, 2020, provided they are retired under the Brazilian Social Security Institute (INSS) by the end of the enrollment period. The program aims to adapt size of the Company's workforce and optimize costs.

The recognition of the provision for expenses with this plan occurs to the extent that the employees join the program. Accordingly, the Company has already registered 3,045 enrollments and 966 separations.

In addition, the Company launched two new voluntary severance programs with the same legal advantages and indemnity as PDV, but intended for non-retired employees with specific regulations. These programs are destined to the corporate segment employees (Corporate PDV) and to employees of divestment units (Specific PDVs). The Corporate PDV has already registered 243 enrollments and 28 separations.

As of December 31, 2019, changes in the provision for expenses relating to separation plans implemented by the Company are set out as follows:

	12.31.2019	12.31.2018
Opening Balance	35	34
Discontinued operations (*)	(21)	-
Enrollments	200	29
Revision of provisions	(2)	(7)
Separations in the period	(71)	(16)
Cumulative translation adjustment	(1)	(5)
Closing Balance	140	35
Current	98	35
Non-current	42	-

18. Employee benefits (Post-Employment)

	2019	2018
Liabilities		
Petros Pension Plan - Renegotiated	10,231	7,152
Petros Pension Plan - Non-renegotiated	3,264	2,880
Petros 2 Pension Plan	989	411
AMS Medical Plan	11,986	12,236
Other plans	24	71
Total	26,494	22,750
Current	887	810
Non-current	25,607	21,940
Total	26,494	22,750

Following the divestment in BR Distribuidora on July 25, 2019, its actuarial liabilities are no longer considered in the balance of Petrobras' post-employment benefit obligations on December 31, 2019. In determining an eventual deficit in the defined benefit plan, it must be equalized by participants and sponsors, observing the proportion of their contributions to the plan, according to complementary Law No. 109/2001.

18.1. Pension Plans

The Company's post-retirement plans are managed by Fundação Petrobras de Seguridade Social (Petros Foundation), which was established by Petrobras as a nonprofit legal entity governed by private law with administrative and financial autonomy.

a) Renegotiated and Non-renegotiated Petros Plans (former Petros Plan)

These plans were established by Petrobras in July 1970 (originally solely Petros Plan) as a defined-benefit pension plan and currently provides post-retirement benefits for employees of Petrobras and Petrobras Distribuidora S.A., in order to complement government social security benefits. The Petros Plan has been closed to new participants since September 2002.

Petros Foundation performs an annual actuarial review of its costs using the capitalization method for most benefits. The employers (sponsors) make regular contributions in amounts equal to the contributions of the participants (active employees, assisted employees and retired employees), on a parity basis.

In August 2019, the Board of Directors approved the prepayment of part of the Term of Financial Commitment (TFC) to Petros in the amount of US\$ 690, of which US\$ 524 relating to Petros Renegotiated (PPSP-R) and US\$ 166 to Petros Non Renegotiated (PPSP-NR). Such payment, which was scheduled to occur in 2028, was anticipated aiming at improving the liquidity of the plans.

As of December 31, 2019, the balances of the Terms of Financial Commitment (TFC), signed by Petrobras and Petros Foundation in 2008, relating to PPSP-R and PPSP-NR are US\$ 2,264 and US\$ 1,216. The TFC is a financial commitment agreement to cover obligations under the pension plans (PPR and PPNR), which amounts are due in 20 years, with 6% p.a. semiannual coupon payments based on the updated balance. The Company has provided crude oil and oil products pledged as security for the TFC totaling US\$ 3,525.

The employers' expected contributions to PPSP-R and PPSP-NR plans for 2020 are US\$ 247 and US\$ 116. Interest payments on TFC are expected to reach US\$ 101 and US\$ 47, respectively.

The average durations of the actuarial liability related to PPSP-R and PPSP-NR plans, as of December 31, 2019, are 13.78 and 11.05 years, respectively (13.08 and 11.69 as of December 31, 2018).

Split of Petros Plan

On December 27, 2019, the Previc authorized the split of PPSP-R and PPSP-NR plans, aiming to gather participants of "Pre-70 group" in "PPSP-R Pre-70" and "PPSP-NR Pre-70".

The Pre-70 Group is made up of Petrobras employees and former employees hired prior to July 1, 1970, who enrolled in the PPSP until January 1, 1996 and remained continuously linked to the original sponsor obtaining the condition of assisted.

In the first quarter of 2020, changes on actuarial obligations of the pre-70 group recognized in the statement of financial position will be presented separately in two independent plans, PPSP-R Pre-70 and PPSP-NR Pre-70.

As of December 31, 2019, the balance of the actuarial liability related to the Pre-70 group (PPSP-R Pre-70 and PPSP-NR Pre-70) represents 7% and 22% of the balance of the actuarial liability of PPSP-R and PPSP-NR plans, respectively.

Deficit settlement plan – Petros Plan

The Petros Plan has a deficit settlement plan (PED) in place due to its accumulated deficit until 2015. This deficit, updated by interest and inflation until December 2017, reached US\$ 6,773 (R\$ 27,300 million as of December 31, 2019). The PED was approved by the Executive Council of Petros Foundation on September 12, 2017 and assessed by the Company and the SEST.

Additional contributions from participants and sponsors, relating to this deficit, commenced in March 2018. Certain participants appealed before the judiciary and have had their contributions suspended based on judicial injunctions, which totaled US\$ 430 at December 31, 2019. However, all judicial sentences were favorable to the maintenance of the settlement plan approved by Petros' Deliberative Council. In 2019, the Company made contributions amounting to US\$ 256 with respect of contributions under the PED (US\$ 154 in 2018).

Pursuant to relevant regulation, the sponsors (Petrobras, BR Distribuidora and Petros Foundation) and participants will cover this deficit based on their respective proportions of regular contributions (parity basis).

The deficit of Petros Plan was transferred to PPR and PPNR on April 1, 2018.

On March 29, 2019, the Petros Foundation's Deliberative Council approved the financial statements for 2018 with accumulated deficits of US\$ 1,389 and US\$ 695 for the PPSP-R and PPSP-NR, respectively, in accordance with accounting practices adopted in Brazil applicable to entities regulated by the National Council for Supplementary Pension Plans (CNPIC).

New deficit settlement plan

Due to the deficits accumulated in 2018 having exceeded the legal limit, Petros Foundation had to implement a new deficit settlement plan until March 2020, according to the deadline established by Previc on December 27, 2019.

The Petros Foundation has been working on the implementation of this plan, an alternative settlement plan with the objective of rebalancing the PPSP-R and PPSP-NR plans, which includes the 2015 and 2018 deficits, in addition to reducing the impact of extraordinary monthly contributions of participants.

The solution includes changes to some rights and to the regulations of both plans, intended for employees and assisted participants not included in the Pre-70 Group. The amounts to be settled and the payment conditions are under evaluation and will follow the internal approval procedures and then, Petrobras should submit it to the analysis of the SEST.

The recalculation of the actuarial liabilities is being carried out by the independent actuaries, through an intermediate review, which effect will be recognized in the financial statements when the new deficit settlement plan is approved. The approval may occur in the first quarter of 2020 and the new contribution may start in April.

b) Petros 2 Plan

Petros 2 Plan was established in July 2007 by Petrobras, certain subsidiaries as a variable contribution plan recognizing past service costs for contributions for the period from August 2002 to August 29, 2007. The Petros 2 Plan currently provides post-retirement benefits for employees of Petrobras, Petrobras Distribuidora S.A. (currently an associate), Stratura Asfaltos, Termobahia, Termomacaé, Transportadora Brasileira Gasoduto Brasil-Bolívia S.A. – TBG, Petrobras Transporte S.A. – Transpetro, Petrobras Biocombustível and Araucária Nitrogenados. The plan is open to new participants although there will no longer be payments relating to past service costs.

Certain elements of the Petros 2 Plan have defined benefit characteristics, primarily the coverage of disability and death risks and the guarantee of minimum defined benefit and lifetime income. These actuarial commitments are treated as defined benefit components of the plan and are accounted for by applying the projected unit credit method. Contributions paid for actuarial commitments that have defined contribution characteristics are accrued monthly in the statement of income and are intended to constitute a reserve for programmed retirement. The contributions for the portion of the plan with defined contribution characteristics were US\$ 242 in 2019.

The defined benefit portion of the contributions was suspended from July 1, 2012 to June 30, 2020, as determined by the Executive Council of Petros Foundation, based on advice of the actuarial consultants from Petros Foundation. Therefore, the entire contributions are being applied to the individual accounts of plan participants.

For 2020, the sponsors' expected contributions to the defined contribution portion of the plan are US\$ 257.

The average duration of the actuarial liability related to the plan, as of December 31, 2019 is 23.34 years (19.68 at December 31, 2018, recalculated for better comparability).

c) Petros 3 Plan

On December 18, 2018, the Board of Directors approved a proposal for a new pension plan with defined contribution characteristics to be offered. Its adhesion is voluntary to the participants of Petros Plan –Renegotiated and Petros Plan – Non-renegotiated.

The migration to this new plan will only be possible after the proposal review and approval by all relevant bodies. The proposal has already been approved by the Petros Deliberative Council and the Petrobras Board of Directors and is awaiting approval from PREVIC and SEST.

The participants' new benefit will be recalculated based on future commitments on a participant basis at the time of migration. Therefore, each participant will have an individual account, and the amount of the retirement benefit will depend on the accumulated balance, being recalculated annually in connection with the return on plan assets.

The migration for Petros 3 Plan is expected to be offered in the first half of 2020.

d) Other plans

The Company also sponsors other pension and health care plans of certain of its Brazilian and international subsidiaries. Most of these plans are unfunded and their assets are held in trusts, foundations or similar entities governed by local regulations.

18.2. Pension Plans assets

Pension plans assets follow a long term investment strategy based on the risks assessed for each different class of assets and provide for diversification, in order to lower portfolio risk. The portfolio profile must comply with the Brazilian National Monetary Council (*Conselho Monetário Nacional – CMN*) regulations.

Petros Foundation establishes investment policies for 5-year periods, reviewed annually. Petros uses an asset liability management model (ALM) to address net cash flow mismatches of the benefit plans, based on liquidity and solvency parameters, simulating a 30-year period.

	Petros Renegotiated		Petros Non-renegotiated		Petros plan 2	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Fixed-income	20%	100%	20%	100%	-	100%
Variable-income	-	45%	-	45%	-	45%
Structured investments	-	40%	-	40%	-	40%
Real estate properties	-	10%	-	10%	-	10%
Loans to participants	-	15%	-	15%	-	15%
Investments abroad	-	10%	-	5%	-	10%

The pension plan assets by type of asset are set out as follows:

Type of asset	2019				2018	
	Quoted prices in active markets	Unquoted prices	Total fair value	%	Total fair value	%
Receivables	-	963	963	7%	1,087	9%
Fixed income	6,179	2,607	8,786	62%	7,761	61%
Government bonds	6,179	-	6,179	-	6,522	-
Fixed income funds	-	1,608	1,608	-	940	-
Other investments	-	999	999	-	299	-
Variable income	2,753	152	2,905	21%	2,208	17%
Common and preferred shares	2,753	-	2,753	-	2,081	-
Other investments	-	152	152	-	127	-
Structured investments	-	185	185	1%	237	2%
Real estate properties	-	767	767	6%	829	7%
	8,932	4,674	13,606	97%	12,122	96%
Loans to participants	-	469	469	3%	533	4%
Total	8,932	5,143	14,075	100%	12,655	100%

As of December 31, 2019, the investment portfolio included debentures of US\$ 11 (US\$ 11 in 2018), Company's common shares in the amount of US\$ 1 (US\$ 3 in 2018) and real estate properties leased by the Company in the amount of US\$ 342 (US\$ 344 in 2018).

Loans to participants are measured at amortized cost, which is considered an appropriate estimate of fair value.

18.3. Medical Benefits: Health Care Plan - *Assistência Multidisciplinar de Saúde* ("AMS")

Petrobras, Petrobras Distribuidora S.A., Petrobras Transporte S.A. – Transpetro, Petrobras Biocombustível, Transportadora Brasileira Gasoduto Brasil-Bolívia – TBG and Termobahia operate a medical benefit plan for their employees in Brazil (active and retired) and their dependents: the AMS health care plan. The plan is managed by the Company based on a self-supporting benefit assumption and includes health prevention and health care programs. The plan is mainly exposed to the risk of an increase in medical costs due to new technologies, new types of coverage and to a higher level of usage of medical benefits. The Company continuously improves the quality of its technical and administrative processes, as well as the health programs offered to beneficiaries in order to mitigate such risks.

The employees make fixed monthly contributions to cover high-risk procedures and variable contributions for a portion of the cost of the other procedures, both based on the contribution tables of the plan, which are determined based on certain parameters, such as salary and age levels. The plan also includes assistance towards the purchase of certain medicines in registered drugstores throughout Brazil. There are no health care plan assets.

Benefits are paid and recognized by the Company based on the costs incurred by the participants, of which the Company satisfies 70% of these costs as governed by the collective bargaining agreement.

The average duration of the actuarial liability related to this health care plan, as of December 31, 2019, is 21.64 years (22.24 as of December 31, 2018).

CGPAR resolutions

On January 18, 2018, the Inter-ministerial Commission for Corporate Governance and Administration of Participations of the Union (CGPAR), through CGPAR Resolutions 22 and 23, established guidelines and parameters of governance and cost limits to health care plans operated by state-owned companies.

The main objective of the resolutions is to make feasible the sustainability and the economic, financial and actuarial balance of the health plans operated by state-owned companies.

The company has up to 48 months to adjust the AMS health plan to this new regulation provisions and is assessing the financial impacts it may cause, including among others, a possible decrease in its actuarial liability following the parity basis of contribution, between the Company and the participants, determined by this rule.

18.4. Net actuarial liabilities and expenses, and fair value of plans assets

a) Changes in the actuarial liabilities, in the fair value of the assets and in the amounts recognized in the statement of financial position

						2019
			Pension Plans	Medical Plan		
	Petros Renegotiated (*)	Petros Non- renegotiated (*)	Petros 2	AMS	Other plans	Total
Changes in the present value of obligations						
Obligations at the beginning of the year	16,689	5,372	996	12,236	112	35,405
Discontinued operations	(892)	(304)	(58)	(651)	-	(1,905)
Interest expense	1,357	431	83	1,024	6	2,901
Current service cost	51	6	39	208	2	306
Contributions paid by participants	82	16	-	-	-	98
Benefits paid	(1,097)	(420)	(33)	(442)	(2)	(1,994)
Remeasurement: Experience (gains) / losses (**)	1,165	17	(34)	(2,489)	(7)	(1,348)
Remeasurement: (gains) / losses - demographic assumptions	45	59	(43)	(169)	(1)	(109)
Remeasurement: (gains) / losses - financial assumptions	4,044	957	747	2,747	13	8,508
Others	-	-	-	-	(84)	(84)
Cumulative Translation Adjustment	(525)	(179)	(25)	(478)	(2)	(1,209)
Obligations at the end of the year	20,919	5,955	1,672	11,986	37	40,569
Changes in the fair value of plan assets						
Fair value of plan assets at the beginning of the year	9,537	2,492	585	-	41	12,655
Discontinued operations	(493)	(128)	(42)	-	-	(663)
Interest income	847	226	48	-	2	1,123
Contributions paid by the sponsor (Company)	342	108	-	442	7	899
Contributions paid by participants	82	16	-	-	-	98
Term of financial commitment (TFC) paid by the Company	725	273	-	-	-	998
Benefits Paid	(1,097)	(420)	(33)	(442)	(2)	(1,994)
Remeasurement: Return on plan assets due to lower interest income	1,099	218	143	-	2	1,462
Others	-	-	-	-	(36)	(36)
Cumulative Translation Adjustment	(354)	(94)	(18)	-	(1)	(467)
Fair value of plan assets at the end of the year	10,688	2,691	683	-	13	14,075
Amounts recognized in the Statement of Financial						
Present value of obligations	20,919	5,955	1,672	11,986	37	40,569
(-) Fair value of plan assets	(10,688)	(2,691)	(683)	-	(13)	(14,075)
Net actuarial liability as of December 31,	10,231	3,264	989	11,986	24	26,494
Changes in the net actuarial liability						
Balance as of January 1,	7,152	2,880	411	12,236	71	22,750
Discontinued operations	(399)	(176)	(17)	(651)	(1)	(1,244)
Remeasurement effects recognized in other comprehensive	4,155	815	527	89	3	5,589
Costs incurred in the period	51	6	40	208	2	307
Current service cost	510	205	35	1,024	5	1,779
Contributions paid	(340)	(107)	-	(442)	(7)	(897)
Payments related to Term of financial commitment (TFC)	(717)	(269)	-	-	-	(985)
Others	-	-	-	-	(48)	(48)
Cumulative Translation Adjustment	(181)	(90)	(7)	(478)	(1)	(757)
Balance as of December 31,	10,231	3,264	989	11,986	24	26,494

(*) It includes the changes in Petros plan, PPR and PPNR plans.

(**) It includes additional contributions of participants regarding the deficit settlement plan as set out in note 23.1.

2018

	Pension Plan		Medical Plan	Other plans	Total
	Petros	Petros 2	AMS		
Changes in the present value of obligations					
Obligations at the beginning of the year	25,081	887	10,802	85	36,855
Interest expense:	2,111	77	927	4	3,119
Current service cost	83	33	155	7	278
Contributions paid by participants	374	-	-	-	374
Benefits paid	(2,173)	(35)	(456)	(3)	(2,667)
Remeasurement: Experience (gains) / losses (*)	(1,373)	8	(115)	-	(1,480)
Remeasurement: (gains) / losses - demographic assumptions	80	-	176	-	256
Remeasurement: (gains) / losses - financial assumptions	1,577	165	2,412	(2)	4,152
Others	-	-	-	34	34
Cumulative Translation Adjustment	(3,699)	(139)	(1,665)	(13)	(5,516)
Obligations at the end of the year	22,061	996	12,236	112	35,405
Changes in the fair value of plan assets					
Fair value of plan assets at the beginning of the year	14,353	627	-	45	15,025
Interest income	1,203	54	-	-	1,257
Contributions paid by the sponsor (Company)	278	-	321	-	599
Contributions paid by participants	374	-	-	-	374
Term of financial commitment (TFC) paid by the Company	223	-	-	-	223
Benefits Paid	(2,401)	(38)	(504)	(3)	(2,946)
Remeasurement: Return on plan assets due to lower interest income	(233)	35	-	(4)	(202)
Others	-	-	-	3	3
Cumulative Translation Adjustment	(1,768)	(93)	183	-	(1,678)
Fair value of plan assets at the end of the year	12,029	585	-	41	12,655
Amounts recognized in the Statement of Financial					
Present value of obligations	22,061	996	12,236	112	35,405
(-) Fair value of plan assets	(12,029)	(585)	-	(41)	(12,655)
Net actuarial liability as of December 31,	10,032	411	12,236	71	22,750
Changes in the net actuarial liability					
Balance as of January 1,	10,728	260	10,802	40	21,830
Remeasurement effects recognized in other comprehensive	517	138	2,473	2	3,130
Costs incurred in the period	991	56	1,082	11	2,140
Current service cost	908	23	927	4	1,862
Contributions paid	(278)	-	(321)	-	(599)
Payments related to Term of financial commitment (TFC)	(223)	-	-	-	(223)
Others	-	-	-	31	31
Cumulative Translation Adjustment	(2,611)	(66)	(2,727)	(17)	(5,421)
Balance as of December 31,	10,032	411	12,236	71	22,750

(*) It includes additional contributions of participants regarding the deficit settlement plan as set out in note 23.1.

b) Defined benefit costs

						2019
				Pension Plans	Medical Plan	
	Petros Renegotiated	Petros Non - renegotiated	Petros 2	AMS	Other Plans	Total
Related to active employees:	160	27	58	466	4	715
Related to retirees	401	184	17	766	3	1,371
Net expenses for the year	561	211	75	1,232	7	2,086

						2018	
				Pension Plans	Medical Plan		
	Petros	Petros Renegotiated	Petros Non - renegotiated	Petros 2	AMS	Other Plans	Total
Related to active employees:	63	132	32	43	340	7	617
Related to retirees	198	386	126	10	678	3	1,401
Net expenses for the year	261	518	158	53	1,018	10	2,018

						2017
				Pension Plans	Medical Plan	
	Petros	Petros 2	AMS	Other Plans	Total	
Related to active employees:	331	60	377	10	778	
Related to retirees	862	12	916	1	1,791	
Net expenses for the year	1,193	72	1,293	11	2,569	

c) Sensitivity analysis of the defined benefit plans

The effect of a 100 basis points (bps) change in the assumed discount rate and medical cost trend rate is as set out below:

	2019	Discount Rate				Medical Cost	
		Pension Benefits		Medical Benefits		Medical Benefits	
		+100 bps	-100 bps	+100 bps	-100 bps	+100 bps	-100 bps
Pension Obligation		(3,195)	4,444	(1,623)	2,073	2,063	(1,171)
Current Service cost and interest cost		16	91	(70)	86	228	(121)

	2018	Discount Rate				Medical Cost	
		Pension Benefits		Medical Benefits		Medical Benefits	
		+100 bps	-100 bps	+100 bps	-100 bps	+100 bps	-100 bps
Pension Obligation		(1,714)	3,889	(1,498)	1,869	1,994	(1,005)
Current Service cost and interest cost		13	140	(74)	89	248	(117)

d) Actuarial assumptions

Assumptions	2019					
	PPSP-R Pre-70	PPSP-R Post-70	PPSP-NR Pre-70	PPSP-NR Post-70	PP2	AMS
Nominal discount rate (including inflation)(1)	6.82%	7.13%	6.81%	7.10%	7.30%	7.19%
Nominal expected salary growth (including inflation) (2)	4.61%	4.61%	4.34%	4.34%	6.40%	according to security plan
Expected changes in medical and hospital costs (3)	n/a	n/a	n/a	n/a	n/a	10.46% a 3.50% p.a.
Mortality table	EX-PETROS 2016 (bidecremental)	EX-PETROS 2013 (bidecremental)	EX-PETROS 2020 (bidecremental)	EX-PETROS 2020 (bidecremental)	AT-2000 female, smoothed in a	EX-PETROS 2013 (bidecremental)
Disability table	n/a	American group	n/a	American group	American group reduced by 40%	American group
Mortality table for disabled participants	MI 2006, by gender, smoothed in a	AT-49 male	MI 2006, by gender, smoothed in a 20%	AT-49 male	IAPB 1957 strong	AT-49 male
Age of retirement	Male, 56 years / Female, 55 years	Male, 56 years / Female, 55 years	Male, 58 years / Female, 56 years	Male, 58 years / Female, 56 years	1st eligibility	Male, 56 years / Female, 55 years

Assumptions	2018			
	PPR	PPNR	Petros 2	AMS
Nominal discount rate (including inflation)(1)	9.11%	9.08%	9.22%	9.16%
Nominal expected salary growth (including inflation) (2)	For 2019: 5.55%	For 2019: 5.40%	For 2019: 7.28%	according to security plan
Expected changes in medical and hospital costs (3)	As of 2020: 5.33%	As of 2020: 5.24%	As of 2020: 6.84%	
Expected changes in medical and hospital costs (3)	n/a	n/a	n/a	12.03% to 4% p.a.
Mortality table	EX-PETROS 2013 (bidecremental)	EX-PETROS 2017 (bidecremental)	AT-2000 female, smoothed in a	EX-PETROS 2013 (bidecremental)
Disability table	American group	American group	American group reduced by 40%	American group
Mortality table for disabled participants	AT-49 male	AT-49 male	IAPB 1957 strong	AT-49 male
Age of retirement	Male, 56 years / Female, 55 years	Male, 58 years / Female, 56 years	1st eligibility	Male, 56 years / Female, 55 years

(1) Inflation reflects market projections: 3.61% for 2019 and converging to 3.5% in 2026 onwards.

(2) Expected salary growth only of Petrobras, the sponsor, based on the Salaries and Benefits Plan.

(3) Decreasing rate, converging in 30 years to the long-term expected inflation. Refers only to Petrobras (sponsor) rate.

e) Expected maturity analysis of pension and medical benefits

	2019					Total
	Pension Plan		Medical Plan		Other Plans	
	Petros Renegotiated	Petros Non - renegotiated	Petros 2	AMS		
Up to 1 Year	1,064	445	35	378	1	1,923
1 To 2 Years	5,018	1,990	183	2,109	5	9,305
2 To 3 Years	4,165	1,554	187	2,134	6	8,046
3 To 4 Years	3,254	1,121	189	1,889	6	6,459
Over 4 Years	7,418	845	1,078	5,476	19	14,836
Total	20,919	5,955	1,672	11,986	37	40,569

18.5. Other defined contribution plans

Petrobras, through its subsidiaries in Brazil and abroad, also sponsors other defined contribution pension plans for employees. Contributions paid amounting to US\$ 2 in 2019 (US\$ 3 in 2018) were recognized in the statement of income.

18.6. Accounting policy for post-employment defined benefit

Actuarial commitments related to post-employment defined benefit plans and health-care plans are recognized as liabilities in the statement of financial position based on actuarial calculations which are revised annually by an independent qualified actuary (updating for material changes in actuarial assumptions and estimates of expected future benefits), using the projected unit credit method, net of the fair value of plan assets, when applicable, from which the obligations are to be directly settled. Under the projected credit unit method, each period of service gives rise to an additional unit of benefit entitlement and each unit is measured separately to determine the final obligation. Actuarial assumptions include demographic assumptions, financial assumptions, medical costs estimates, historical data related to benefits paid and employee contributions.

Service cost are accounted for within results and comprises: (i) current service cost, which is the increase in the present value of the defined benefit obligation resulting from employee service in the current period; (ii) past service cost, which is the change in the present value of the defined benefit obligation for employee service in prior periods, resulting from a plan amendment (the introduction, modification, or withdrawal of a defined benefit plan) or a curtailment (a

significant reduction by the entity in the number of employees covered by a plan); and (iii) any gain or loss on settlement.

Net interest on the net defined benefit liability (asset) is the change during the period in the net defined benefit liability (asset) that arises from the passage of time. Such interest is accounted for in results.

Remeasurement of the net defined benefit liability (asset) is recognized in shareholders' equity, in other comprehensive income, and comprises: (i) actuarial gains and losses and; (ii) the return on plan assets, excluding amounts included in net interest on the net defined benefit liability (asset).

The Company also contributes amounts to defined contribution plans, that are expensed when incurred and are computed based on a percentage of salaries.

19. Provisions for legal proceedings

19.1. Provisions for legal proceedings, judicial deposits and contingent liabilities

The Company recognizes provisions based on the best estimate of the costs of proceedings for which it is probable that an outflow of resources embodying economic benefits will be required and that can be reliably estimated. These proceedings mainly include:

- Labor claims, in particular: (i) opt-out claims related to a review of the methodology by which the minimum compensation based on an employee's position and work schedule (*Remuneração Mínima por Nível e Regime - RMNR*) is calculated; (ii) lawsuits relating to overtime pay and (iii) actions of outsourced employees;
- Tax claims including: (i) claims relating to Brazilian federal tax credits applied that were disallowed; and (ii) alleged misappropriation of VAT (ICMS) tax credits;
- Civil claims relating to: (i) collection of royalties over the shale extraction; (ii) compensation of loss of profits; (iii) penalties applied by ANP relating to measurement systems; and (iv) litigations involving the company Sete Brasil.
- Environmental claims for compensation relating to an environmental accident in the State of Paraná, in 2000.

Provisions for legal proceedings are set out as follows:

	12.31.2019	12.31.2018
Current and Non-current liabilities		
Labor claims	895	1,093
Tax claims	463	491
Civil claims	1,523	5,710
Environmental claims	232	111
Total	3,113	7,405
Current liabilities	-	3,482
Non-current liabilities	3,113	3,923

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	Jan-Dec/2019	Jan-Dec/2018
Opening Balance	7,405	7,026
Additions, net of reversals	1,290	1,325
Use of provision (*)	(5,332)	(650)
Accruals and charges	233	736
Transfer to assets held for sale	(289)	-
Others	22	95
Cumulative translation adjustment	(216)	(1,127)
Closing Balance	3,113	7,405

(*) It includes the US\$ 2,866 relating to approval of the Class Action agreement, US\$ 903 relating to an agreement regarding the Parque das Baleias field, and US\$ 656 relating to the proceeding regarding drilling rig Titanium Explorer.

In preparing its consolidated financial statements for the year ended December 31, 2019, the Company considered all available information concerning legal proceedings in which the Company is a defendant, in order to estimate the amounts of obligations and probability that outflows of resources will be required.

The main additions to provisions for legal proceedings in the year ended December 31, 2019 relate to (i) litigations involving the company Sete Brasil, in the amount of US\$ 740, including an arbitration award favorable to Petrobras, in the last quarter of 2019, which reduced the estimate of losses; (ii) the Conduct Adjustment Declaration (“TAC”) to close the public civil action requesting the environmental licensing of Comperj, in the amount of US\$ 208, which was transferred to other current liabilities, after the TAC becoming effective; (iii) ICMS debts under the ICMS Agreement 7/2019 in the states of Bahia and Ceará, in the amount of US\$ 94; (iv) compensation relating to an environmental accident in the State of Paraná for US\$ 155; and (v) action for the cancellation of collection of production taxes in the amount of US\$ 66.

19.2. Judicial deposits

Judicial deposits made in connection with legal proceedings are set out in the table below according to the nature of the corresponding lawsuits:

	12.31.2019	12.31.2018
Non-current assets		
Tax	5,926	4,563
Labor	1,056	1,161
Civil	1,082	823
Environmental	160	160
Others	12	4
Total	8,236	6,711

	12.31.2019	12.31.2018
Opening Balance	6,711	5,582
Additions	2,021	1,883
Use	(187)	(86)
Accruals and charges	329	294
Transfer to assets held for sale	(313)	-
Others	(1)	26
Cumulative translation adjustment	(324)	(988)
Closing Balance	8,236	6,711

In 2019, the Company made judicial deposits in the amount of US\$ 2,021, including: (i) US\$ 710 related to the chartering of platforms due to the legal dispute related to the IRRF; (ii) US\$ 456 referring to IRPJ and CSLL for not adding the profits of subsidiaries domiciled abroad to the IRPJ and CSLL calculation base; (iii) US\$ 177 related to questions from the ANP about differences in the calculation of royalties and special participation; (iv) US\$ 177 related to the civil lawsuit related to IPI credit, whose author is Triunfo Agro Industrial. On the other hand, there was a reduction of US\$ 313, mainly

due to the sale of interest in BR Distribuidora.

19.3. Contingent liabilities

Contingent liabilities for which either the Company is unable to make a reliable estimate of the expected financial effect that might result from resolution of the proceeding, or a cash outflow is not probable, are not recognized as liabilities in the financial statements but are disclosed in the notes to the financial statements, unless the likelihood of any outflow of resources embodying economic benefits is considered remote.

The estimates of contingent liabilities for legal proceedings are indexed to inflation and updated by applicable interest rates. As of December 31, 2019, estimated contingent liabilities for which the possibility of loss is not considered remote are set out in the following table:

Nature	12.31.2019	12.31.2018
Tax	32,376	37,290
Labor	9,734	8,619
Civil - General	5,977	6,539
Civil - Environmental	1,576	4,221
Total	49,663	56,669

The tables below detail the main causes of tax, civil, environmental and labor nature, whose expectations of losses are classified as possible.

Description of tax matters	Estimate	
	12.31.2019	12.31.2018
Plaintiff: Secretariat of the Federal Revenue of Brazil		
1) Withholding income tax (IRRF), Contribution of Intervention in the Economic Domain (CIDE), Social Integration Program (PIS) and Contribution to Social Security Financing (COFINS) on remittances for payments of vessel charters. Current status: The claim about the incidence of withholding income tax (Imposto de Renda Retido na Fonte- IRRF) on remittances for payments of vessel charters, occurred from 1999 to 2002, involves the legality of the normative rule issued by the Federal Revenue of Brazil, which ensured no taxation over those remittances. The Company considers the likelihood of loss as possible, since there are decisions from Superior Courts favorable to the understanding of the Company, and will continue to defend its opinion. The other claims, concerning CIDE and PIS/COFINS, involve lawsuits in different administrative and judicial stages, for which the Company understands there is a possible likelihood of loss, since there are legal predictions in line with the position of the Company.	11,632	11,568
2) Income from foreign subsidiaries and associates located outside Brazil not included in the computation of taxable income (IRPJ and CSLL). Current status: This claim involves lawsuits in different administrative and judicial stages. The Company considers the likelihood of loss as possible, since there are decisions from Superior Courts favorable to the understanding of the Company. In 2019, the company received a new infraction notice.	5,224	5,208
3) Requests to compensate federal taxes disallowed by the Brazilian Federal Tax Authority. Current status: This claim involves lawsuits in different administrative and judicial stages. The company obtained a final decision at CARF, canceling part of the debts.	1,019	3,156
4) Incidence of social security contributions over contingent bonuses paid to employees. Current status: Awaiting defense judgment and appeals at the administrative and judicial levels.	992	929
5) Collection of Contribution of Intervention in the Economic Domain (CIDE) on transactions with fuel retailers and service stations protected by judicial injunctions determining that fuel sales were made without gross-up of such tax. Current status: This claim involves lawsuits in different judicial stages.	579	588
6) Deduction from the basis of calculation of taxable income (income tax - IRPJ and social contribution - CSLL) of several expenses related to employee benefits. Current status: The claim involves lawsuits in different administrative and judicial stages.	536	542
Plaintiff: Municipal governments of the cities of Anchieta, Aracruz, Guarapari, Itapemirim, Marataízes, Linhares, Vila		
7) Alleged failure to withhold and pay tax on services provided offshore (ISSQN) in favor of some municipalities in the State of Espírito Santo, under the allegation that the service was performed in their "respective coastal waters". Current status: This claim involves lawsuits in different administrative and judicial stages.	1,250	1,123
Plaintiff: States of SP, RJ, BA, PA, AL, MA and PB Finance Departments		
8) VAT (ICMS) and VAT credits on internal consumption of bunker fuel and marine diesel, destined to chartered vessels. Current status: This claim involves several tax notices from the states, including two new material notices applied in the third quarter of 2018, which are in different administrative and judicial stages.	1,191	1,323
Plaintiff: States of RJ and AL Finance Departments		
9) VAT (ICMS) on dispatch of liquid natural gas (LNG) and C5+ (tax document not accepted by the tax authority), as well as challenges on the rights to this VAT tax credit. Current status: This claim involves lawsuits in different administrative and judicial stages.	1,098	1,198
Plaintiff: States of RJ, AL, AM, PA, BA, GO, MA, SP and PE Finance Departments		
10) Alleged failure to write-down VAT (ICMS) credits related to zero tax rated or non-taxable sales made by the Company Current status: This claim involves lawsuits in different administrative and judicial stages. New assessments were added in 2019.	1,058	942
Plaintiff: State of Rio de Janeiro Finance Department		
11) The plaintiff alleges that the transfers without segregating VAT (ICMS), under the special regime, reduced the total credits of the central department. Current status: The Company presented administrative defense from the notices issued, pending court assessment.	989	800
Plaintiff: States of SP and RS Finance Departments		
12) Collection of VAT (ICMS) related to natural gas imports from Bolivia, alleging that these states were the final destination (consumers) of the imported gas. Current status: This claim involves lawsuits in different administrative and judicial stages, as well as three civil lawsuits in the Federal Supreme Court.	640	740
Plaintiff: States of RJ, SP, PR, RO and MG Finance Departments		
13) Additional VAT (ICMS) due to differences in rates on jet fuel sales to airlines in the domestic market, among other questions relating to the use of tax benefits. Current status: This claim involves lawsuits in different administrative and judicial stages.	634	965
Plaintiff: States of RJ Finance Departments		

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14) Appropriation of ICMS credit on the acquisition of goods (products in general) that, in the understanding of the inspection, would fit into the concept of material for use and consumption, being the tax credit undue. Current status: The issue involves several administrative and judicial proceedings. There were new infraction notices in 2019, partially offset by the inclusion of ICMS debts in state amnesty programs.	602	589
Plaintiff: States of PR, AM, BA, ES, PA, PE, SP, PB and AL Finance Departments		
15) Incidence of VAT (ICMS) over alleged differences in the control of physical and fiscal inventories. Current status: This claim involves lawsuits in different administrative and judicial levels. Exposure reduction due to the inclusion of VAT (ICMS) debts in state amnesty programs.	571	890
Plaintiff: State of SP Finance Department		
16) Deferral of payment of VAT (ICMS) taxes on B100 Biodiesel sales and the charge of a 7% VAT rate on B100 on Biodiesel interstate sales, including states in the Midwest, North and Northeast regions of Brazil and the State of Espírito Santo. Current status: This claim involves lawsuits in different administrative and judicial stages. In 2019, the company obtained final favorable decisions, contributing to the partial reduction of the exposure.	565	659
Plaintiff: States of RJ, SP, ES, BA, PE, RS, AL, SE, CE and RN Finance Departments		
17) Misappropriation of VAT tax credit (ICMS) on the acquisitions of goods that, per the tax authorities, are not related to property, plant and equipment. Current status: This claim involves lawsuits in different judicial stages. Exposure reduction due to the inclusion of ICMS debts in state amnesty programs.	562	900
Plaintiff: States of RJ, SP, SE and BA Finance Departments		
18) Misappropriation of VAT tax credit (ICMS) on the acquisitions of drills and chemicals used in the formulation of drilling fluid, per the tax authorities. Current status: This claim involves lawsuits in different administrative and judicial stages. In 2019, the company obtained final favorable decisions, contributing to the partial reduction of the exposure.	511	567
Plaintiff: State of BA Finance Department		
19) Alleged incorrect application of VAT (ICMS) tax base with respect to interstate sales of natural gas transport through city-gates in the State of Pernambuco destined to the distributors in that State. The Finance Department of the State of Pernambuco understands that activity as being an industrial activity which could not be characterized as an interstate sale transaction (considering that the Company has facilities located in Pernambuco), consequently charging the difference on the tax levied on the sale and transfer transactions. Current status: This claim involves lawsuits in different judicial stages. Exposure reduction due to the inclusion of ICMS debts in state amnesty programs.	8	304
Plaintiff: States of GO, PA, RJ, RR, SC, SP and TO.		
20) Charge of VAT (ICMS) on remittance and symbolic return of jet fuel to retail establishment which, in the understanding of the tax authority, should have retention and collection of the ICMS for the subsequent operations, since it is considered a remittance to a retail taxpayer established in the State. Current status: The exposure was zeroed due to the Petrobras Distribuidora follow-on in July 2019.	-	373
21) Other tax matters	2,715	3,926
Total for tax matters	32,376	37,290

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Description of civil matters	Estimate	
	12.31.2019	12.31.2018
Plaintiff: Agência Nacional de Petróleo, Gás Natural e Biocombustíveis - ANP		
1) Administrative proceedings challenging an ANP order requiring Petrobras to pay additional special participation fees and royalties (production taxes) with respect to several fields. It also includes contention about fines imposed by ANP due to alleged failure to comply with the minimum exploration activities program, as well as alleged irregularities relating Current status: The claims involve lawsuits in different administrative and judicial stages.	1,520	1,663
2) Proceedings challenging an ANP order requiring Petrobras to unite Lula and Cernambi fields on the BM-S-11 joint venture; to unite Baúna and Piracicaba fields; to unite Tartaruga Verde and Mestiça fields; and to unite Baleia Anã, Baleia Azul, Baleia Franca, Cachalote, Caxaréu, Jubarte and Pirambu, in the Parque das Baleias complex, which would cause Current status: This list involves claims that are disputed in court and in arbitration proceedings, as follows: a) Lula and Cernambi: initially, the Company made judicial deposits for the alleged differences resulting from the special participation. However, with the reversal of the favorable injunction, the payment of these alleged differences were made directly to ANP, and such judicial deposits were resumed in the 2nd Quarter of 2019. Arbitration remains suspended by court decision; b) Baúna and Piracicaba: the Court reassessed previous decision that disallowed judicial deposits, therefore the Company is currently depositing the controversial amounts. The arbitration is stayed. c) Tartaruga Verde and Mestiça: The Company has authorization to make the judicial deposits relating to these fields. The Regional Federal Court of the Second Region has the opinion that the Chamber of Arbitration has jurisdiction on this claim and the arbitration is ongoing.	391	287
Plaintiff: Several plaintiffs in Brazil and EIG Management Company in USA		
3) Arbitration in Brazil and lawsuit in the USA regarding Sete Brasil. Current status: This list involves claims that are disputed in court and in arbitration proceedings, as follows: a) Lula and Cernambi: initially, the Company made judicial deposits for the alleged differences resulting from the special participation. However, with the reversal of the favorable injunction, the arbitration is stayed and currently the payment of these alleged differences have been made directly to ANP, until a final judicial decision is handed down. b) Baúna and Piracicaba: the Court reassessed previous decision that disallowed judicial deposits, therefore the Company is currently depositing the controversial amounts. The arbitration is stayed. c) Tartaruga Verde and Mestiça: The Company has authorization to make the judicial deposits relating to these fields. The Regional Federal Court of the Second Region has the opinion that the Chamber of Arbitration has jurisdiction on this claim and the arbitration is ongoing. On both parties initiative, the arbitration is stayed. d) Parque das Baleias complex: the Judiciary stated decisions allowing the arbitration with ANP. Therefore, the Chamber of Arbitration disallowed ANP to charge for special participation, establishing that Petrobras should provide collateral on the debt to be negotiated. On both parties initiative, the arbitration is stayed, with the objective of seeking an alternative to solve this dispute, which amounts to US\$ 2.8 billion at December 31, 2018. In December 2018, the ANP held a hearing presenting a draft of the preliminary agreement developed by the technical departments of Petrobras and ANP, including the calculation of the updated amounts of special participation due up the last quarter of 2018, totaling US\$ 0.9 billion. Therefore, the Company believes, as of December 31, 2018, that an outflow of resources in this amount is probable to settle the controversy with the ANP and, as a result, recognized a provision for this proceeding in 2018.	1,024	2,082
Plaintiff: Agência Estadual de Regulação de Serviços Públicos de Energia, Transportes e Comunicações da Bahia		
4) Public Civil Action (ACP) to discuss the alleged illegality of the gas supply made by the company to its Nitrogenated Fertilizer Production Unit (FAFEN / BA). Current status: The lawsuit is at the Bahia Court of Justice awaiting judgment of an appeal filed by the company.	299	278
5) Other civil matters	2,743	2,229
Total for civil matters	5,977	6,539

Description of labor matters	Estimate	
	12.31.2019	12.31.2018
Plaintiff: Employees and Sindipetro Union of ES, RJ, BA, MG, SP, PE, PB, RN, CE, PI, PR and SC.		
1) Actions requiring a review of the methodology by which the minimum compensation based on an employee's position and work schedule (Remuneração Mínima por Nível e Regime - RMNR) is calculated. Current status: In 2018, the Superior Labor Court (Tribunal Superior do Trabalho - TST) denied the special appeal filed by the Company. Petrobras filed a Motion for Clarification on the decision, which was denied by the TST. The Company will file the appropriate appeal. On July 26, 2018, a minister of the Superior Federal Court (Superior Tribunal Federal - STF) granted Petrobras' request to prevent the effects of the judgment of the TST, determining the suspension of individual and class actions on this subject, pending the deliberation on this matter in the Supreme Court or further deliberation of the rapporteur minister assigned to this case. On August 13, 2018, the rapporteur confirmed the decision of the minister and extended the decision to the ongoing actions on the matter, suspending all cases relating to this subject.	7,732	6,254
Plaintiff: Sindipetro of Norte Fluminense – SINDIPETRO/NF		
2) The plaintiff claims Petrobras failed to pay overtime for standby work exceeding 12-hours per day. It also demands that the Company respects a 12-hour limit of standby work per workday, as well as an 11-hour period for rest between Current status: Transfer to remote loss due to the decision of the TST that denied to follow up the appeal of the SINDIPETRO / NF.	14	352
3) Other labor matters	1,988	2,013
Total for labor matters	9,734	8,619

Description of environmental matters	Estimate	
	12.31.2019	12.31.2018
Plaintiff: Ministério Público do Estado do Rio de Janeiro.		
1) Legal proceeding related to specific performance obligations, indemnification and compensation for damages related to an environmental accident that occurred in the State of Paraná on July 16, 2000. Current status: The court partially ruled in favor of the plaintiff. However, both parties (the plaintiff and the Company) filed an appeal. In the third quarter of 2019, there was a reduction on the contingent liability, with a provision of US\$ 150 being recognized as other income and expenses.	470	901
Plaintiff: Instituto Brasileiro de Meio Ambiente - IBAMA and Ministério Público Federal		
2) Administrative proceedings arising from environmental fines related to exploration and production operations (Upstream) contested because of disagreement over the interpretation and application of standards by IBAMA, as well as a public civil action filed by the Ministério Público Federal for alleged environmental damage due to the accidental Current status: A number of defense trials and the administrative appeal regarding the fines are pending, and others are under judicial discussion. With respect to the civil action, the Company appealed the ruling that was unfavorable in the lower court and monitors the use of the procedure that will be judged by the Regional Federal Court.	326	400
Plaintiff: Ministério Público do Estado do Rio de Janeiro.		
3) Five public civil actions filed by the Public Prosecutor's Office of the State of Rio de Janeiro against Petrobras, the State Environmental Institute - INEA and Rio de Janeiro State, requesting proof of compliance with regulation relating to the environmental licensing of COMPERJ, complementation of technical researchs, as well as compensation for collective Current status: The main claim was closed due to the signing of the conduct adjustment term (TAC) between the parties, resulting in an obligation of US\$ 208, while, in the remaining four actions, the parties are in negotiations for solution through again TAC, which resulted in the transfer of exposure to remote loss and a provision of US\$ 13.	-	2,096
4) Other environmental matters	780	824
Total for environmental matters	1,576	4,221

19.4. Class action and related proceedings

19.4.1. Class action and related proceedings in the USA

Under the Class action Settlement, Petrobras (together with its subsidiary PGF) agreed to pay US\$ 2,950 to resolve claims in two installments of US\$ 983 and a further installment of US\$ 984. Accordingly, the Company charged US\$ 3,449 to its statement of income for the last quarter of 2017 as other income and expenses, taking into account the gross up of tax related to Petrobras's portion of the settlement. The three installments were deposited on March 1, 2018, July 2, 2018 and January 15, 2019 into an escrow account designated by the lead plaintiff and accounted for as other current assets. However, certain objectors had appealed the District Court's final decision to approve the Class Action Settlement.

On August 30, 2019, the United States Court of Appeals for the Second Circuit confirmed the decision approving the agreement for the Class Action Settlement and, therefore, the agreement is no longer subject to appeals.

On September 24, 2019, the District Court authorized the beginning of the distribution of the amounts deposited in the escrow account designated by the lead plaintiff to investors who had their claims admitted by that Court.

Thus, the installments deposited in the escrow account were offset with the liability accounted for as current provision for legal proceedings.

In connection with consummated settlements of Individual Actions, the company charged US\$ 456, during the years 2016 to 2018, to the statement of income as other income and expenses. In 2019, there were no new payments.

19.4.2. Class action in the Netherlands

On January 23, 2017, the Stichting Petrobras Compensation Foundation (“Foundation”) filed a class action before the district court in Rotterdam, in the Netherlands, against Petrobras parent company and Petrobras International Braspetro B.V. (PIBBV), Petrobras Global Finance B.V. (PGF), Petrobras Oil & Gas B.V. (PO&G) and some former managers of Petrobras.

The Foundation allegedly represents the interests of an unidentified group of investors and alleges that based on the facts uncovered by the Lava Jato investigation the defendants acted unlawfully towards investors. Based on the allegations, the Foundation seeks a number of declaratory relieves from the Dutch court.

The Company filed their first response to the claim on May 3, 2017 (first docket date), presenting the law firms that will defend these companies and requesting a hearing to discuss some aspects of the case.

On August 23, 2017, a hearing was held at the District Court in Rotterdam (“Court”) to establish the timeframe for proceedings. Petrobras (and other defendants) presented preliminary defenses on November 29, 2017 and the Foundation presented its response on March 28, 2018. On June 28, 2018, a hearing was held for the parties to present oral arguments. On September 19, 2018, the Court rendered its interim decision in the motion proceedings in which it accepted jurisdiction in most of 7 claims of the Foundation, without any assessment on the merits of the case.

On April 16, 2019, a hearing was held to present oral arguments on some procedural issues of this Class action.

On January 29, 2020, the Court determined that shareholders who understand Portuguese and / or who bought shares through intermediaries or other agents who understand that language, among other shareholders, are subject to the arbitration clause provided for in the Company's Bylaws, remaining out of the collective action proposed by the Foundation. The Court also considered the binding effect of the agreement signed to close the United States' Class action. In this way, the Foundation needs to demonstrate that it represents a sufficient number of investors to justify pursuing collective action in the Netherlands. The Foundation must answer some questions raised by the Court by May 6, 2020. After the presentation of the answers by the Foundation, Petrobras will have 12 weeks to respond.

This collective action involves complex issues that are subject to substantial uncertainties and depend on a number of factors such as the standing of the Foundation as the alleged representative of the investors' interests, the applicable rules to this complaint, the information produced the evidentiary phase of the proceedings, analysis by experts, the timing of court decisions and rulings by the court on key issues, and the Foundation only seeks declaratory reliefs in this collective action. Currently, it is not possible to determine if the Company will be found responsible for the payment of compensation in subsequent individual complaints after this action as this assessment depends on the outcome of these complex issues. Moreover, it is uncertain which investors will be able to file subsequent individual complaints related to this matter against the Company.

In addition, the allegations asserted are broad, span a multi-year period and involve a wide range of activities, and, at the current stage, the impacts of such allegations are highly uncertain. The uncertainties inherent in all such matters affect the amount and timing of the ultimate resolution of these actions. As a result, the Company is unable to make a

reliable estimate of eventual loss arising from this action. The company is victim of the corruption scheme uncovered by the Lava Jato investigation and aims to present and prove this before the Dutch Court.

The uncertainties inherent in all such matters do not enable the company to identify possible risks related to this action. Compensation for the alleged damages will only be determined by court rulings on complaints to be filed by individual investors. The Foundation is not able to demand compensation for damages.

The Company denies the allegations presented by the Foundation and intend to defend themselves vigorously.

19.4.3. Arbitrations in Brazil

Petrobras is also currently a party to 5 arbitration proceedings brought by Brazilian and foreign investors that purchased Petrobras' shares traded in Brazilian Stock Exchange (B3), alleging financial losses caused by facts uncovered in the Lava Jato investigation.

These claims involve complex issues that are subject to substantial uncertainties and depend on a number of factors such as the novelty of the legal theories, the timing of the Chamber of Arbitration decisions, the information produced in discovery and analysis by retained experts.

Moreover, the claims asserted are broad and span a multi-year period. The uncertainties inherent in all such matters affect the amount and timing of their ultimate resolution. As a result, the Company is unable to make a reliable estimate of eventual loss arising from such arbitrations asserted. The Company denies the allegations presented by these investors and intends to defend these claims vigorously.

Depending on the outcome of these complaints, the Company may have to pay substantial amounts, which may cause a significant effect on its financial condition, its financial statements or consolidated cash flow in a certain period.

On September 17, 2019, the Brazilian Federal Supreme Court (STF) abrogated the Commitment Assumption Agreement signed with the Brazilian Prosecutor's Office (MPF). Thus, the Company has no longer the possibility of using half of the amount of US\$ 683 paid on January 30, 2019 to the Brazilian authorities, as provided for in the agreement, in compliance with the subsequently abrogated agreement, in the event of any convictions in these arbitrations. The new allocation of the amount paid is described in the "Allocation Agreement" between the Brazilian Attorney General's Office and the Presidency of the Chamber of Deputies, with the intervention of the Presidency of the Federal Senate and the Attorney General of the National Treasury, which was approved by the STF and whose negotiation was not attended by Petrobras.

19.4.4. Arbitrations in Argentina

On September 11, 2018, Petrobras was served of an arbitral claim filed by Consumidores Financieros Asociación Civil para su Defensa ("Association") against the company and other individuals and legal entities, before the "Tribunal de Arbitraje General de la Bolsa de Comercio de Buenos Aires". Among other issues, the Association alleges Petrobras' liability for a supposed loss of market value of Petrobras' shares in Argentina, due to proceedings related to Lava Jato investigation.

On June 14, 2019, the Company informed that the Chamber of Arbitration recognized the withdrawal of the arbitration due to the fact that the Association had not paid the arbitration fee within the established period. The Association appealed to the Argentine Judiciary against this decision, which was rejected on November 20, 2019. The Association filed a new appeal addressed to the Argentine Supreme Court, pending a final decision.

Petrobras denies the allegations presented by the Association and intends to defend itself vigorously.

19.5. Other arbitrations in Argentina

Petrobras was included as a defendant in criminal actions in Argentina:

- Criminal action related to an alleged fraudulent offer of securities for alleged non-compliance with the obligation to publish “press release” in the Argentine market about the existence of a class action filed by Consumidores Financieros Asociación Civil para su Defensa before the Commercial Court, according to the provisions of the Argentine capital market law. Petrobras was never mentioned in the scope of the referred collective action. Petrobras presented procedural defenses in the criminal action that have not yet been judged by the court. This criminal action is pending before the Criminal Economic Court No. 3 of the city of Buenos Aires;
- Criminal action related to an alleged fraudulent offer of securities, when Petrobras allegedly declared false data in its financial statements prior to 2015. Petrobras presented procedural defenses that have not yet been judged by the court. This criminal action is pending before the Criminal Economic Court No. 2 of the city of Buenos Aires.

19.6. Accounting policy for provisions for legal proceedings and contingent liabilities

Provisions are recognized when: (i) the company has a present obligation as a result of a past event; (ii) it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and (iii) the amount of the obligation can be reliably estimated.

Contingent liabilities are not recognized but are disclosed in explanatory notes when the likelihood of outflows is possible, including those whose amounts cannot be estimated.

The methodology used to estimate the provisions is described in note 4.5.

19.7. Tax recoveries under dispute

19.7.1. Deduction of VAT tax (ICMS) from the basis of calculation of PIS and COFINS

The Company filed complaints against Brazilian Federal Government challenging the constitutionality of the inclusion, from 2001 to 2017, of VAT tax within the calculation basis of PIS and COFINS.

The Brazilian Supreme Court ruled on this matter, on March 2017, determining that such tax must not be included in the computation. However, the Brazilian Federal Government filed a motion to clarification in October 2017, and its assessment by the court is still pending.

The Regional Federal Court ruled in favor to the Company in August 2018, reinforcing the decision of the Brazilian Supreme Court.

The Company is gathering all the amounts involved in this matter, which covers a long period of time, and is not yet able to reasonably estimate this contingent asset prior to the issuance of these financial statements. In January 2019, the Company's appeal was fully upheld to cover the period claimed in the lawsuit. Currently, the appeal filed by the Brazilian Government is awaiting judgment.

Considering that judicial discussions about the methodology for calculating the credit are still pending, the contingent asset could not be estimated.

19.7.2. Accounting policy for contingent assets

Contingent assets are not recognized, but are disclosed in explanatory notes when the inflow of economic benefits is considered probable. However, if the inflow of economic benefits is virtually certain, the related asset is not a contingent asset and it is recognized.

20. Provision for decommissioning costs

Non-current liabilities	Jan-Dec/2019	Jan-Dec/2018
Opening balance	15,133	14,143
Adjustment to provision	5,642	4,129
Transfers related to liabilities held for sale (*)	(3,071)	(1,221)
Payments made	(502)	(481)
Interest accrued	699	649
Others	3	51
Cumulative translation adjustment	(444)	(2,137)
Closing balance	17,460	15,133

(*) In 2018, it includes transfer to held for sale related to Campos basin (US\$ 850); Potiguar basin (US\$ 70) and Lapa field (US\$ 11), as set out in note 7.

The estimates for abandonment and dismantling of oil and natural gas producing properties are revised annually at December 31 along with the annual process of oil and gas reserves certification and whenever an indication of significant change in the assumptions used in the estimates occurs.

In 2019, the adjustment to this provision in the amount of US\$ 5,642 primarily reflects (i) anticipation of timing of abandonments in some projects, (ii) reduction in the risk-adjusted discount rate from 5.17% p.a. in 2018 to 4.22% p.a. in 2019, due to the decrease in the country risk; and (iii) the revision of estimates of wells and equipment costs and the decrease in the average-term of abandonment of some producing fields.

20.1. Accounting policy for decommissioning costs

Decommissioning costs are future obligations to perform environmental restoration, dismantle and remove a facility when the Company terminates its operations due to the exhaustion of the area or economic feasibility. Its most significant asset removal obligations involve removal and disposal of offshore oil and gas production facilities in Brazil and abroad. The Company recognizes these obligations at present value of the expected future cash outflows, using a risk-free discount rate, adjusted to the Company's credit risk. Due to the long periods until the abandonment date, variations in the discount rate can cause large variations in the recognized amount.

These estimates require performing complex calculations that involve significant judgment since: i) the obligations are long-term; ii) the contracts and regulations contain subjective definitions of the removal and remediation practices and criteria involved when the events actually occur; and iii) asset removal technologies and costs are constantly changing, along with regulations, environmental, safety and public relations considerations.

The Company is constantly conducting studies to incorporate technologies and procedures to optimize the process of abandonment, considering industry best practices. However, the timing and amounts of future cash flows are subject to significant uncertainty.

The estimates of decommissioning costs are reviewed annually based on current information on expected costs and recovery plans. When the revision of the estimates results in an increase in the provision for decommissioning costs, there is a corresponding increase in assets. Otherwise, when there is a decrease in the provision, there is a corresponding reduction in assets, without exceeding its book value. Any excess portion is immediately recognized in the statement of income within other expenses.

21. The “Lava Jato (Car Wash) Operation” and its effects on the Company

In the preparation of these annual consolidated financial statements, the Company did not identify any additional information that would affect the adopted calculation methodology to write off, in the third quarter of 2014, US\$ 2,527 of capitalized costs representing overpayments for the acquisition of property, plant and equipment. The Company will continue to monitor these investigations for additional information in order to assess their potential impact on the adjustment made.

The Company has been closely monitoring the investigations and cooperating fully with the Brazilian Federal Police (*Polícia Federal*), the Brazilian Public Prosecutor's Office (*Ministério Público Federal*), the Federal Auditor's Office (*Tribunal de Contas da União – TCU*) and the General Federal Inspector's Office (*Controladoria Geral da União*) in the investigation of all crimes and irregularities.

In addition, the Company has been taking the necessary procedural steps to seek compensation for damages suffered from the improper payments scheme, including those related to its reputation.

To the extent that any of the proceedings resulting from the Lava Jato investigation involve leniency agreements with cartel members or plea agreements with individuals pursuant to which they agree to return funds, the Company may be entitled to receive a portion of such funds. Nevertheless, the Company is unable to reliably estimate further recoverable amounts at this moment. Any recoverable amount will be recognized as income when received or when their economic benefits become virtually certain.

In addition to US\$ 912 recovered from Lava Jato investigation through December 31, 2018 (US\$ 457 in 2018, US\$ 252 in 2017, US\$ 131 in 2016 and US\$ 72 in 2015), new leniency and plea agreements in 2019 entitled the Company to receive funds with respect to compensation for damages in the amount of US\$ 220. This amounts were accounted for as other income and expenses. Thus, the total amount recovered from Lava Jato investigation through December 31, 2019 was US\$ 1,132.

21.1. Investigations involving the Company

21.1.1. U.S. Securities and Exchange Commission and Department of Justice inquiries

On September 27, 2018, the Company settled the open matters with the U.S. Department of Justice (DoJ) and the U.S. Securities and Exchange Commission (SEC) investigation which encompassed the Company's internal controls, books and records, and financial statements from 2003 to 2012.

These agreements fully resolve the inquiries carried out by these authorities. Following this agreement, the Company paid US\$ 85 to the DoJ in 2018 and the same amount to the SEC in the first quarter of 2019. Additionally, the agreements also credit a remittance of US\$ 683 to the Brazilian authorities, which Petrobras deposited in January 2019 into a court deposit account. The Company fully recognized the effects of these settlements as other income and expenses in the third quarter of 2018.

This resolution met the best interest of the Company and its shareholders, and eliminated uncertainties, risks, burdens and costs of potential litigations in the United States.

21.1.2. U.S. Commodity Futures Trading Commission - CFTC

In May 2019, the U.S. Commodity Futures Trading Commission ("CFTC") contacted Petrobras with an inquiry regarding trading activities related to the Lava Jato Operation. Petrobras reiterates that it continues to cooperate with the regulatory authorities, including the CFTC, regarding any inquiry.

21.1.3. Order of civil inquiry - Brazilian Public Prosecutor's Office

On December 15, 2015, the State of São Paulo Public Prosecutor's Office issued the Order of Civil Inquiry 01/2015, establishing a civil proceeding to investigate the existence of potential damages caused by Petrobras to investors in the Brazilian stock market. The Brazilian Attorney General's Office (*Procuradoria Geral da República*) assessed this civil proceeding and determined that the São Paulo Public Prosecutor's Office has no authority over this matter, which must be presided over by the Brazilian Public Prosecutor's Office. The Company has provided all relevant information requested by the authorities.

22. Commitment to purchase natural gas

The Company has an active GSA agreement (Gas Supply Agreement) entered into with Yacimientos Petroliferos Fiscales Bolivianos – YPFB to purchase certain minimum volumes of natural gas at prices linked to the international fuel oil price. This contract will be outstanding until all contracted volume has been delivered, based on an extension clause.

Thus, as of December 31, 2019, the total amount of the GSA for 2020 is nearly 11.01 billion cubic meters of natural gas (equivalent to 30.08 million cubic meters per day) and corresponds to a total estimated value of US\$ 1.82 billion. Based on the aforementioned extension clause, the Company expects purchases to continue through October 2022, on the same volume basis according to current indicators, representing an estimated additional amount of US\$ 5.6 billion, for the period from January 1, 2020 to October 30, 2022.

23. Property, plant and equipment

23.1. By class of assets

	Land, buildings and improvement	Equipment and other assets (*)	Assets under construction (**)	Exploration and development costs (oil and gas producing properties) (***)	Right-of- use assets	Total
Balance at January 1, 2018	6,665	75,002	42,521	52,462	-	176,650
Additions	4	1,751	8,707	6	-	10,468
Additions to / review of estimates of decommissioning costs	-	-	-	4,778	-	4,778
Capitalized borrowing costs	-	-	1,810	-	-	1,810
Write-offs	(61)	(16)	(327)	(27)	-	(431)
Transfers	(93)	13,720	(18,667)	4,086	-	(954)
Depreciation, amortization and depletion	(359)	(6,529)	-	(5,028)	-	(11,916)
Impairment recognition	-	(742)	(250)	(1,686)	-	(2,678)
Impairment reversal	-	309	23	226	-	558
Cumulative translation adjustment	(946)	(7,467)	(4,891)	(7,598)	-	(20,902)
Balance at December 31, 2018	5,210	76,028	28,926	47,219	-	157,383
Cost	7,829	128,711	28,926	77,141	-	242,607
Accumulated depreciation, amortization and depletion	(2,619)	(52,683)	-	(29,922)	-	(85,224)
Balance at December 31, 2018	5,210	76,028	28,926	47,219	-	157,383
Adoption of IFRS 16	-	-	-	-	26,575	26,575
Additions	-	2,784	5,269	145	2,332	10,530
Additions to / review of estimates of decommissioning costs (note 20)	-	-	-	5,497	-	5,497
Capitalized borrowing costs	-	-	1,336	-	-	1,336
Reimbursement under the Transfer of Rights Agreement	-	-	-	(8,319)	-	(8,319)
Write-offs	(3)	(92)	(293)	(407)	(21)	(816)
Transfers	478	6,055	(10,466)	4,879	126	1,072
Transfers to assets held for sale	(803)	(4,942)	(621)	(1,204)	(1,339)	(8,909)
Depreciation, amortization and depletion	(231)	(6,106)	-	(4,756)	(5,019)	(16,112)
Impairment recognition (note 25)	(2)	(1,298)	(1,453)	(743)	(161)	(3,657)
Impairment reversal (note 25)	-	236	80	459	-	775
Cumulative translation adjustment	(199)	(2,287)	(826)	(1,873)	(905)	(6,090)
Balance at December 31, 2019	4,450	70,378	21,952	40,897	21,588	159,265
Cost	6,856	119,993	21,952	70,647	26,440	245,888
Accumulated depreciation, amortization and depletion	(2,406)	(49,615)	-	(29,750)	(4,852)	(86,623)
Balance at December 31, 2019	4,450	70,378	21,952	40,897	21,588	159,265
Weighted average useful life in years	40 (25 to 50) (except land)	20 (3 to 31)		Units of production method	8 (2 to 47)	

(*) It is composed of platforms, refineries, thermoelectric power plants, natural gas processing plants, pipelines, rights of use and other operating, storage and production plants, also including exploration and production assets depreciated based on the units of production method.

(**) See note 31 for assets under construction by operating segment.

(***) It is composed of exploration and production assets related to wells, abandonment and dismantling of areas, signature bonuses associated to proved reserves and other costs directly associated with the exploration and production of oil and gas.

For the year ended December 31, 2019, additions to property, plant and equipment primarily relate to the development of oil and gas production in the pre-salt area, mainly the entry into operation of two new production systems: FPSO P-77, located in the Búzios field; and FPSO P-68, located in the Berbigão field.

At the adoption of IFRS 16, the Company recognized right-of-use assets at an amount equal to the lease liability. The rights-of-use at December 31, 2019 comprise the following underlying assets:

	Platforms	Vessels	Properties	Others	Total
Balance at December 31, 2018					
Adoption of IFRS 16	15,111	9,775	798	891	26,575
Additions	881	1,412	27	12	2,332
Write-offs	-	(11)	(4)	(6)	(21)
Transfers	-	-	-	126	126
Transfers to assets held for sale	(1,037)	-	-	(302)	(1,339)
Depreciation, amortization and depletion	(2,230)	(2,489)	(101)	(199)	(5,019)
Impairment recognition	-	-	-	(161)	(161)
Cumulative translation adjustment	(529)	(352)	(29)	5	(905)
Balance at December 31, 2019	12,196	8,335	691	366	21,588
Cost	14,378	10,698	778	586	26,440
Accumulated depreciation, amortization and	(2,182)	(2,363)	(87)	(220)	(4,852)
Without contractual readjustment clauses	(624)	(1,942)	-	(49)	(2,615)
With contractual readjustment clauses - Brazil	(11)	(308)	(87)	(168)	(574)
With contractual readjustment clauses – abroad	(1,547)	(113)	-	(3)	(1,663)
Balance at December 31, 2019	12,196	8,335	691	366	21,588

23.2. Estimated useful life

Estimated useful life	Buildings and improvements, equipment and other assets		
	Cost	Accumulated depreciation	Balance at December 31, 2019
5 years or less	4,413	(3,248)	1,165
6 - 10 years	9,633	(6,468)	3,165
11 - 15 years	1,200	(562)	638
16 - 20 years	37,176	(17,162)	20,014
21 - 25 years	25,576	(5,272)	20,304
25 - 30 years	9,054	(2,753)	6,301
30 years or more	23,940	(8,827)	15,113
Units of production method	15,687	(7,729)	7,958
Total	126,679	(52,021)	74,658
Buildings and improvements	6,686	(2,406)	4,280
Equipment and other assets	119,993	(49,615)	70,378

23.3. Accounting policy for Property, plant and equipment

Property, plant and equipment are measured at the cost to acquire or construct, including all costs necessary to bring the asset to working condition for its intended use and the estimated cost of dismantling and removing the asset and restoring the site, reduced by accumulated depreciation and impairment losses.

A condition for continuing to operate certain items of property, plant and equipment, such as industrial plants, offshore plants and vessels is the performance of regular major inspections and maintenance. Those expenditures are

capitalized if a maintenance campaign is expected to occur, at least, 12 months later. Otherwise, they are expensed when incurred. The capitalized costs are depreciated over the period through the next major maintenance date.

Spare parts are capitalized when they are expected to be used during more than one period and can only be used in connection with an item of property, plant and equipment. These are depreciated over the useful life of the item of property, plant and equipment to which they relate.

Borrowing costs directly attributable to the acquisition or construction of qualifying assets are capitalized as part of the costs of these assets. General borrowing costs are capitalized based on the Company's weighted average cost of borrowings outstanding applied over the balance of assets under construction. Loans directly attributable to the construction of assets are only considered at this average rate when their financial charges are incurred upon completion of the specific construction. In general, the Company suspends capitalization of borrowing to the extent investments in a qualifying asset hibernates during a period greater than one year or whenever the asset is prepared for its intended use.

Assets directly associated to oil and gas production of a contract area without useful life lower than the estimated length of reserves depletion, such as signature bonuses, are depreciated or amortized based on the unit-of-production method.

The unit-of-production method of depreciation (amortization) is computed based on a unit of production basis (monthly production) over the proved developed oil and gas reserves, except for signature bonuses for which unit of production method takes into account the monthly production over the total proved oil and gas reserves on a field-by-field basis.

Assets related to oil and gas production with useful lives shorter than the life of the field; floating platforms and other assets unrelated to oil and gas production are depreciated on a straight-line basis over their useful lives, which are reviewed annually. Note 23.2 provides further information on the estimated useful life by class of assets. Lands are not depreciated.

Right-of-use assets are presented as property, plant and equipment and, according to the useful lives of their respective underlying assets and the characteristics of lease agreements (term, asset transfer or exercise of call option), are depreciated using the straight-line method based on contractual terms.

23.4. Concession for exploration of oil and natural gas – Transfer of Rights Agreement (“Cessão Onerosa”)

On November 1, 2019, Petrobras signed with the Brazilian Federal Government the Amendment to the Transfer of Rights Agreement, which provides for the reimbursement to the Company of US\$ 9,058, as established in the Resolution 5/2019 enacted in April 2019 by the National Energy Policy Council (*Conselho Nacional de Política Energética – CNPE*). The signing of the Amendment occurred prior to the surplus bidding round related to this agreement, after reaching the budget solution for the payment by the Federal Government to Petrobras and after meeting other conditions established by the Company's Board of Directors.

At this signing, the Company recognized accounts receivable offsetting property, plant and equipment, in the amount of US\$ 8,319 (considering the average exchange rate prevailing in the fourth quarter of the year).

On December 11, 2019, the Brazilian Federal Government paid this amount to the Company, bearing interest at SELIC rate from the date of the signing, in the amount of US\$ 43, accounted for as finance income.

Information on the result of the Bidding Round for the Oil Surplus of the Transfer of Rights Agreement is presented in note 24.1.

23.5. Oil and Gas fields operated by Petrobras returned to ANP

In 2019, the following oil and gas fields were returned to ANP: Juruá, Iraúna, Barra do Ipiranga, Lagoa Branca, Nativo Oeste, Jacupemba, Mariricu Oeste, Rio Barra Seca, Rio Itaúnas Leste, Rio São Mateus Oeste and Sul de Sapinhoá. These fields were returned to ANP mainly due to their economic unfeasibility and, as a consequence, the Company wrote off the amount of US\$ 74 in addition to impairments recognized in prior years.

In 2018, the following oil and gas fields were returned to ANP: Japiim, Camarão Norte, part of Espadarte and part of Sibite. These fields were returned to ANP mainly due to their economic unfeasibility and, as a consequence, the Company wrote off the amount of US\$ 0.1 in addition to impairments recognized in prior years.

In 2017, the Mosquito, Siri and Saíra oil and gas fields were returned to ANP also due to economic unfeasibility. However, due to impairment losses recorded for these assets in prior years, these write-offs amounted to US\$ 0.1.

23.6. Capitalization rate used to determine the amount of borrowing costs eligible for capitalization

The capitalization rate used to determine the amount of borrowing costs eligible for capitalization was the weighted average of the borrowing costs applicable to the borrowings that were outstanding during the period, other than borrowings made specifically for the purpose of obtaining a qualifying asset. For the year ended December 31, 2019, the capitalization rate was 6.40% p.a. (6.35% p.a. for the year ended December 31, 2018).

24. Intangible assets

24.1. By class of assets

	Rights and Concessions	Software	Goodwill	Total
Balance at January 1, 2018	1,801	321	218	2,340
Addition	841	85	-	926
Capitalized borrowing costs	-	4	-	4
Write-offs	(15)	-	-	(15)
Transfers	(42)	6	14	(22)
Amortization	(14)	(98)	-	(112)
Cumulative translation adjustment	(241)	(46)	(29)	(316)
Balance at December 31, 2018	2,330	272	203	2,805
Cost	2,549	1,592	203	4,344
Accumulated amortization	(219)	(1,320)	-	(1,539)
Balance at December 31, 2018	2,330	272	203	2,805
Addition	1,339	74	-	1,413
Concession for exploration of oil and natural gas – Oil Surplus on the Transfer of rights agreement	15,341	-	-	15,341
Capitalized borrowing costs	-	4	-	4
Write-offs	(11)	(6)	-	(17)
Transfers	(83)	(47)	(137)	(267)
Amortization	(10)	(60)	-	(70)
Impairment recognition	(1)	-	-	(1)
Impairment reversal	-	-	-	-
Cumulative translation adjustment	263	5	(3)	265
Balance at December 31, 2019	19,168	242	63	19,473
Cost	19,290	1,469	63	20,822
Accumulated amortization	(122)	(1,227)	-	(1,349)
Balance at December 31, 2019	19,168	242	63	19,473
Estimated useful life in years	(*)	5	Indefinite	

(*) Mainly composed of assets with indefinite useful lives, which are reviewed annually to determine whether events and circumstances continue to support an indefinite

At December 31, 2019 and 2018, no impairment was identified on goodwill.

Result of the 16th ANP Bidding Round

On October 10, 2019, Petrobras acquired one offshore block in the 16th Bidding Round under the Concession Regime, held by the ANP. Petrobras will hold a 70% stake and will be the operator of the block C-M-477, located in deep waters in the Campos basin, in partnership with BP Energy do Brasil Ltda. The total amount of the signature bonus paid in the last quarter of 2019 was US\$ 348.

Result of Bidding Round for the Surplus Volume of the Assignment Agreement

On November 6, 2019, the ANP held the Bidding Round for the Surplus Volume of the Assignment Agreement, when the Company acquired, in partnership with CNOOC Brasil Petróleo e Gás Ltda. (5%) and CNOOC Petroleum Brasil Ltda. (5%), the exploration and production rights of the surplus volume of Búzios field from the Assignment Agreement. The Company will hold a 90% interest and will be the operator of the field, whose signature bonus corresponding to the Company's interest was US\$ 14,912, paid in December 2019. The co-participation agreement should be finalized by September 2021, and until this date, partners in the consortium have the right to acquire an additional 5% interest each or, on the deadline, if the agreement has not been signed with Pré-Sal Petróleo S.A. (PPSA), to leave the consortium.

Petrobras also acquired the exploration and production rights of the surplus volume of Itapu field, whose signature bonus, paid in December 2019, was US\$ 429.

24.2. Exploration rights - production sharing contract

On June 7, 2018, the Company acquired three offshore blocks (*Uirapuru, Dois Irmãos and Três Marias*) in partnership with other companies through the 4th ANP Bidding Round under the production-sharing regime. The Company will be the operator of all these blocks and the total amount of the signature bonus paid by the Company in September 2018 was US\$ 254.

On September 28, 2018, the Company acquired the *Sudoeste de Tartaruga Verde* block through the 5th ANP Bidding Round under the production-sharing regime. The Company offered the minimum profit oil set forth in this bidding and a bonus of US\$ 17 was paid in November 2018.

On November 7, 2019, the ANP held the 6th Bidding Round under the production sharing regime. Petrobras acquired, in partnership with CNODC Brasil Petróleo e Gás Ltda. (20%), the Aram block, located in the Santos Basin. Petrobras will be the operator of the field with an 80% interest. The signature bonus corresponding to the Company's interest was US\$ 982, paid in December 2019.

24.2.1. Accounting policy for intangible assets

Intangible assets are measured at the acquisition cost, less accumulated amortization and impairment losses and comprise rights and concessions, including the signature bonus paid for concessions and production sharing agreements for exploration and production of oil and natural gas (capitalized acquisition costs), public service concessions, trademarks, patents, software and goodwill.

Internally-generated intangible assets are not capitalized and are expensed as incurred, except for development costs that meet the recognition criteria related to the completion and use of assets, probable future economic benefits, and others.

Signature bonuses paid for obtaining concessions for exploration of crude oil and natural gas are initially capitalized within intangible assets and are transferred to property, plant and equipment when the technical and commercial feasibility can be demonstrated. They are not amortized before their transference to property, plant and equipment. In the event of a signature bonus encompassing an area in which exploration activities occur in different locations, a portion of the signature bonus is transferred to property, plant and equipment whenever the technical and commercial feasibility can be demonstrated for a specific location, based on the ratio between the oil in place at this location and total reservoir volume of the area. Intangible assets with a finite useful life, other than amounts paid for obtaining concessions for exploration of oil and natural gas of producing properties, are amortized over the useful life of the asset on a straight-line basis.

Intangible assets with an indefinite useful life are not amortized but are tested annually for impairment. Their useful lives are reviewed annually.

24.3. Exploration rights returned to the Brazilian Agency of Petroleum, Natural Gas and Biofuels - Agência Nacional de Petróleo, Gás Natural e Biocombustíveis (ANP)

In 2019, 12 exploration areas were returned to the ANP, in Sergipe-Alagoas, Potiguar, Recôncavo and Parnaíba basins (9 in 2018 in Recôncavo and Parnaíba basins), totaling US\$ 3 (US\$ 6 in 2018).

25. Impairment

The Company annually tests its assets for impairment or when there is an indication that their carrying amount may not be recoverable. In 2019, impairment losses and reversals were primarily recognized in the last quarter reflecting assets management and updates of mid and long-term assumptions used in the Company's Strategic Plan for the 2020-2024 period, approved on November 27, 2019.

A higher estimate in decommissioning costs of E&P fields contributed significantly to the recognition of impairment losses, notably in CGUs Papa-Terra, in Campos basin, Uruguá group (Uruguá and Tambaú fields), in Santos basin, and CVIT group (Canapu and Golfinho fields), in Espírito Santo basin. This increase is mainly due to: (i) reduction in Brent's projections bringing forward the expected date of abandonment of the producing fields; and (ii) reduction in the discount rate, reflecting an improvement in the yields of the Company's bonds throughout 2019. Such losses were offset by the reversals associated with gains in sales (realized and expected) of producing fields in Brazil.

These losses were partially offset by the effects of reversals relating to the disposal of producing fields in Brazil.

Additionally, impairment losses were recognized due to: the postponing of project to conclude the second refining unit of Abreu e Lima refining plant (RNEST); the decision to discontinue the use of P-37 platform in Marlim field; the sale of the drillship Sonda Vitória 10,000 (NS-30); the investments made due to the Conduct Adjustment Declaration ("TAC") to close the public civil action requesting the environmental licensing of Comperj.

The table below shows the impairment losses, net of reversals, recognized within the statement of income in 2019, 2018 and 2017:

Petróleo Brasileiro S.A. – Petrobras

Notes to the financial statements

(Expressed in millions of US Dollars, unless otherwise indicated)



Assets or CGU by nature (*)	Carrying amount	Recoverable amount (**)	Impairment (***)	Business segment	Comments
2019					
Property, plant and equipment and intangible assets					
Producing properties relating to oil and gas activities in Brazil (several CGUs)	105,532	196,994	1,859	E&P - Brazil	item (a1)
Transpetro's fleet of vessels	1,347	1,453	(103)	RTM - Brazil	item (b1)
Oil and gas production and drilling equipment in Brazil	314	-	307	E&P - Brazil	item (c1)
UFN III	204	-	200	RTM - Brazil	item (d1)
Comperj	330	117	209	RTM - Brazil	item (e1)
Second refining unit in RNEST	1,043	498	534	RTM - Brazil	item (f1)
Oil and gas production and drilling equipment abroad	343	15	333	E&P - Abroad	item (g1)
Others	33	-	67	Several	
			3,406		
Assets classified as held for sale					
Producing properties Pampo and Enchova fields	328	808	(494)	E&P - Brazil	item 25.2
Producing properties Pampo and Frade field	19	105	(84)	E&P - Brazil	item 25.2
Producing properties Pampo and Maromba field	-	68	(67)	E&P - Brazil	item 25.2
PO&G BV	444	354	89	E&P - Abroad	item 25.2
Others	592	468	(2)	Several	
Total			2,848		
2018					
Property, plant and equipment and intangible assets					
Producing properties relating to oil and gas activities in Brazil (several CGUs)	7,019	9,923	524	E&P - Brazil	item (a2)
Transpetro's fleet of vessels	1,721	1,300	428	RTM - Brazil	item (b2)
Oil and gas production and drilling equipment in Brazil	199	6	197	E&P - Brazil	item (c2)
UFN III	312	200	114	RTM - Brazil	item (d2)
Producing properties relating to oil and gas activities Abroad (several CGUs)	2,258	1,554	715	E&P - Brazil	item (h1)
GASFOR II	58	-	59	Gas & Power - Brazil	item (i)
Comperj	46	-	47	RTM - Brazil	item (e2)
Second refining unit RNEST	1,114	1,092	22	RTM - Brazil	item (f2)
Others	666	756	14	Several Segments	
			2,120		
Assets classified as held for sale					
Producing properties relating to oil and gas activities in Riacho da Forquilha	98	459	(34)	E&P - Brazil	
Others	25	109	(81)	Several Segments	
Total			2,005		
2017					
Property, plant and equipment and intangible assets					
Producing properties relating to oil and gas activities in Brazil (several CGUs)	11,826	16,070	(870)	E&P - Brazil	item (a3)
Second refining unit in RNEST	1,716	1,261	464	RTM - Brazil	item (f3)
Fertilizer Plants	412	-	412	Gas & Power - Brazil	item (j)
Oil and gas production and drilling equipment in Brazil	360	4	363	E&P - Brazil	item (c3)
Producing properties relating to oil and gas activities abroad (several CGUs)	215	89	128	E&P - Abroad	item (h2)
Panamax vessels - Transpetro	112	-	112	RTM - Brazil	item (k)
Araucária	70	-	70	Gas & Power - Brazil	item (l)
Comperj	51	-	51	RTM - Brazil	item (e3)
Conecta and DGM	38	-	38	Distribution- Abroad	item (m)
Others	1,863	1,797	68	Several Segments	
			836		
Assets classified as held for sale					
Producing properties relating to oil and gas activities in Roncador	3,164	2,766	405	E&P - Brazil	
Others	317	366	(50)	Several Segments	
Total			1,191		

(*) It only includes carrying amounts and recoverable amounts of impaired assets or assets for which reversals were recognized.

(**) The recoverable amounts of assets for impairment computation were their value in use, except for oil and gas production and drilling equipment that were based on their fair value.

(***) Reversals are presented in brackets.

25.1. Impairment of property, plant and equipment and intangible assets

For impairment testing purposes, the Company bases its cash flow projections on:

- The estimated useful life of the asset or assets grouped into the CGU, based on the expected use of those assets, considering the Company's maintenance policy;
- Assumptions and financial budgets/forecasts approved by management for the period corresponding to the expected life cycle of each different business; and
- Pre-tax discount rates derived from the Company's post-tax weighted average cost of capital (WACC), adjusted by specific risk-premiums in case of projects postponed for an extended period, or specific country-risks, in case of assets abroad. The use of post-tax discount rates in determining value in use does not result in materially different recoverable amounts if pre-tax discount rates had been used.

Information on key assumptions for impairment testing and the definition of Company's CGUs are presented in notes 4.2 and 4.3, respectively.

During 2019, management identified and assessed the following changes in CGUs:

a) CGUs of E&P: (i) Transfer of Rights Agreement group (extinction of this CGU and formation of six new ones - CGU Itapu; CGU Búzios group; CGU Sépia group; CGU Atapu group; CGU Lula group and CGU Berbigão-Sururu group, following the conclusion of the revision of the Transfer of Rights Agreement and the definition of a new business and management model for assets); (ii) Parques da Baleias group (due to the redefinition of the Jubarte field, approved by the ANP, the Baleia Anã and Cacharéu fields remain in this CGU and the Cachalote and Pirambu fields were removed due to the lack of interdependence of these assets in the generation of cash inflows); (iii) North group (excluding the Corvina field and the P-37 platform, both due to the end of the productive useful life);

b) CGU Natural Gas: the sale of 90% of Transportadora Associada de Gás (TAG) resulted in its exclusion as an asset of the CGU; and

c) CGU Energy: with the failure to sell the Termobahia e Termocamaçari thermoelectric plants, the Company's management reversed the classification of assets held for sale to property, plant and equipment. Termobahia plant returned to the CGU due to the perspective of its use by Petrobras and its interdependence in cash generation with the other plants of the CGU, while Termocamaçari plant is now assessed separately due to the lack of perspective of operation.

The cash flow projections used to measure the value in use of the CGUs in 2019 were mainly based on average Brent prices and Brazilian real/U.S. dollar average exchange rate:

2019

	2020	2021	2022	2023	2024	Long term Average
Average Brent (US\$/bbl)	65	65	65	65	65	65
Average Brazilian Real (excluding inflation) - Real /U.S. dollar exchange rate	3.85	3.79	3.75	3.72	3.7	3.6

2018

	2019	2020	2021	2022	2023	Long term Average
Average Brent (US\$/bbl)	66	67	72	75	75	73
Average Brazilian Real (excluding inflation) - Real /U.S. dollar exchange rate	3.64	3.56	3.5	3.46	3.44	3.37

2017

	2018	2019	2020	2021	2022	Long term Average
Average Brent (US\$/bbl)	53	58	66	70	73	71
Average Brazilian Real (excluding inflation) - Real /U.S. dollar exchange rate	3.44	3.47	3.47	3.46	3.49	3.4

Information on the main impairment losses and reversals of property, plant and equipment and intangible assets are described below:

a1) Producing properties in Brazil – 2019

Impairment assessment for producing properties in Brazil resulted in US\$ 1,859 impairment losses. Cash flow projections were based on financial budgets/forecasts approved by management and the post-tax discount rates (excluding inflation) derived from the WACC for the E&P business of 6.7% p.a. at December 31, 2019. This amount comprises:

Impairment losses in the amount of US\$ 2,092, mainly related to the CGUs of Papa-Terra (US\$ 369), Uruguá group (US\$ 344), CVIT group (US\$ 206), Corvina (US\$ 158), Piranema (US\$ 128), Camorim (US\$ 109), Pirambu (US\$ 102), Merluza group (US\$ 98), Miranga group (US\$ 76), Guaricema (US\$ 76) and Água Grande group (US\$ 72), mainly due to the decrease in estimates for the average Brent price on the projection horizon, to higher estimates for future decommissioning costs, due to the reduction in risk-free discount rates, and to changes in the schedule for removal and treatment of oil and gas production facilities;

Impairment reversals totaling US\$ 53 primarily relating to Peroá group (US\$ 30) and Castanhal (US\$ 12), mainly due to gains in the production curve and accelerated depreciation tax benefit related to Repetro's new tax model.

a2) Producing properties in Brazil – 2018

Impairment assessment for producing properties in Brazil under the concession regime for oil and gas resulted in a net reversal of impairment losses of US\$ (103). Cash flow projections were based on financial budgets/forecasts approved by management and the post-tax discount rates (excluding inflation) derived from the WACC for the E&P business of 7.4% p.a. at December 31, 2018. This amount comprises:

Impairment losses totaling US\$ 1,054 primarily related to CGUs Camorim (US\$ 140), Linguado (US\$ 139), Piranema (US\$ 93), Guaricema (US\$ 92), Juruá (US\$ 91), Bicudo (US\$ 83), Caioba (US\$ 61), Pper-1 group (US\$ 49), Garoupinha (US\$ 39), Frade (US\$ 39), Castanhal (US\$ 36) and Papa Terra (US\$ 35). These losses were substantially due to higher estimates of future decommissioning costs driven by costs related to subsea facilities and equipment and depreciation of the Brazilian real against the U.S. dollar.

Reversals of impairment totaling US\$ 530 primarily from the CGUs Cvit group (US\$ 158), Uruguá group (US\$ 151), Ceará Mar group (US\$ 50), Dom João (US\$ 23), Miranga group (US\$ 16), Fazenda Belém group (US\$ 13) and Bijupirá-Salema group (US\$ 13), due to upward revision in the estimated production curves following a review of certain projects investments, as set out in the BMP 2019-2023.

a3) Producing properties in Brazil – 2017

Impairment assessment for producing properties in Brazil under the concession regime for oil and gas resulted in a net reversal of impairment losses of US\$ 870. Cash flow projections were based on financial budgets/forecasts approved by management and the post-tax discount rates (excluding inflation) derived from the WACC for the E&P business of 7.6% p.a. at December 31, 2017. This amount comprises:

- Reversals of impairment totaling US\$ 1,733 primarily from North group (US\$ 912), *Espadarte and Papa-Terra* fields (US\$ 125 and US\$ 122), *Uruguá* group (US\$ 100), *Pampo* field (US\$ 91), *Fazenda Alegre* group (US\$ 45), *Cidade de São Mateus* group (US\$ 44), *Riachuelo* field (US\$ 40), *Fazenda Imbé* group (US\$ 28), *Fazenda Bálamo* field (US\$ 26), *Peroá* group (US\$ 25), *São Mateus* group (US\$ 19) and *Riacho da Forquilha* field (US\$ 18). These reversals substantially reflected the lower post-tax real discount rate, the approval of investments in enhancing recovery of mature fields and the lower tax burden set forth in the new tax rules applicable to the oil and gas industry (see note 21.4).
- Impairment losses totaling US\$ 863 mainly related to CGUs *Piranema* (US\$ 227), *Salgo* (US\$ 104) *Ceara Mar* group (US\$ 95), Cvit group (US\$ 63), *Miranga* group (US\$ 59), *Fazenda Belém* group (US\$ 49), *Frade* (US\$ 40) *Dom João* (US\$ 27) and *Candeias* (US\$ 18). These losses were substantially driven by an expected acceleration of production cessation reflecting an optimization of investment portfolio, as well as by a lower risk-adjusted discount rate for decommissioning costs, which also increased the costs of assets related to the abandonment and dismantling of these areas.

b1) Transpetro's fleet of vessels – 2019

The depreciation of Reais against U.S. Dollars used in the projections of the Strategic Plan 2020-2024, compared to the assumptions used in the previous plan, had a positive effect on the cash generation projected in Reais for the CGU, given that freight rates (cash inflows) are quoted in U.S. dollars. Thus, a US\$ 103 reversal of impairment was accounted for in 2019. The post-tax discount rate (excluding inflation) in constant currency applied to the transportation sector ranged from 4.3% p.a. to 5.8% p.a.

b2) Transpetro's fleet of vessels – 2018

The lower freight rates projected in PNG 2019-2023 significantly affected impairment assessment of the Transpetro's fleet of vessels, resulting in the recognition of impairment losses in the amount of US\$ 428 in 2018. The post-tax discount rates (excluding inflation) applied to the transportation sector ranged from 3.8% p.a. to 6.6% p.a.

c1) Oil and gas production and drilling equipment in Brazil – 2019

The Company decided to discontinue the use of P-37 platform in Marlim field, resulting in its exclusion of North group and its independent assessment for impairment, resulting in losses in the amount of US\$ 307.

c2) Oil and gas production and drilling equipment in Brazil – 2018

In 2018, impairment losses for oil and gas production and drilling equipment in Brazil that were not directly related to oil and gas producing properties amounted to US\$ 197, as a result of: i) ceased operation of the single buoy mooring *Monobóia 2 – PDET* (US\$ 172); ii) lower fair value of certain equipment related to the FPSO P-72 and P- 73 that could not be committed to other projects, when compared to their carrying amount (US\$ 24).

c3) Oil and gas production and drilling equipment in Brazil – 2017

In 2017, impairment losses amounted to US\$ 363 as a result of: i) lower fair value of certain equipment related to the FPSO P-72 and P- 73 that could not be committed to other projects, when compared to their carrying amount (US\$ 127); ii) decommissioning of a crane and launch ferry (US\$ 114) and iii) hibernation of equipment of Inhaúma Shipyard excluded from the initial scope of Inhauma logistic center (US\$ 125).

d1) Fertilizer Plant - UFN III – 2019

Following the Company's decision to quit the conclusion of this plant, this asset was written-off, in the amount of US\$ 200.

d2) Fertilizer Plant - UFN III – 2018

An impairment loss of US\$ 114 was recognized for the fertilizer plant UFN III (*Unidade de Fertilizantes e Nitrogenados III*) due to its lower fair value.

e1) Comperj - 2019

Impairment losses amounted to US\$ 209, the investments made due to the Conduct Adjustment Declaration ("TAC") to close the public civil action requesting the environmental licensing of Comperj, as well as to the investments made in the first refining unit facilities of Comperj, which are part of the infrastructure for transporting and processing natural gas from the pre-salt layer in the Santos Basin.

e2) Comperj - 2018

As set forth in BMP 2019-2023, the resumption of the Comperj project still depends on new partnerships. However, the construction of Comperj's first refining unit facilities that will also support the natural gas processing plant (UPGN) are in progress as the facilities are part of the infrastructure for transporting and processing natural gas from the pre-salt layer in the Santos Basin. Nevertheless, due to the interdependence between such infrastructure and Comperj first refining unit, the Company recognized additional impairment charges, totaling US\$ 47 in 2018.

e3) Comperj - 2017

In 2017, the resumption of the Comperj project was still depending on new partnerships. Accordingly, due to the same aforementioned reasons, the Company recognized impairment charges, in 2017, totaling US\$ 51.

f1) Second refining unit in RNEST – 2019

The cash flows to measure the value in use of the second refining unit in RNEST take into account the postponing of the beginning of the operation to three years and eight months, triggering impairment losses in the amount of US\$ 534. The real discount rate applied was 7.8% p.a. post-tax discount rate derived from the WACC for the refining business, reflecting a specific risk premium for the postponed project.

f2) Second refining unit in RNEST – 2018

The impairment assessment over the second refining unit in RNEST resulted in the recognition an impairment loss amounting to US\$ 22, as its start-up was postponed by five months. The real discount rate applied was 7.3% p.a. post-tax discount rate derived from the WACC for the refining business, reflecting a specific risk premium for the postponed project.

f3) Second refining unit in RNEST - 2017

An impairment loss of US\$ 464 was recognized for the second refining unit in RNEST. Cash flow projections were based on: financial budgets/forecasts approved by Management; and an 7.7% p.a. post-tax discount rate (excluding inflation)

derived from the WACC for the refining business, reflecting a specific risk premium for the postponed project. The impairment loss was mainly attributable to: (i) higher costs of raw materials and ii) lower refining margin, as set forth in BMP 2018-2022.

g1) Oil and gas production and drilling equipment abroad - 2019

In January 2020, the sale of drillship Sonda Vitória 10,000 (NS-30), owned by Drill Ship International B.V. - DSI, a subsidiary of PIB BV, was closed. Thus, impairment losses in the amount of US\$ 333 were recognized, due to the difference between the expected sale value and its carrying amount.

h1) Producing properties abroad – 2018

The Company recognized an impairment loss in the amount of US\$ 715 with respect to producing properties of oil and gas activities in the Gulf of Mexico. The impairment loss was primarily driven by changes in operational assumptions and discount rate considering the terms of the agreement between the Company and Murphy Oil Corporation in order to establish a joint venture through such assets.

h2) Producing properties abroad – 2017

In 2017, impairment losses of US\$ 128 were recognized for E&P assets located in the United States, principally reflecting the expected cessation of production and definitive abandonment of operation in Hadrian South field. Cash flow projection were based on: financial budgets/forecasts approved by Management; 5.7% p.a. post-tax real discount rate (5.5% p.a. in 2016) derived from the WACC for the E&P business in United States.

i) GASFOR II – 2018

Management decided to halt the development of the GASFOR II project, carried out by TAG, for an extended period. Accordingly, this asset was excluded from the Natural Gas CGU and its impairment test was performed separately. Due to its halt, it is not possible to estimate future cash flows arising from the use of this asset, resulting in the recognition of impairment losses in the amount equal to the carrying amount thereof (US 59).

j) Fertilizer Plants - 2017

The Company decided to halt its operations in the fertilizer plants Camaçari-BA (FAFEN-BA) and Laranjeiras-SE (FAFEN-SE), following its plans to optimize its investment portfolio as set out in BMP 2018-2022, thereby, being removed from the Gas & Power CGU, assessed for impairment separately and their cash flow projections for the period covered by the BMP 2018-2022 were not able to be estimated. Accordingly, an impairment loss amounting to US\$ 412 was recognized in 2017 with respect to these fertilizer plants.

k) Panamax vessels – Transpetro - 2017

In December 2017, the decision to hibernate the construction of three vessels of PANAMAX project (EI-512, EI-513 and EI-514) triggered their removal from the Transpetro's fleet of vessels CGU. These assets were assessed for impairment separately and, as a result, the Company accounted for an impairment loss for the total carrying amounts of these assets (US\$ 112).

l) Araucária - 2017

Indications of impairment were identified during this period, such as lower sales volume and prices, as well as higher production costs. Therefore, the Company assessed the related assets for impairment and, as a result, an impairment charge of US\$ 70 was recognized primarily in the second quarter of 2017 due to negative cash flow projections that were based on financial budget and forecasts approved by the management and a post-tax real discount rate of 6.6% p.a. derived for the weighted average cost of capital (WACC) for the fertilizer business.

i) Conecta and DGM – 2017

Following prices forecast and current agreements of natural gas supply in Uruguay, the Company recognized impairment losses for intangible assets and property, plant and equipment, in the amount of US\$ 38, with respect to concession agreements for natural gas distribution carried out by the subsidiaries Conecta and DGM.

25.1.1. Assets most sensitive to future impairment

Whenever the recoverable amount of an asset or CGU falls below the carrying amount, an impairment loss is recognized to reduce the carrying amount to the recoverable amount. The following table presents the assets and CGU most sensitives to future impairment losses, presenting recoverable amounts up to 10% higher than their current carrying amount. Changes in material assumptions for impairment testing may result in the recognition of additional impairment charges on such assets in future periods.

	12.31.2019			
	Business segment	Carrying amount	Recoverable amount	Sensitivity (*)
Producing properties relating to oil and gas activities in Brazil (7 CGUs)	E&P	10,149	10,626	(585)
Thermoelectric plants	G&P	1,948	2,051	(102)

(*) It is based on a 10% reduction in the recoverable amount of CGUs.

25.1.2. Accounting policy for impairment of property, plant and equipment and intangible assets

Property, plant and equipment and intangible assets with definitive lives are tested for impairment when there is an indication that the carrying amount may not be recoverable. Assets are assessed for impairment at the smallest identifiable group that generates largely independent cash inflows from other assets or groups of assets (CGU). Note 4.3 presents detailed information about the Company's CGUs.

Assets related to development and production of oil and gas assets (fields or group of fields) that have indefinite useful lives, such as goodwill, are tested for impairment annually, irrespective of whether there is any indication of impairment.

Considering the existing synergies between the Company's assets and businesses, as well as the expectation of the use of its assets for their remaining useful lives, value in use is generally used by the Company for impairment testing purposes. When specifically indicated, the Company assesses differences between its assumptions and assumptions that would be used by market participants in the determination of the fair value of an asset or CGU.

Value in use is estimated based on the present value of the risk-adjusted (for specific risks) future cash flows expected to arise from the continuing use of an asset or cash-generating unit, discounted at pre-tax discount rates obtained from the Company's post-tax weighted average cost of capital (WACC). Cash flow projections are mainly based on the following assumptions: foreign exchange rates and prices based on the Company's most recent strategic plan; production curves associated with existing projects in the Company's portfolio, operating costs reflecting current market conditions, and investments required for carrying out the projects.

Reversal of previously recognized impairment losses may occur for assets other than goodwill.

25.2. Assets classified as held for sale

In 2019, as a result of the Company's Board of Director approvals for the sale of several assets of the E&P segment, according to note 30, the Company recognized reversals in the amount of US\$ 558, considering the net fair value of disposal expenses, mainly in the following assets:

- . Pampo and Enchova Project - 10 concessions located in shallow waters in the Campos Basin with impairment reversal of US\$ 494 in Badejo, Bicudo, Linguado, Pampo and Trilha fields;

. Bispo Project – impairment reversal in the amount of US\$ 84 in Frade field;

. Mangalarga 2 Project - impairment reversal in the amount of US\$ 67 in Maromba field;

. PO&G B.V. – Sale of Petrobras Oil & Gas B.V. (PO & GBV), a subsidiary of PIB BV, with impairment losses in the amount of US\$ 89;

In 2018, following the Company's Board of Director approvals for the disposal of certain assets, impairment reversals were accounted for amounting to US\$ 115 for assets held for sale, including the effects arising from the sale of onshore producing fields located in Potiguar basin.

In 2017, impairment losses amounting to US\$ 355 on assets held for sale were primarily attributable to the sale of 25% interest in Roncador field.

The accounting policy for assets and liabilities held for sale is set out in note 30.4.

25.3. Investments in associates and joint ventures (including goodwill)

Value in use is generally used for impairment test of investments in associates and joint ventures (including goodwill). The basis for estimates of cash flow projections includes: projections covering a period of 5 to 12 years, zero-growth rate perpetuity, budgets, forecasts and assumptions approved by management and a post-tax discount rate derived from the WACC or the Capital Asset Pricing Model (CAPM), when applicable.

25.3.1. Accounting policy for impairment of associates and joint ventures

Investments in associates and joint ventures are tested individually for impairment. When performing impairment testing of an equity-accounted investment, goodwill, if it exists, is also considered part of the carrying amount to be compared to the recoverable amount.

Except when specifically indicated, value in use is generally used by the Company for impairment testing purposes in proportion to the Company's interests in the present value of future cash flow projections via dividends and other distributions.

25.3.2. Investment in publicly traded associate

Braskem S.A.

Braskem's shares are publicly traded on stock exchanges in Brazil and abroad. As of December 31, 2019, the quoted market value of the Company's investment in Braskem was US\$ 2,223 based on the quoted values of both Petrobras' interest in Braskem's common stock (47% of the outstanding shares), and preferred stock (22% of the outstanding shares). However, there is extremely limited trading of the common shares, since non-signatories of the shareholders' agreement hold only approximately 3% of the common shares.

Given the operational relationship between Petrobras and Braskem, the recoverable amount of the investment for impairment testing purposes was determined based on value in use, considering future cash flow projections and the manner in which the Company can derive value from this investment via dividends and other distributions to arrive at its value in use. As the recoverable amount was higher than the carrying amount, no impairment losses were recognized for this investment.

Cash flow projections to determine the value in use of Braskem were based on the following key assumptions:

- Estimated average exchange rate of R\$ 3.85 to U.S.\$1.00 in 2019 (converging to R\$ 3.60 in the long-term);
- Average Brent crude oil price at US\$ 65 in 2020, same price in the long-term;

- Prices of feedstock and petrochemical products reflecting projected international prices;
- Petrochemical products sales volume estimates reflecting projected Brazilian and global G.D.P growth;
- Post-tax real discount rate (excluding inflation) of 8.9%p.a., considering cash flows from dividends; and
- Increases in the EBITDA margin during the growth cycle of the petrochemical industry in the next years and declining in the long-term.

BR Distribuidora

In July 2019, Petrobras further reduced its stake in BR Distribuidora in a follow-on secondary offering of its shares, following which BR Distribuidora became an associate. The equity-accounted investment in BR Distribuidora at December 31, 2019 amounted to US\$ 2,684, equivalent to US\$ 6.14 (R\$ 24.76) per common share. Information on the market value since the date of the transaction presents the following values per common share:

- On December 30, 2019 – US\$ 7.46
- Average through the period – US\$ 6.87
- Highest quotation in the period – US\$ 7.55 (December 27, 2019)
- Lowest quotation in the period – US\$ 6.45 (July 23, 2019)

As the fair value of BR is higher than the investment accounted for on the period, the Company estimate this investment is recoverable.

25.3.3. Investments in state-controlled natural gas distributors

In 2019, impairment assessments on investments in state-controlled natural gas distributors did not give rise to any indication that these assets would be impaired, which carrying amount is US\$ 1,313. Post-tax real discount rate (excluding inflation) used in such assessment was 5.3% p.a..

25.3.4. Impairment losses on equity-method investments

In 2019, the Company recognized an impairment loss of US\$ 4 as results in equity-accounted investments.

In 2018, the Company accounted for a US\$ 28 reversal of impairment losses previously recognized as results in equity-accounted investments, substantially attributable to POGBV and Riograndense refinery (RPR).

In 2017, the Company recognized an impairment loss of US\$ 20 as results in equity-accounted investments, substantially attributable to the investees Logum, Belém Bioenergia Brasil and Refinaria de Petróleo Riograndense.

26. Exploration and evaluation of oil and gas reserves

The exploration and evaluation activities include the search for oil and gas reserves from obtaining the legal rights to explore a specific area to the declaration of the technical and commercial viability of the reserves.

Changes in the balances of capitalized costs directly associated with exploratory wells pending determination of proved reserves and the balance of amounts paid for obtaining rights and concessions for exploration of oil and natural gas (capitalized acquisition costs) are set out in the following table:

Capitalized Exploratory Well Costs / Capitalized Acquisition Costs (*)	12.31.2019	12.31.2018
Property plant and equipment		
Opening Balance	4,132	4,522
Additions to capitalized costs pending determination of proved reserves	510	379
Capitalized exploratory costs charged to expense	(216)	(10)
Transfers upon recognition of proved reserves	-	(95)
Cumulative translation adjustment	(164)	(664)
Closing Balance	4,262	4,132
Intangible Assets (**)	18,919	1,980
Capitalized Exploratory Well Costs / Capitalized Acquisition Costs	23,181	6,112

(*) Amounts capitalized and subsequently expensed in the same period have been excluded from this table.

(**) The signature bonuses related to the results of the 16th ANP bidding round and Surplus Oil of Transfer of Rights Agreement are described in note 24.

Exploration costs recognized in the statement of income and cash used in oil and gas exploration and evaluation activities are set out in the following table:

	2019	2018 Reclassified	2017 Reclassified
Exploration costs recognized in the statement of income			
Geological and geophysical expenses	477	330	361
Exploration expenditures written off (includes dry wells and signature bonuses)	308	87	279
Contractual penalties	4	91	152
Other exploration expenses	10	16	8
Total expenses	799	524	800
Cash used in :			
Operating activities	485	346	371
Investment activities	17,265	1,273	1,794
Total cash used	17,750	1,619	2,165

For the year ended December 31, 2019, the Company recognized a provision in the amount of US\$ 4 (US\$ 91 in US\$ 2018 and US\$ 152 in 2017) arising from potential contractual penalties for non-compliance with minimum percentages of local content in 125 blocks for which the exploratory phases were concluded.

26.1. Accounting policy for exploration and evaluation of oil and gas reserves

The costs incurred in connection with the exploration, appraisal and development of crude oil and natural gas production are accounted for using the successful efforts method of accounting, as set out below:

- Geological and geophysical costs related to exploration and appraisal activities incurred until economic and technical feasibility can be demonstrated are expensed.

- Amounts paid for obtaining concessions for exploration of crude oil and natural gas (capitalized acquisition costs) are initially capitalized as intangible assets and are transferred to property, plant and equipment once the technical and commercial feasibility can be demonstrated.

· Costs directly attributable to exploratory wells, including their equipment and installations, pending determination of proved reserves are capitalized within property, plant and equipment. In some cases, exploratory wells have discovered oil and gas reserves, but at the moment the drilling is completed they are not yet able to be classified as proved. In such cases, the expenses continue to be capitalized if the well has found a sufficient quantity of reserves to justify its completion as a producing well and progress on assessing the reserves and the economic and operating viability of the project is under way. An internal commission of technical executives of the Company reviews these conditions monthly for each well, by analysis of geoscience and engineering data, existing economic conditions, operating methods and government regulations. For additional information on proved reserves estimates, see note 4.1.

· Costs related to exploratory wells drilled in areas of unproved reserves are charged to expense when determined to be dry or uneconomic by the aforementioned internal commission.

· Costs related to the construction, installation and completion of infrastructure facilities, such as drilling of development wells, construction of platforms and natural gas processing units, construction of equipment and facilities for the extraction, handling, storing, processing or treating crude oil and natural gas, pipelines, storage facilities, waste disposal facilities and other related costs incurred in connection with the development of proved reserve areas are capitalized within property, plant and equipment.

26.2. Aging of Capitalized Exploratory Well Costs

The following tables set out the amounts of exploratory well costs that have been capitalized for a period of one year or more after the completion of drilling, the number of projects whose costs have been capitalized for a period greater than one year, and an aging of those amounts by year (including the number of wells relating to those costs):

Aging of capitalized exploratory well costs (*)

	2019	2018
Exploratory well costs capitalized for a period of one year	219	85
Exploratory well costs capitalized for a period greater than one year	4,043	4,047
Total capitalized exploratory well costs	4,262	4,132
Number of projects relating to exploratory well costs capitalized for a period greater than one year	43	49

	Capitalized costs (2019)	Number of wells
2018	54	1
2017	48	1
2016	292	4
2015	852	14
2014 and previous years	2,797	46
Exploratory well costs that have been capitalized for a period greater than one year	4,043	66

(*) Amounts paid for obtaining rights and concessions for exploration of oil and gas (capitalized acquisition costs) are not included.

Exploratory well costs that have been capitalized for a period greater than one year since the completion of drilling amount to US\$ 4,047. Those costs relate to 43 projects comprising (i) US\$3,834 for wells in areas in which there has been ongoing drilling or firmly planned drilling activities in the near term and for which an evaluation plan (“*Plano de Avaliação*”) has been submitted for approval by ANP; and (ii) US\$213 relate to costs incurred to evaluate the reserves and their potential development.

27. Collateral for crude oil exploration concession agreements

The Company has granted collateral to ANP in connection with the performance of the Minimum Exploration Programs established in the concession agreements for petroleum exploration areas in the total amount of US\$ 2,801 of which US\$ 2,042 were still in force as of December 31, 2019, net of commitments undertaken. The collateral comprises crude

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oil from previously identified producing fields, pledged as collateral, amounting to US\$ 1,639 and bank guarantees of US\$ 403.

28. Joint ventures in E&P activities

In line with its strategic objectives, Petrobras operates in association with other companies in joint ventures in Brazil as holder of oil and natural gas exploration and production rights in concessions and production sharing regimes.

As of December 31, 2019, the Company holds interests in 112 joint ventures in partnership with 42 partners, among which Petrobras is the operator in 64 (in 2018, 124 joint ventures, with 44 partners and operator in 72). The partnerships formed in 2018 and 2019 are described below:

Consortium	Location	% Petrobras	% Partners	Operator	Year	Additional Information	ANP Bonus Petrobras portion
Tartaruga Verde Módulo III Espadarte Búzios	Campos Basin Santos basin pre-salt	50%	Petronas – 50%	Petrobras	2019	Concession – Disposal of 50% to Petronas	N/A
C-M-477	Campos Basin	70%	BP – 30%	Petrobras	2019	Concession - 16 ^a ANP Bidding Round	348
Aram	Santos basin pre-salt	80%	CNODC – 20%	Petrobras	2019	Production sharing - 6 ^a ANP Bidding Round	982
Roncador	Campos Basin	75%	Equinor – 25%	Petrobras	2018	Concession – Disposal of 25% to Equinor	N/A
Uirapuru	Santos basin pre-salt	30%	ExxonMobil – 28% Equinor – 28% Petrogal – 14%	Petrobras	2018	Production sharing - 4 ^a ANP Bidding Round	201
Dois Irmãos	Campos basin pre-salt	45%	BP – 30% Equinor – 25%	Petrobras	2018	Production sharing - 4 ^a ANP Bidding Round	46
Três Marias	Santos basin pre-salt	30%	Shell – 40% Chevron – 30%	Petrobras	2018	Production sharing - 4 ^a ANP Bidding Round	8
C-M-657	Campos Basin	30%	Exxon – 40% Equinor – 30%	Petrobras	2018	Concession - 15 ^a ANP Bidding Round	162
C-M-709	Campos Basin	40%	Exxon – 40% Equinor – 20%	Petrobras	2018	Concession - 15 ^a ANP Bidding Round	152
C-M-789	Campos Basin	30%	Exxon – 40% Qatar – 30%	Exxon	2018	Concession - 15 ^a ANP Bidding Round	215
C-M-753	Campos Basin	30%	Exxon – 40% Qatar – 30%	Exxon	2018	Concession - 15 ^a ANP Bidding Round	25
POT-M-859 POT-M-952	Potiguar basin	60%	Shell – 40%	Petrobras	2018	Concession - 15 ^a ANP Bidding Round	5
Lapa (BM-S-9A)	Santos basin pre-salt	10%	Total – 35% Shell – 30% Repsol Sinopec – 25%	Total	2018	Concession - Disposal of 35% to Total	N/A
Iara (BM-S-11A)	Santos basin pre-salt	42,50%	Shell – 25% Total – 22,50% Petrogal – 10%	Petrobras	2018	Concession - Disposal of 22,50% to Total	N/A

Partnerships brings benefits through risk sharing, increased investment capacity, technical and technological interchange, aiming at the growth in oil and gas production. The following table presents the production referring to Petrobras's participation in the joint ventures in which it is an operator:

Field	Location	% Petrobras	% Partners	Operator	Petrobras production portion in 2019 (boed)	Regime
Lula	Santos basin pre-salt	67,50%	Shell – 23,2% Petrogal – 9,3%	Petrobras	768.225	Concession
Roncador	Campos basin	75%	Equinor – 25%	Petrobras	144.870	Concession
Sapinhoá	Santos basin pre-salt	45%	Shell – 30% Repsol Sinopec – 25%	Petrobras	134.666	Concession
Albacora Leste	Campos basin	90%	Repsol Sinopec – 10%	Petrobras	20.010	Concession
Mero	Santos basin pre-salt	40%	Total – 20% Shell – 20% CNOOC – 10% CNOOC – 10%	Petrobras	17.326	Production sharing
Papa-Terra	Campos basin	62,50%	Chevron – 37,5%	Petrobras	10.911	Concession
Manati	Camamu basin	35%	Enauta Energia S.A. – 45% Brasoil – 10% Geopark – 10%	Petrobras	7.903	Concession
Berbigão	Santos basin pre-salt	42,50%	Shell – 25% Total – 22,5% Petrogal – 10%	Petrobras	765	Concession

28.1. Accounting policy for joint operations

The E&P partnerships are classified as joint operations, where the Company recognizes according to its interests: i) its assets, including its stake in any assets held jointly ii) its liabilities, including its stake in any liabilities assumed jointly; iii) its sales revenues corresponding to the proportion of its participation in the production resulting from the joint operation; iv) its portion on sales revenues realized directly by the joint operation; and v) its expenses, including the portion of any expenses incurred together.

Assets, liabilities, revenues and expenses relating to the participation in a joint operation are accounted for in accordance with the specific accounting policies applicable to assets, liabilities, revenues and expenses.

28.2. Unitization Agreements

Since 2018, Petrobras has entered into Production Individualization Agreements (*Acordos de Individualização da Produção* - AIPs) with Pré-Sal Petróleo S.A. (PPSA) and the Company's partners (Shell, Petrogal, Repsol and Total) in certain E&P consortiums, submitting these agreements to ANP for approval. As of December 31, 2019, a US\$ 113 provision is accounted for within other current liabilities. These agreements provide for cost equalization and production volumes referring to the Berbigão, Sururu, Atapu and Albacora Leste fields. During 2019, Petrobras paid US\$ 92 relating to these agreements.

The table below presents the effects of the agreements:

	12.31.2019	12.31.2018
Opening balance	159	49
Additions/(Write-offs) on PP&E	50	(62)
Indexation charges	4	2
Payments made	(92)	(100)
Other income and expenses	(2)	279
Cumulative translation adjustments	(6)	(9)
Closing balance	113	159

28.3. Accounting Policy for unitization agreements

A unitization agreement occurs when a reservoir extends across two or more license or contract areas. In this case, partners pool their individual interests in return for an interest in the overall unit and determine their new stake in the single producing unit.

Events that occurred prior to the unitization agreement may lead to the need for compensation between the partners. At the signing of the AIP, an amount to be reimbursed to the Company will be recognized as an asset only when there is a contractual right to reimbursement or when the reimbursement is practically certain. An amount to be reimbursed by the Company will be recognized as a liability when it derives from a contractual obligation or, when the outflow of funds is deemed probable and the amount can be reliably estimated.

29. Investments

29.1. Information on direct subsidiaries, joint arrangements and associates

	Main business segment	% Petrobras' ownership	% Petrobras' voting rights	Shareholders' equity (deficit)	Net income (loss) for the year	Country
Subsidiaries						
Petrobras Internacional Braspetro - PIB BV (i)	Several	100.00	100.00	41,150	2,350	Netherlands
Petrobras Transporte S.A. - Transpetro	RT&M	100.00	100.00	884	155	Brazil
Petrobras Logística de Exploração e Produção S.A. - PB-LOG	E&P	100.00	100.00	907	232	Brazil
Petrobras Gás S.A. - Gaspetro	Gas & Power	51.00	51.00	538	89	Brazil
Petrobras Biocombustível S.A.	Corporate,others	100.00	100.00	314	62	Brazil
Liquigás Distribuidora S.A.	RT&M	100.00	100.00	243	31	Brazil
Araucária Nitrogenados S.A.	Gas & Power	100.00	100.00	(69)	(138)	Brazil
Termomacaé Ltda.	Gas & Power	100.00	100.00	104	40	Brazil
Braspetro Oil Services Company - Brasoil (i)	Corporate,others	100.00	100.00	107	1	Cayman
Breitener Energética S.A.	Gas & Power	93.66	93.66	177	(17)	Brazil
Termobahia S.A.	Gas & Power	98.85	98.85	155	20	Brazil
Baixada Santista Energia S.A.	Gas & Power	100.00	100.00	76	3	Brazil
Petrobras Comercializadora de Energia Ltda. - PBEN	Gas & Power	100.00	100.00	26	5	Brazil
Fundo de Investimento Imobiliário RB Logística - FII	E&P	99.20	99.20	22	12	Brazil
Petrobras Negócios Eletrônicos S.A. - E-Petro	Corporate,others	100.00	100.00	11	2	Brazil
Termomacaé Comercializadora de Energia Ltda	Gas & Power	100.00	100.00	3	-	Brazil
5283 Participações Ltda.	Corporate,others	100.00	100.00	-	-	Brazil
Transportadora Brasileira Gasoduto Bolívia - Brasil S.A. - TBG	Gas & Power	51.00	51.00	142	53	Brazil
Joint operations						
Fábrica Carioca de Catalizadores S.A. - FCC	RT&M	50.00	50.00	59	12	Brazil
Ibiritermo S.A.	Gas & Power	50.00	50.00	32	8	Brazil
Joint ventures						
Loquim Logística S.A.	RT&M	30.00	30.00	259	(19)	Brazil
Cia Energética Manauara S.A.	Gas & Power	40.00	40.00	49	7	Brazil
Petrocoque S.A. Indústria e Comércio	RT&M	50.00	50.00	48	18	Brazil
Refinaria de Petróleo Rioquandense S.A.	RT&M	33.20	33.20	19	8	Brazil
Brasympe Energia S.A.	Gas & Power	20.00	20.00	19	3	Brazil
Brentech Energia S.A.	Gas & Power	30.00	30.00	23	1	Brazil
Metanol do Nordeste S.A. - Metanor	RT&M	34.54	34.54	12	5	Brazil
Eólica Manque Seco 1 - Geradora e Comercializadora de Energia Elétrica	Gas & Power	49.00	49.00	5	-	Brazil
Eólica Manque Seco 2 - Geradora e Comercializadora de Energia Elétrica	Gas & Power	51.00	51.00	9	-	Brazil
Eólica Manque Seco 3 - Geradora e Comercializadora de Energia Elétrica	Gas & Power	49.00	49.00	10	-	Brazil
Eólica Manque Seco 4 - Geradora e Comercializadora de Energia Elétrica	Gas & Power	49.00	49.00	11	1	Brazil
Companhia de Coque Calcinado de Petróleo S.A. - Coquepar	RT&M	45.00	45.00	-	-	Brazil
Participações em Complexos Bioenergéticos S.A. - PCBIOS	Corporate,others	50.00	50.00	-	-	Brazil
Associates						
Sete Brasil Participações S.A. (Iii)	E&P	5.00	5.00	(6,662)	(29)	Brazil
Fundo de Investimento em Participações de Sondas - FIP Sondas	E&P	4.59	4.59	-	-	Brazil
Braskem S.A. (iv)	RT&M	36.20	47.03	1,840	70	Brazil
UEG Araucária Ltda.	Gas & Power	18.80	18.80	83	(22)	Brazil
Petrobras Distribuidora S.A. - BR (iv)	Corporate,others	37.50	37.50	2,382	313	Brazil
Transportadora Associada de Gás S.A. - TAG	Gas & Power	10.00	10.00	2,438	535	Brazil
Deten Química S.A.	RT&M	27.88	27.88	124	19	Brazil
Energética SUAPE II	Gas & Power	20.00	20.00	99	37	Brazil
Termoelétrica Potiquar S.A. - TEP	Gas & Power	20.00	20.00	55	8	Brazil
Nitroclor Ltda.	RT&M	38.80	38.80	-	-	Brazil
Bioenergética Britarumã S.A.	Gas & Power	30.00	30.00	-	-	Brazil
Nova Transportadora do Sudeste - NTS	Gas & Power	10.00	10.00	655	562	Brazil
GNL Gemini LTDA	Gas & Power	40.00	40.00	33	1	Brazil

(i) Companies abroad with financial statements prepared in foreign currencies.

(ii) Cover segments abroad in E&P, RTM and Gas & Power segments.

(iii) Despite the negative amount of net assets, allowance for losses was not recognized as the Company's obligations with Sete Brasil are limited to the investments made in this associate.

(iv) Equity and net income at September 30, 2019, most current public information.

In 2019, the Company had the following corporate restructuring:

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i) Petrobras Distribuidora S.A. (BR) and Transportadora Associada de Gás S.A. (TAG) became associates.

ii) Petrobras Logística de Gás (Logigás) was incorporated in Petrobras and Petrobras Netherlands B.V. (PNBV) became a subsidiary of PIB BV.

iii) Petrobras holds now direct interest in Transportadora Brasileira Gasoduto Bolívia - Brasil S.A. and GNL Gemini LTDA and Transportadora Sulbrasileira de Gás S.A., former subsidiaries of Logigás.

The main investees of PIB BV are the wholly-owned subsidiaries Petrobras Global Trading B.V. – PGT (in the Netherlands), Petrobras Global Finance B.V. – PGF (Netherlands); Petrobras America Inc. – PAI (United States), and PNBV (Netherlands). PGT is dedicated to the trade of oil, oil products, biofuels and LNG (liquefied natural gas), as well as to the funding of its activities in light of Petrobras Group. PGF is the finance subsidiary of Petrobras Group, raising funds through bonds issued in the international capital market. PAI is dedicated to E&P (MP Gulf of Mexico, LLC). PNBV operates through joint operations in Tupi BV (65%), Guará BV (45%), Agri Development BV (90%), Libra (40%), Papa Terra BV (62.5%), Roncador BV (75%), Iara BV (42.5%) and Lapa BV (10%). They are dedicated to construction and lease of equipment and platforms for Brazilian E&P consortia and are incorporated under the law of the Netherlands. PNBV's interests in these entities comprise the voting shares.

Gaspetro holds interests in several natural gas distributors in Brazil that carry out, by means of concessions, public service of distribution of piped natural gas.

29.2. Investments in associates and joint ventures

	Balance at 12.31.2018	Investments	Transfer to assets held for sale	Restructuring, capital decrease and others (*)	Results in equity- accounted investments	CTA	OCI	Dividends	Balance at 12.31.2019
Joint Ventures	1,170	31	(6)	28	205	(21)	-	(215)	1,192
MP Gulf of Mexico, LLC	622	-	-	-	83	-	-	(128)	577
State-controlled natural gas	308	-	-	49	87	(12)	-	(52)	380
Compañía Mega S.A. - MEGA	78	-	-	-	10	1	-	(10)	79
Other joint ventures	162	31	(6)	(21)	25	(10)	-	(25)	156
Associates									
Nova Transportadora do Sudeste	263	-	-	(16)	56	(9)	-	(55)	239
Transportadora Associada de Gás S.A.	-	-	-	306	11	(15)	10	(29)	283
Others Associates (**)	1,310	7	(6)	2,672	(119)	(86)	59	(57)	3,780
Other investments	16	-	-	(10)	-	(1)	-	-	5
Total	2,759	38	(12)	2,980	153	(132)	69	(356)	5,499

(*) It includes the transfer of the 10% remaining interest in TAG and the 37.5% remaining interest in BR Distribuidora to Associates (previously consolidated)

(**) It includes Petrobras Distribuidora and Braskem.

29.3. Investments in non-consolidated listed companies

Associate	Thousand-share lot		Type	Quoted stock exchange prices (US\$ per share)		Market value	
	12.31.2019	12.31.2018		12.31.2019	12.31.2018	12.31.2019	12.31.2018
Associate							
Petrobras Distribuidora	1,165,000	1,165,000	Common	7.46	6.39	8,691	7,447
						8,691	7,447
Associate							
Braskem S.A.	212,427	212,427	Common	8	12	1,662	2,495
Braskem S.A.	75,762	75,762	Preferred A	7	12	561	926
						2,223	3,421

The market value of these shares does not necessarily reflect the realizable value upon sale of a large block of shares.

On June 4, 2019, the Company was informed by Odebrecht S.A that the negotiations with LyondellBasell for a potential transaction involving the transfer of Odebrecht's entire interest in Braskem had not succeeded.

Information on the main estimates used in the cash flow projections to determine the value in use of Braskem is set out in Note 25.3.

29.4. Non-controlling interest

The total amount of non-controlling interest at December 31, 2019 is US\$ 892 (US\$ 1,631 in 2018) primarily comprising US\$ 263 of Gaspetro (US\$ 255 in 2018), US\$ 70 of Transportadora Brasileira Gasoduto Brasil-Bolívia – TBG (US\$ 65 in 2018), and US\$ 203 refer to Consolidated Structured Entities (US\$ 206 in 2018).

Condensed financial information is set out as follows:

	Gaspetro		Consolidated Structured entities (*)		FIDC		TBG		BR Distribuidor a
	2019	2018	2019	2018	2019	2018	2019	2018	2018
	Current assets	91	79	793	826	16,377	6,622	154	174
Long-term receivables	61	58	586	781	-	-	-	1	1,609
Investments	380	360	-	-	-	-	-	-	9
Property, plant and equipment	1	1	-	-	-	-	430	463	1,496
Other non-current assets	73	76	-	-	-	-	3	2	123
	606	574	1,379	1,607	16,377	6,622	587	640	6,541
Current liabilities	40	26	8	75	6	4	105	173	1,177
Non-current liabilities	28	29	1,104	1,326	-	-	340	334	2,864
Shareholders' equity	538	519	267	206	16,371	6,618	142	133	2,500
	606	574	1,379	1,607	16,377	6,622	587	640	6,541
Sales revenues	136	114	-	-	-	-	426	425	26,753
Net income	89	74	41	(142)	910	489	180	160	874
Increase (decrease) in cash and cash equivalents	7	(7)	16	128	786	(181)	3	7	704

Gaspetro, a Petrobras' subsidiary, holds interests in several state distributors of natural gas in Brazil. The Company holds 51% of interests in this indirect subsidiary.

TBG is an indirect subsidiary which operates in natural gas transmission activities mainly through Bolivia-Brazil Gas Pipeline. The Company holds 51% of interests in this indirect subsidiary.

Structured entities include Charter Development LLC – CDC, dedicated to construct, acquirer and charter FPSOs, and Companhia de Desenvolvimento e Modernização de Plantas Industriais – CDMPI, which is dedicated to coking and hydrotreating of coke naptha from Henrique Lage refinery (REVAP).

On May 22, 2019, the Company's Board of Directors approved the sale of a further portion of its interest in Petrobras Distribuidora (BR), carried out through a secondary public offering (follow-on). After the closing of this operation, in July 25, Petrobras's interest in BR's capital stock was reduced to 37.50%, and, Petrobras is no longer the controlling shareholder of BR. For more information see note 30.

29.5. Summarized information on joint ventures and associates

The Company invests in joint ventures and associates in Brazil and abroad, whose activities are related to petrochemical companies, gas distributors, biofuels, thermoelectric power plants, refineries and other activities. Condensed financial information is set out below:

	2019				2018			
	Joint ventures		Associates		Joint ventures		Associates	
	In Brazil	MP Gulf of Mexico, LLC	Other companies abroad	Other companies in Brazil	In Brazil	MP Gulf of Mexico, LLC	Other companies abroad	Other companies in Brazil
Current assets	1,147	372	165	9,226	1,162	151	158	6,314
Non-current assets	486	-	5	4,880	520	-	10	1,388
Property, plant and equipment	641	3,131	48	20,210	866	3,643	45	12,932
Other non-current assets	634	-	-	1,579	633	-	1	863
	2,908	3,503	218	35,895	3,181	3,794	214	21,497
Current liabilities	790	237	74	6,751	1,163	86	72	6,159
Non-current liabilities	808	373	19	28,878	673	599	23	17,566
Shareholders' equity	1,270	2,317	79	255	1,354	2,487	79	(2,168)
Non-controlling interest	40	577	46	11	(9)	622	40	(60)
	2,908	3,504	218	35,895	3,181	3,794	214	21,497
Sales revenues	1,610	1,300	-	40,218	3,975	92	136	18,954
Net Income (loss) for the year	246	423	17	2,416	92	48	17	1,888
Ownership interest - %	20 to 51.5%	20%	34 to 45%	4.59 to 40%	20 to 83%	20%	34 to 50%	5 to 49%

29.6. Accounting policy for investments in subsidiaries, joint operations, joint ventures and associates

Basis of consolidation

The consolidated financial statements include the financial information of Petrobras and the entities it controls (subsidiaries), joint operations (at the level of interest the Company has in them) and consolidated structured entities.

Control is achieved when Petrobras: i) has power over the investee; ii) is exposed, or has rights, to variable returns from involvement with the investee; and iii) has the ability to use its power to affect its returns.

Subsidiaries are consolidated from the date on which control is obtained until the date that such control no longer exists, by using accounting policies consistent with those adopted by Petrobras. Note 11 sets out the consolidated entities and other direct investees.

Investments structured through a separate vehicle are set up so that the voting rights, or similar rights, are not the dominant factor to determine who controls the entity. At December 31, 2019, Petrobras controls and consolidates the following structured entities: Charter Development LLC - CDC (U.S.A., E&P); Companhia de Desenvolvimento e Modernização de Plantas Industriais - CDMPI (Brazil, RT&M) and, Fundo de Investimento em Direitos Creditórios Não-padronizados do Sistema Petrobras (Brazil, Corporate).

Intragroup balances and transactions, including unrealized profits arising from intragroup transactions, are eliminated in the consolidation of the financial statements.

Investments in other companies

An associate is an entity over which the Company has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee but not the ability to exercise control or joint control over those policies. The definition of control is set out in note 4.1.

A joint arrangement is an arrangement over which two or more parties have joint control (pursuant to contractual provisions). A joint arrangement is classified either as a joint operation or as a joint venture depending on the rights and obligations of the parties to the arrangement.

In a joint operation, the parties have rights to the assets and obligations for the liabilities related to the arrangement, while in a joint venture the parties have rights to the net assets of the arrangement. Some of the Company's activities in the E&P segment are conducted through joint operations.

Profit or loss, assets and liabilities related to joint ventures and associates are accounted for by the equity method. In a joint operation the Company recognizes the amount of its assets, liabilities and related income and expenses.

Accounting policies of joint ventures and associates have been adjusted, where necessary, to ensure consistency with the policies adopted by Petrobras. Distributions received from an investee reduce the carrying amount of the investment.

Business combination and Goodwill

A business combination is a transaction in which the acquirer obtains control of another business, regardless its legal form. Acquisitions of businesses are accounted for using the acquisition method when control is obtained. Combinations of entities under common control are accounted for at cost. The acquisition method requires that the identifiable assets acquired and the liabilities assumed be measured at the acquisition-date fair value, with limited exceptions.

Goodwill is measured as the excess of the aggregate amount of: (i) the consideration transferred; (ii) the amount of any non-controlling interest in the acquiree; and (iii) in a business combination achieved in stages, the fair value of the acquirer's previously held equity interest in the acquiree at the acquisition-date; over the net of the amounts of the identifiable assets acquired and the liabilities assumed. When this aggregate amount is lower than the net of the amounts of the identifiable assets acquired and the liabilities assumed, a gain on a bargain purchase is recognized in the statement of income.

Changes in ownership interest in subsidiaries that do not result in loss of control of the subsidiary are equity transactions. Any excess of the amounts paid/received, including directly attributable costs, over the carrying value of the ownership interest acquired/disposed of is recognized in shareholders' equity as changes in interest in subsidiaries.

30. Disposal of assets and other changes in organizational structure

The Company has an active partnership and divestment portfolio, which takes into account opportunities for disposal of non-strategic assets in several areas in which it operates. The partnerships provide for the sharing and development of new technologies, strengthening corporate governance, and sharing future risks and investments. The divestment and partnership portfolio is dynamic, since the development of transactions also depends on conditions beyond the control of the Company. The divestment projects and strategic partnerships follow the procedures aligned with the guidelines of the Brazilian Federal Auditor's Office (*Tribunal de Contas da União – TCU*) and the current legislation. In 2019, partnerships and divestments resulted in US\$ 10,413 million of cash inflows to the Company.

The major classes of assets and liabilities classified as held for sale are shown in the following table:

	Operating segment			12.31.2019	12.31.2018
	E&P	RT&M	Corporate	Total	Total
Assets classified as held for sale					
Cash and Cash Equivalents	1	4	-	5	40
Trade receivables	1	67	-	68	39
Inventories	-	13	-	13	47
Investments	351	4	-	355	973
Property, plant and equipment	1,773	273	-	2,046	745
Others	-	77	-	77	102
Total	2,126	438	-	2,564	1,946
Liabilities on assets classified as held for sale					
Trade Payables	-	27	-	27	1
Finance debt	-	-	142	142	-
Provision for decommissioning costs	2,961	-	-	2,961	932
Dividends	-	-	-	-	-
Pension and medical benefits	-	-	-	-	-
Others	-	116	-	116	50
Total	2,961	143	142	3,246	983

Details on transactions not closed as of December 31, 2019 and, therefore, classified as held for sale are presented as follows.

30.1. Transactions pending closing at December 31, 2019

The corresponding assets and liabilities of this transactions are classified as held for sale as of December 31, 2019.

a) Sale of Petrobras's interest in Petrobras Oil & Gas B.V. (PO&GBV)

On October 31, 2018, the wholly owned subsidiary Petrobras International Braspetro BV (PIBBV) entered into an agreement to sale its 50% interest in PO&GBV to Petrovida Holding B.V. PO&GBV is a joint venture in the Netherlands consisting of assets located in Nigeria. PO&GBV does not operate any of these fields.

In the last quarter of 2019, an impairment losses in the amount of US\$ 89 was accounted for within equity-accounted investments, (an impairment reversal in the amount of US\$ 45, in the last quarter of 2018, following the signing of the agreement).

On January 14, 2020, the transaction was closed, in the amount of US\$ 1,454, reflecting price adjustments and the deduction of Petrobras' portion from the payment of fees to the Nigerian Government for approval of the transaction. From this total, Petrobras has received US\$ 1,030 as dividends from PO&GBV, since the beginning of the transaction (January 1, 2018). At the closing, the Company received US\$ 276, with an additional US\$ 25 to be received up to June 30, 2020, and the remaining US\$ 123 to be received as soon as the Abgami field redetermination process is implemented.

b) Strategic alliance with Total

Petrobras and Total have a Strategic Alliance based on a master agreement signed in 2016. In 2018, the Company exercised a put option, transferring its remaining 10% stake in Lapa field to Total, in block BM-S-9, as provided in the contract signed in January 2018. This transaction amounts to US\$ 50 and is still subject to some conditions precedent.

With respect to the sale of the Company's 50% interest in Termobahia S.A, including the power plants Termobahia (former Celso Furtado) and Termocamaçari (former Rômulo Almeida), as set out in the master agreement signed in 2016, there is no expectation that the negotiation will be concluded in the next 12 months. Thus, these assets are no longer classified as held for sale.

c) Sale of Baúna field

On July 24, 2019, Petrobras signed a contract for the sale of 100% of its interest in the Baúna field (awarded area BM-S-40), located in shallow waters in the Santos Basin, to Karoon Petróleo & Gás Ltda., a subsidiary of Karoon Energy Ltd. This transaction amounts to US\$ 665, of which US\$ 50 was paid at the signing date and the remaining US\$ 615 will be paid at the closing of this transaction, including price adjustments.

This transaction is subject to customary conditions precedent, such as approval by the Brazilian Agency of Petroleum, Natural Gas and Biofuels (ANP).

d) Sale of Pampo and Enchova groups of fields

On July 24, 2019, Petrobras signed a contract for the sale of 100% of its interest in the Pampo and Enchova groups, located in shallow waters in the Campos Basin, comprising Enchova, Enchova Oeste, Marimbá, Piraúna, Bicudo, Bonito, Pampo, Trilha, Linguado and Badejo fields, to Trident Energy do Brasil LTDA, a subsidiary of Trident Energy L.P. ("Trident Energy").

This transaction amounts to US\$ 851, of which US\$ 53 was paid at the signing date and the remaining US\$ 798 will be paid at the closing of this transaction, including price adjustments.

The transaction closing is subject to the fulfillment of some conditions precedent, such as the approval by the ANP and a license to be issued by the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA).

e) Sale of producing fields in Macau group of fields in the Potiguar Basin

On August 9, 2019, Petrobras signed a contract for the sale of its interest in a set of onshore and offshore producing fields in the Potiguar Basin, denominated the Macau group of fields, located in the state of Rio Grande do Norte, to SPE 3R Petroleum S.A., a wholly owned subsidiary of 3R Petroleum e Participações S.A.

The Macau group comprises the Aratum, Macau, Serra, Salina Cristal, Lagoa Aroeira, Porto Carão and Sanhaçu fields. Petrobras holds a 100% interest in all these concessions, except for the Sanhaçu field, in which it is the operator with a 50% interest, and the remaining 50% interest belongs to Petrogal.

The sale price is US\$ 191, of which US\$ 48 was paid upon signature of the contract and the remaining US\$ 143 will be paid upon transaction closing, including price adjustments.

This transaction is subject to customary conditions precedent, such as approval by the ANP.

f) Disposal of Liqueigás Distribuidora S.A.

On November 19, 2019, Petrobras entered into an agreement with Copagaz and Nacional Gás Butano for the sale of its whole interest in Liqueigás Distribuidora S.A., in the amount of US\$ 918 (R\$ 3.7 billion), to be adjusted according to contract conditions and paid upon transaction closing.

This transaction is subject to customary conditions precedent, such as approval by the Brazilian Antitrust Regulator (CADE).

g) Sale of Frade producing field

On November 28, 2019, Petrobras signed with PetroRio Jaguar Petróleo Ltda., subsidiary of Petro Rio S.A., a contract for the sale of its 30% stake in the Frade field, located in the Campos Basin, north coast of the state of Rio de Janeiro.

The transaction also included the sale of the entire stake held by Petrobras Frade Inversiones S.A. (PFISA), a subsidiary of Petrobras, in the company Frade BV, which owns the offshore assets used in the development of production in Frade field.

The sale price of US\$ 100 comprises US\$ 7.5 paid at the signing of the contract and the remaining at the closing of the transaction, subject to price adjustments. In addition, Petro Rio is subject to pay US\$ 20 conditioned to a potential new discovery of reservoirs in the field.

The transaction closing is subject to the fulfillment of some conditions precedent, such as the approval by the CADE and ANP.

h) Contingent installment of the exploratory block BM-S-8 sale

On July 28, 2016, the Board of Directors of Petrobras approved the disposal of the Company's 66% interest in the exploratory block BM – S-8 to Statoil Brasil Óleo e Gás Ltda, which includes the Bacalhau field (former Carcará area located in the pre-salt of Santos Basin, for the amount of US\$ 2,500.

The first installment (US \$ 1,250) was received on November 22, 2016, and the second installment (US\$ 300) on March 21, 2018.

The third installment (US\$ 950) is still pending the approval of the Production Individualization Agreements (AIP) by the ANP or twelve months after its submission to this agency, what happens first.

30.2. Closed transactions at of December 31, 2019

a) Sale of distributors in Paraguay

On June 26, 2018 the Company entered into a Sale and Purchase Agreement (SPA) related to the sale to Copetrol Group of its entire interest held through its wholly-owned subsidiary Petrobras Internacional Braspetro B.V. (PIB BV) in Petrobras Paraguay Distribución Limited (PPDL UK), Petrobras Paraguay Operaciones y Logística SRL (PPOL) and Petrobras Paraguay Gas SRL (PPG).

On March 8, 2019, this sale was completed after the fulfilment of all conditions precedent and the payment of US\$ 332 to the Company, which includes US\$ 45 of cash and cash equivalents of the companies and US\$ 7 relating to working capital adjustment. This amount sums to the US\$ 49 deposited in an escrow account at the signing date (June 27, 2018). As a result of this transaction, the Company recognized a US\$ 141 gain within other income and expenses. In addition, a US\$ 34 loss relating to cumulative translation adjustment previously recognized in shareholders' equity was reclassified to the statement of income, within other income and expenses, due to the depreciation of the Paraguayan Guarani against the US dollar, accumulated since the acquisition of the investment.

b) Sale of interest in three offshore producing fields in Campos basin

On November 28, 2018, the Company's Board of Directors approved the sale of 100% interest in Pargo, Carapeba and Vermelho fields (the Nordeste group of fields), located in shallow waters on the coast of the state of Rio de Janeiro, to Perenco company, which paid US\$ 74 at the contract signing.

On October 8, 2019, after all conditions precedent had been met, the sale was closed with the additional payment of US\$ 324 to Petrobras, totaling US\$ 398, and the Company recorded a US\$ 787 gain within other income and expenses, mainly due to the reversal of decommissioning costs.

c) Sale of onshore producing fields in Potiguar basin

On December 27, 2018, the Company's Board of Directors approved the sale of its total interest in 34 onshore producing fields, located in Potiguar basin, in the state of Rio Grande do Norte, to the company 3R Petroleum, in the amount of US\$ 453. However, the transaction was not consummated.

Accordingly, the Company promptly reassessed the other offers and accepted PetroRecôncavo's offers in the amount of US\$ 384, which was the second highest amount offered for this sale. Of this amount, US\$ 61 is conditioned on the

extension of the concession to be granted by the ANP and its present value is US\$ 47. The agreement was signed on April 25, 2019, when PetroRecôncavo disbursed US\$ 29 in advance.

On December 9, 2019, the transaction was closed after the fulfilment of all conditions precedent, with the payment of additional US\$ 266 to Petrobras. Additionally, Petrobras assumes the obligation to reimburse PetroRecôncavo regarding abandonment costs, which present value is US\$ 5. The gain on this operation was US\$ 221, accounted for as other income and expenses.

d) Sale of 50% working interest in Tartaruga Verde and Module III of Espadarte fields

On April 25, 2019, Petrobras entered into an agreement with Petronas Petróleo Brasil Ltda., for the sale of 50% working interest in Tartaruga Verde field (BM-C-36 Concession) and Module III of Espadarte field. Petrobras will maintain a 50% working interest and the operation of the fields. The transaction amounts to US\$ 1,294, of which US\$ 259 was paid at the signing date.

On December 27, 2019, the transaction was closed with the payment of US\$ 692 to Petrobras, after the fulfilment of all conditions precedent and price adjustments provided for in the contract. The remaining US\$ 343 was compensated based on proceeds obtained by Petrobras from January 1 to the closing, considering Petronas's stake during this period. At the transaction closing, US\$ 74 loss was accounted for as other income and expenses.

e) Sale of Pasadena Refinery

On January 30, 2019, Petrobras America Inc. (PAI) entered into a SPA with Chevron USA Inc. for the sale of the shares held by PAI on Pasadena Refining System Inc. (PRSI) and PRSI Trading LLC (PRST), which comprise the Pasadena refining system in the United States.

On May 1, 2019, this sale was concluded after the fulfilment of conditions precedent. Accordingly, the amount of US\$ 467 was received by the Company, of which US\$ 350 relates to shares of the Pasadena refinery and the remaining US\$ 117 to its working capital, subject to price adjustments.

At the transaction closing, in the second quarter of 2019, a US\$ 49 loss was accounted for as other income and expenses.

f) Sale of interest in Transportadora Associada de Gás - TAG

On April 25, 2019, the Company entered into an agreement for the sale of a 90% interest in TAG to a group formed by ENGIE and the Canadian fund Caisse de Dépôt et Placement du Québec, acting through Aliança Transportadora de Gás Participações S.A. ("Aliança"), a Brazilian private company, to take over the control of TAG.

On June 13, 2019, after the fulfilment of all conditions precedent, this sale was closed for US\$ 8.5 billion, with the settlement as follows:

- US\$ 7.5 billion for the acquisition of 90% of TAG's shares;
- US\$ 0.5 billion relating to the sale of additional shares, so that the Company will preserve a 10% interest in TAG after the corporate restructuring carried out by the new controlling shareholder of TAG.
- Aliança made a loan to TAG, to repay the remaining debt with BNDES, in the amount of US\$ 0.5 billion.

On September 2, 2019, TAG incorporated Aliança, when Petrobras transferred 64,016 common shares issued by TAG to the new controlling shareholders in return for the US\$ 0.5 billion received in June 2019.

Following the closing of the transaction, a US\$ 5.458 gain, including the remeasurement of the remaining interest in the amount of US\$ 546, was accounted for in the second quarter of 2019, within other income and expenses.

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In the scope of this transaction, Petrobras remained responsible for certain TAG contingencies, in the amount of US\$ 645, classified as contingent liabilities.

Petrobras will continue to use natural gas transportation services rendered by TAG, through contracts already in force between the two companies, with no impacts on its operations.

g) Public offer of shares of Petrobras Distribuidora (BR)

On May 22, 2019, the Company's Board of Directors approved the sale of a further portion of its interest in Petrobras Distribuidora (BR), to be carried out through a secondary public offering (follow-on).

On July 23, 2019, the Board of Directors approved the sale of 349,500,000 shares at a price per share of US\$ 6.5123 (R\$ 24.50).

On July 25, 2019, an overallotment option was fully exercised and the number of shares offered increased by 43,687,500, under the same conditions and at the same price per share initially offered. Thus, the offering amount totaled US\$ 2,561 and Petrobras' interest in BR's capital stock was reduced to 37.50%. After the closing of this operation, Petrobras is no longer the controlling shareholder of BR.

The Company recognized a US\$ 2,221 gain (US\$ 3,349 before taxes), including the remeasurement of the remaining interest in the amount of US\$ 1,780, as a result of this operation, accounted for as net income from discontinued operations in the third quarter of 2019.

The supply relationship will continue after the disposal as this transaction does not change the current supply contracts.

As BR represented a separate major line of business, the disposed interest is considered a discontinued operation, for which the statements of income and cash flows are presented below (including restatement of previous years):

	Jan-Jul/2019	2018	2017
Sales revenues	5,735	10,946	10,943
Cost of sales	(4,886)	(9,334)	(8,949)
Gross profit	849	1,612	1,994
Income (expenses)			
Selling expenses	(439)	(804)	(924)
General and administrative expenses	(116)	(216)	(261)
Other taxes	(14)	(82)	(54)
Other income and expenses	(15)	133	(89)
	(584)	(969)	(1,328)
Income before finance income (expense) and income taxes	265	643	666
Net finance income (expense)	138	628	(175)
Results of equity-accounted investments	-	-	(1)
Net income before income taxes	403	1,271	490
Income taxes	(150)	(428)	(131)
Net income for the year from discontinued operation - BR	253	843	359
Gain on sale of interest	3,515	-	-
Income taxes on the gain on sale of interest	(1,208)	-	-
Net income for the period from discontinued operation	2,560	843	359
Attributable to:			
Shareholders of Petrobras	2,560	843	359
Net income for the period from discontinued operation	2,560	843	359

	Jan-Jul/2019	Jan-Dec/2018	Jan-Dec/2017
Cash flows from Operating activities			
Net income for the year	2,560	843	359
Adjustments for:			
Pension and medical benefits (actuarial expense)	73	121	158
Depreciation, depletion and amortization	76	115	142
Foreign exchange, indexation and finance charges	(132)	(644)	188
Deferred income taxes, net	136	395	68
Others	105	7	-
Decrease (Increase) in assets			
Trade and other receivables, net	451	467	(50)
Other assets	(159)	103	(265)
Increase (Decrease) in liabilities			
Trade payables	(171)	(168)	9
Pension and medical benefits	(138)	(3)	(43)
Other liabilities	(45)	(325)	(139)
Income taxes paid	(102)	(5)	(30)
Net income from discontinued operations	(2,331)	-	-
Net cash provided by operating activities	323	906	397
Cash flows from Investing activities			
Acquisition of PP&E and intangibles assets	(81)	(116)	(93)
Proceeds from disposal of assets - Divestment	1,829	-	-
Divestment (Investment) in marketable securities	61	72	817
Others	3	-	3
Net cash (used in) provided by investing activities	1,812	(44)	727
Cash flows from Financing activities			
Proceeds from financing	-	244	1,944
Repayment of principal	(30)	(49)	(2,478)
Repayment of interest	(60)	(88)	(481)
Dividends paid to Shareholders of Petrobras	(387)	(263)	(210)
Others	(31)	-	48
Net cash used in financing activities	(508)	(156)	(1,177)
Effect of exchange rate changes on cash and cash equivalents	(136)	(66)	1
Net increase (decrease) in cash and cash equivalents	1,491	640	(52)
Cash and cash equivalents at the beginning of the year	789	149	201
Cash and cash equivalents at the end of the year	2,280	789	149

30.3. Cash flows from sales of interest with loss of control

In 2019 and 2018, the Company disposed of its interest in certain subsidiaries over which control was lost. The following table summarizes cash flows arising from losing control in subsidiaries:

	Cash received	Cash in subsidiary before losing control	Net Proceeds
2019			
Petrobras Paraguay	381	(45)	336
TAG	8,206	(174)	8,033
BR (*)	2,509	(591)	1,917
Total	11,096	(810)	10,286
2018			
PetroquímicaSuape e Citepe	435	(14)	421
Total	435	(14)	421

(*) Discontinued operation.

30.4. Accounting Policy for assets and liabilities held for sale

Non-current assets, disposal groups and liabilities directly associated with those assets are classified as held for sale if their carrying amounts will, principally, be recovered through the sale transaction rather than through continuing use.

The condition for classification as held for sale is met only when the sale is approved by the Company's Board of Directors and the asset or disposal group is available for immediate sale in its present condition and there is the expectation that the sale will occur within 12 months after its classification as held for sale. However, an extended period required to complete a sale does not preclude an asset (or disposal group) from being classified as held for sale if the delay is caused by events or circumstances beyond the Company's control and there is sufficient evidence that the Company remains committed to its plan to sell the assets (or disposal groups).

Assets (or disposal groups) classified as held for sale and the associated liabilities are measured at the lower of their carrying amount and fair value less costs to sell. Assets and liabilities are presented separately in the statement of financial position.

When a component of the Company is disposed of or classified as held for sale, and it represented a separate major line of business, the disposed interest is considered a discontinued operation, thus its net income, operating, investing and financing cash flows are presented in separate line items until the date of the closing of the operation.

31. Assets by operating segment

	Exploration and Production	Refining, Transportati on & Marketing	Gas & Power	Corporate	Elimination s	Total
Consolidated assets by operating segment - 12.31.2019						
Current assets	5,734	12,273	1,932	12,700	(4,827)	27,812
Non-current assets	148,546	31,248	10,781	11,390	(37)	201,928
Long-term receivables	6,456	3,299	1,369	6,567	-	17,691
Investments	592	1,109	1,067	2,731	-	5,499
Property, plant and equipment	122,496	26,710	8,181	1,915	(37)	159,265
Operating assets	106,331	23,630	5,605	1,784	(37)	137,313
Under construction	16,165	3,080	2,576	131	-	21,952
Intangible assets	19,002	130	164	177	-	19,473
Total Assets	154,280	43,521	12,713	24,090	(4,864)	229,740

Consolidated assets by operating segment - 12.31.2018						
Current assets	5,324	11,964	2,027	21,404	(3,657)	37,062
Non-current assets	126,989	32,119	13,582	12,120	196	185,006
Long-term receivables	8,115	3,286	1,525	8,898	235	22,059
Investments	650	1,303	757	49	-	2,759
Property, plant and equipment	116,153	27,356	11,057	2,856	(39)	157,383
Operating assets	93,172	24,347	8,517	2,460	(39)	128,457
Under construction	22,981	3,009	2,540	396	-	28,926
Intangible assets	2,071	174	243	317	-	2,805
Total Assets	132,313	44,083	15,609	33,524	(3,461)	222,068

32. Finance debt

32.1. Balance by type of finance debt

	12.31.2019	12.31.2018
In Brazil		
Banking Market	5,322	9,576
Capital Market	3,468	3,320
Development banks	1,927	3,346
Others	13	9
Total	10,730	16,251
Abroad		
Banking Market	16,555	24,124
Capital Market	32,476	39,627
Development banks	40	41
Export Credit Agency	3,233	3,881
Others	226	251
Total	52,530	67,924
Total finance debt	63,260	84,175
Current	4,469	3,667
Non-current	58,791	80,508

32.2. Changes in finance debt and reconciliation with cash flows from financing activities

	Balance at 12.31.2017		Additions	Principal amortization (*)	Interest amortization (*)	Accrued interest (**)	Foreign exchange / inflation indexation charges	Cumulative translation adjustment	Modification of contractual cash flows	Balance at 12.31.2018
	Adoption of IFRS 9									
In Brazil	21,930	65	2,442	(5,451)	(1,220)	1,338	27	(2,880)	-	16,251
Abroad	87,116	177	8,644	(27,988)	(4,465)	4,400	1,409	(1,357)	(12)	67,924
	109,046	242	11,086	(33,439)	(5,685)	5,738	1,436	(4,237)	(12)	84,175

	Balance at 12.31.2018		Additions	Principal amortization (*)	Interest amortization (*)	Accrued interest (**)	Foreign exchange / inflation indexation charges	Cumulative translation adjustment (CTA)	Transfer to liabilities classified as held for sale	Modification of contractual cash flows	Balance at 12.31.2019
	8										
In Brazil	16,251	2,181	(5,663)	(745)	829	111	(352)	(1,882)	-	-	10,730
Abroad	67,924	5,362	(20,788)	(3,853)	3,878	538	(560)	-	-	29	52,530
	84,175	7,543	(26,451)	(4,598)	4,707	649	(912)	(1,882)	-	29	63,260
PP&E on credit		(76)	-	-							
Debt restructuring		-	(861)	-							
Deposits linked to financing		-	-	47							
Discontinued operations		(3)	39	50							
Net cash used in financing		7,464	(27,273)	(4,501)							

(*) It includes pre-payments.

(**) It includes premium and discount over notional amounts, as well as gains and losses by modifications in contractual cash flows.

In the year ended December 31, 2019, proceeds from financing amounted to US\$ 7,464, principally reflecting: (i) global notes issued in the capital market in the amount of US\$ 2,980, of which US\$ 737 relates to the reopening of bonds maturing in 2029, and the remaining relates to new bonds issued maturing in 2049; and (ii) debentures issued amounting to US\$ 1,685.

In addition, the Company repaid several finance debts, in the amount of US\$ 31,774 notably: (i) US\$ 9,994 relating to repurchase of global bonds previously issued by the Company in the capital market, with net premium paid to bond holders amounting to US\$ 855; (ii) pre-payment of banking loans in the domestic and international market totaling US\$ 13,446; and (iii) pre-payment of US\$ 578 with respect to financings with the Brazilian Development Bank (*Banco Nacional de Desenvolvimento Econômico e Social – BNDES*).

In September 2019, the Company made an offer to exchange Global Notes maturing between 2023 and 2029, in the amount of US\$ 3,650, for new Global Notes maturing in 2030 in the amount of US\$ 4,115, with net premium amounting to US\$ 465 to the bond holders.

Issuance of debentures

In 2019, the Company made, through public offers, two issuances of simple, non-convertible and unsecured debentures, totaling US\$ 1,685 in local currency (R\$ 6,608 million). The tables below present a summary containing the final conditions of the debentures:

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6th issuance – Bookbuilding finalized on January 31, 2019

Interests paid in January and July of each year.

Serie	Maturity	Rate on Bookbuilding	Amounts issued (US\$ million)
1 st Serie	01/15/2026	IPCA+ 4.0460% p.a.	238
2 nd Serie	01/15/2029	IPCA+ 4.2186% p.a.	450
3 rd Serie	01/15/2026	106.25% of CDI	267

7th issuance – Bookbuilding finalized on September 25, 2019

Interests paid in March and September of each year.

Serie	Maturity	Rate on Bookbuilding	Amounts issued (US\$ million)
1 st Serie	09/15/2029	IPCA + 3.6% p.a.	371
2 nd Serie	09/15/2034	IPCA + 3.9% p.a.	359

32.3. Summarized information on current and non-current finance debt

Maturity in	2020	2021	2022	2023	2024	2025 onwards	Total (**)	Fair Value
Financing in U.S.Dollars (US\$)(*):	3,512	3,157	2,777	5,842	6,509	26,474	48,271	55,905
Floating rate debt	2,745	1,731	2,154	4,454	4,977	3,847	19,908	
Fixed rate debt	767	1,426	623	1,388	1,532	22,627	28,363	
Average interest rate	5.3%	5.4%	5.5%	5.5%	5.6%	6.6%	6.2%	
Financing in Brazilian Reais (R\$):	771	611	1,524	1,783	2,015	3,800	10,504	11,089
Floating rate debt	338	375	1,211	1,571	1,558	1,675	6,728	
Fixed rate debt	433	236	313	212	457	2,125	3,776	
Average interest rate	3.8%	4.1%	4.5%	4.3%	3.8%	2.8%	3.7%	
Financing in Euro (€):	137	203	388	411	13	1,410	2,562	3,418
Fixed rate debt	137	203	388	411	13	1,410	2,562	
Average interest rate	4.7%	4.7%	4.8%	4.6%	4.6%	4.6%	4.7%	
Financing in Pound Sterling (£):	48	-	-	-	-	1,874	1,922	2,388
Fixed rate debt	48	-	-	-	-	1,874	1,922	
Average interest rate	6.2%	-	-	-	-	6.3%	6.3%	
Financing in other currencies:	1	-	-	-	-	-	1	1
Fixed rate debt	1	-	-	-	-	-	1	
Average interest rate	10.1%	-	-	-	-	-	10.1%	
Total as of December 31, 2019	4,469	3,971	4,689	8,036	8,537	33,558	63,260	72,801
Average interest rate	5.1%	5.2%	5.3%	5.3%	5.3%	6.3%	5.9%	
Total as of December 31, 2018	3,667	3,921	7,012	10,317	11,951	47,307	84,175	85,929
Average interest rate	5.5%	5.9%	5.9%	5.8%	5.8%	6.4%	6.1%	

(*) Includes debt raised in Brazil (in Brazilian reais) indexed to the U.S. dollar.

(**)The average maturity of outstanding debt as of December 31, 2019 is 10.79 years (9.14 years as of December 31, 2018).

The fair value of the Company's finance debt is mainly determined and categorized into a fair value hierarchy as follows:

Level 1- quoted prices in active markets for identical liabilities, when applicable, amounting to US\$ 34,992 as of December 31, 2019 (US\$ 39,057 as of December 31, 2018); and

Level 2 – discounted cash flows based on discount rate determined by interpolating spot rates considering financing debts indexes proxies, taking into account their currencies and also Petrobras' credit risk, amounting to US\$ 37,809 as of December 31, 2019 (US\$ 46,872 as of December 31, 2018).

The sensitivity analysis for financial instruments subject to foreign exchange variation is set out in note 36.2.

32.4. Lines of credit

Company	Financial institution	Date	Maturity	Amount		
				Available (Lines of Credit)	Used	Balance
Abroad						
PGT BV	Syndicate of banks	3/7/2018	2/7/2023	4,350	-	4,350
PGT BV	Syndicate of banks	3/27/2019	2/27/2024	3,250	-	3,250
PGT BV	BNP Paribas	12/22/2016	1/9/2021	350	310	40
PGT BV	The Export - Import Bank of China	12/23/2019	12/27/2021	750	-	750
Petrobras	New Development Bank	8/27/2018	8/27/2022	200	40	160
Total				8,900	350	8,550
In Brazil						
Petrobras	Banco do Brasil	3/23/2018	1/26/2023	496	-	496
Petrobras	Bradesco	6/1/2018	5/31/2023	496	-	496
Petrobras	Banco do Brasil	10/4/2018	9/5/2025	496	-	496
Transpetro	Caixa Econômica Federal	11/23/2010	Not defined	82	-	82
Total				1,570	-	1,570

32.5. Covenants and Collateral

32.5.1. Covenants

The Company has covenants that were not in default at December 31, 2019 in its loan agreements and notes issued in the capital markets requiring, among other obligations i) the presentation of interim financial statements within 90 days of the end of each quarter (not reviewed by Independent Registered Public Accounting Firm) and audited financial statements within 120 days of the end of each fiscal year, with a grace period ranging from 30 to 60 days, depending on the agreement; ii) Negative Pledge / Permitted Liens clause; iii) clauses of compliance with the laws, rules and regulations applicable to the conduct of its business including (but not limited to) environmental laws; (iv) clauses in financing agreements that require both the borrower and the guarantor to conduct their business in compliance with anti-corruption laws and anti-money laundering laws and to institute and maintain policies necessary for such compliance; (v) clauses in financing agreements that restrict relations with entities or even countries sanctioned primarily by the United States (including, but not limited to, the Office of Foreign Assets Control (OFAC), Department of State and Department of Commerce), the European Union and United Nations; and vi) covenants with respect to debt level in some of its loan agreements with the Brazilian Development Bank (Banco Nacional de Desenvolvimento Econômico e Social - BNDES).

32.5.2. Collateral

Most of the Company's debt is unsecured, but certain specific funding instruments to promote economic development are collateralized.

A Financing agreement with China Development Bank (CDB) maturing in 2026 is also collateralized based on future oil exports for specific buyers limited to 200 thousand barrels per day. This collateral may not exceed the amount of the related debt (US\$ 5,006 at December 31, 2019 and US\$ 10,020 at December 31, 2018).

On December 16, 2019, the Company prepaid a US\$ 5,000 debt with CDB, maturing in 2027, which was also collateralized.

The loans obtained by structured entities are collateralized based on the projects' assets, as well as liens on receivables of the structured entities. Bonds issued by the Company in the capital market are unsecured.

The global notes issued by the Company in the capital market through its wholly-owned subsidiary Petrobras Global Finance B.V. – PGF are unsecured. However, Petrobras fully, unconditionally and irrevocably guarantees these notes, as set out in note 35.

32.6. Accounting policy for finance debt

Loans and finance debt are initially recognized at fair value less transaction costs that are directly attributable to its issue and subsequently measured at amortized cost using the effective interest method. When the contractual cash flows of a financial liability measured at amortized cost are renegotiated or modified and this change is not substantial, its gross carrying amount will reflect the discounted present value of its cash flows under the new terms using the original effective interest rate. The difference between the book value immediately prior to such modification and the new gross carrying amount is recognized as gain or loss in the statement of income. When such modification is substantial, the original liability is extinguished and a new liability is recognized, impacting the statement of income for the period.

33. Lease liabilities

The Company is the lessee in agreements primarily including oil and gas producing units, drilling rigs and other exploration and production equipment, vessels and support vessels, helicopters, lands and buildings.

Changes in the balance of lease liabilities are presented below:

	Balance at 12.31.2018	Adoption of IFRS 16	Remeasure ment / new contracts	Payment of principal and interest (*)	Interest expense	Foreign exchange gains and losses	Cumulative translation adjustment (CTA)	Transfer to assets and liabilities held for sale	Balance at 12.31.2019
In Brazil	185	5,628	1,239	(1,597)	376	160	(246)	(241)	5,504
Abroad	-	20,947	1,060	(3,655)	1,138	479	(445)	(1,167)	18,357
Total	185	26,575	2,299	(5,252)	1,514	639	(691)	(1,408)	23,861
Payments relating to liabilities held for sale				(84)					
Amounts received				110					
Payments relating to discontinued operations				19					
Net cash used in financing activities				(5,207)					

The following table presents main information by class of underlying assets:

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Present Value of Future Payments	Initial Application	Closing Balance	Recoverable taxes	Discount rate (%)	Average Period
Without readjustment					
Vessels	7,162	7,199	271	4.4173 p.a.	5.1 years
Platforms	4,213	3,283	-	6.1264 p.a.	15.5 years
Others	472	319	7	2.8723 p.a.	2.3 years
With readjustment - abroad (*)					
Vessels	1,123	1,050	-	5.4336 p.a.	8.7 years
Platforms	10,898	9,658	-	5.8219 p.a.	11.7 years
Others	86	45	-	2.3401 p.a.	0.9 years
With readjustment - Brazil					
Vessels	1,489	1,147	101	6.8919 p.a.	4.5 years
Properties	798	859	16	8.4804 p.a.	20.7 years
Others	334	301	20	6.9033 p.a.	3.2 years
TOTAL	26,575	23,861	415	6.0033 p.a.	9.8 years

For information regarding depreciation, additions and carrying amount by class of underlying assets, see note 23.

A maturity schedule of the lease arrangements (nominal amounts) is set out as follows:

Nominal Future Payments	2020	2021	2022	2023	2024	2025 onwards	Total	Recoverable taxes
Without readjustment								
Vessels	2,390	1,943	1,347	954	619	945	8,198	300
Platforms	563	397	321	306	306	3,285	5,178	-
Others	151	123	10	18	1	30	333	8
With readjustment - abroad (*)								
Vessels	169	155	155	155	156	556	1,346	-
Platforms	1,911	1,808	1,281	892	847	6,846	13,585	-
Others	41	3	1	-	-	-	45	-
With readjustment - Brazil								
Vessels	406	327	215	164	126	133	1,371	121
Properties	116	138	134	111	104	1,248	1,851	20
Others	153	90	47	36	5	14	345	15
TOTAL	5,900	4,984	3,511	2,636	2,164	13,057	32,252	464

(*) Contracts signed in the U.S. Dollars.

Payments in certain lease agreements vary due to changes in facts or circumstances occurring after their inception other than the passage of time. Such payments are not included in the measurement of the lease obligations. Variable lease payments in the year ended December 31, 2019 amounted to US\$ 671, representing 13% in relation to fixed payments.

All extension options were included in the measurement of lease obligations.

The sensitivity analysis of financial instruments subject to exchange variation is presented in note 36.2.

In the year ended December 31, 2019, the Company recognized lease expenses in the amount of US\$ 674 relating to short-term leases.

At December 31, 2019, the balance of lease agreements for which the lease term has not commenced, as they relate to assets under construction or not yet available for use, is US\$ 50,130.

33.1. Accounting policy for lease liabilities

Lease liabilities, including those whose underlying assets are of low value, are measured at the present value of lease payments, which includes recoverable taxes, non-cancellable periods and options to extend a lease when they are reasonably certain. These payments are discounted at the Company's nominal incremental rate on loans, as the interest rates implicit in lease agreements with third parties usually cannot be readily determined.

Lease remeasurements reflect changes arising from contractual rates or indexes, as well as lease terms due to new expectations of lease extensions or terminations.

Unwinding of discount on the lease liability is classified as finance expense, while payments reduce their carrying amount. According to the Company's foreign exchange risk management, foreign exchange variations on lease liabilities denominated in U.S. dollars are designated as instruments to protect cash flow hedge relationships from highly probable future exports (see note 36.2).

In the E&P segment, some activities are conducted by joint operations where the company is the operator. In cases where all parties to the joint operation are primarily responsible for the lease payments, the Company recognizes the lease liability in proportion to its share. In addition, underlying assets arising from a specific contract in which the Company is solely responsible for the lease payments may be used in a joint operation. In such cases, the lease liabilities remain fully recognized and the partners are charged in proportion to their interests.

Payments associated with short-term leases (term of 12 months or less) are recognized as an expense over the term of the lease.

34. Equity

34.1. Share capital (net of share issuance costs)

As of December 31, 2019, subscribed and fully paid share capital, net of issuance costs, was US\$ 107,101, represented by 7,442,454,142 common shares and 5,602,042,788 preferred shares, all of which are registered, book-entry shares with no par value.

Preferred shares have priority on returns of capital, do not grant any voting rights and are non-convertible into common shares.

34.2. Accounting policy on share capital

Share capital comprises common shares and preferred shares. Incremental costs directly attributable to the issue of new shares (share issuance costs) are presented (net of tax) in shareholders' equity as a deduction from the proceeds.

34.3. Capital reserve

Capital reserve comprises treasury shares owned by Petrobras, in the amount of US\$ 2, at December 31, 2019.

34.4. Capital transactions

34.4.1. Incremental costs directly attributable to the issue of shares

It includes any transaction costs directly attributable to the issue of new shares, net of taxes.

34.4.2. Change in interest in subsidiaries

It includes any excess of amounts paid/received over the carrying value of the interest acquired/disposed. Changes in interests in subsidiaries that do not result in loss of control of the subsidiary are equity transactions.

34.4.3. Treasury shares

Shares held in treasury in the amount of US\$ 2, represented by 222,760 common shares and 72,909 preferred shares.

34.5. Profit reserves

34.5.1. Legal reserve

It represents 5% of the net income for the year, calculated pursuant to article 193 of the Brazilian Corporation Law.

34.5.2. Statutory reserve

Appropriated by applying a minimum of 0.5% of the year-end share capital and is retained to fund technology research and development programs. The balance of this reserve may not exceed 5% of the share capital, pursuant to article 55 of the Company's bylaws.

34.5.3. Tax incentives reserve

Government grants are recognized in the statement of income and are appropriated from retained earnings to the tax incentive reserve in the shareholders' equity pursuant to article 195-A of Brazilian Corporation Law. This reserve may only be used to offset losses or increase share capital.

In 2019, US\$ 179 was appropriated to this reserve (US\$ 203 in 2018), of which US\$ 177 relates to subventions from agencies *Superintendência de Desenvolvimento do Nordeste* (SUDENE) and *Superintendência de Desenvolvimento da Amazônia* (SUDAM).

34.5.4. Accounting policy on tax incentives reserve

A government grant is recognized when there is reasonable assurance that the grant will be received and the Company will comply with the conditions attached to the grant.

34.5.5. Profit retention reserve

It includes funds intended for capital expenditures, primarily in oil and gas exploration and development activities, as per the capital budget of the Company, pursuant to article 196 of the Brazilian Corporation Law.

The Board of Directors proposes to retain in the shareholder's equity, within the profit retention reserve, the amount of US\$ 6,549 in order to partially fund the annual investment program determined in the capital budget for 2019, to be approved at the Shareholder's General Meeting.

34.6. Other comprehensive income

In 2019, the Company primarily recognized as other comprehensive income the following effects:

- Cumulative translation adjustment loss of US\$ 1,431 primarily reflecting translations from the main functional currency of Petrobras group (Brazilian real) into the presentation currency (U.S. dollar);
- Actuarial loss on post-employment defined benefit plans in the amount of US\$ 4,098, after taxes.

- Foreign exchange rate variation loss of US\$ 248 after taxes and amounts reclassified to the statement of income, recognized in the Company's equity, as a result of its cash flow hedge accounting policy. In 2018, the cumulative balance of foreign exchange variation losses, net of tax effects, was US\$ 13,292 (see note 29.2).

34.7. Distributions to shareholders

Pursuant to Brazilian Corporation Law, the Company's shareholders are entitled to receive minimum mandatory dividends (and/or interest on capital) of 25% of the adjusted net income for the year in proportion to the number of common and preferred shares held by them.

To the extent the Company proposes dividend distributions, preferred shares have priority in dividend distribution, which is based on the highest of 3% of the preferred shares' net book value or 5% of the preferred share capital. Preferred shares participate under the same terms as common shares in capital increases resulting from the capitalization of profit reserves or retained earnings. However, this priority does not necessarily grant dividend distributions to the preferred shareholders in the event of loss for a year.

On August 28, 2019, the Company's Board of Directors approved a new policy on distribution to shareholders, in which the main change is the definition that in the event of total debt lower than US\$ 60,000, the Company may distribute to its shareholders 60% of the difference between net cash flow from operating activities and capital expenditures (comprising investments for the acquisition of PP&E and intangibles assets and in investees). In the event of total debt exceeding US\$ 60,000, the Company may distribute to its shareholders the minimum mandatory dividends provided for by relevant regulation and the Company's bylaws.

The General Shareholders Meeting held on April 26, 2018 amended provisions in the Company's bylaws governing distribution to shareholders (dividends and interest on capital) on a quarterly basis. The quarterly distributions were included in the Company's minimum mandatory distribution for 2018 and were updated by Selic rate from the date of the payments to the end of the fiscal year.

Distributions to shareholders for 2019 amounts to US\$ 2,687, most of it proposed as interest on capital, to be approved at the 2020 Shareholder's General Meeting, are consistent with the minimum mandatory dividend of 25% of the adjusted income and withholding income tax rate of 15%. This proposal meets the priority rights of the preferred shareholders, whose criteria of 5% on the proportion of the capital represented by this class of shares prevailed for 2019.

Payment	Date of approval by the Board of Directors	Date of register	Date of Payment	Common Shares		Preferred Shares		Total Amount
				Amount(*)	Amount per Share	Amount(*)	Amount per Share	
1st payment of interest on capital	05.07.2019	05.21.2019	07.05.2019	187	0.0251	140	0.0251	327
2nd payment of interest on capital	08.01.2019	08.12.2019	10.04.2019	389	0.0522	293	0.0522	681
3rd payment of interest on capital	10.24.2019	11.11.2019	02.07.2020	371	0.0499	279	0.0499	650
4th payment of interest on capital	12.18.2019	12.26.2019	02.07.2020	-	-	580	0.1035	580
Indexation charges on paid anticipations				9	0.0012	7	0.0012	16
Complement of minimum mandatory dividends	02.19.2020	(**)	(**)	431	0.0580	1	0.0001	432
Total for 2019				1,387	0.1864	1,300	0.2320	2,687
Total for 2018				507	0.0681	1,343	0.2397	1,850

(*) Amounts translated into U.S. dollar based on the exchange rate prevailing at the date of the approval, except for the complement of minimum mandatory dividends, based on the closing exchange rate at the date of the financial statements.

(**) To be settled within 60 days after the Shareholder's General Meeting.

Dividends payable attributable to shareholders of Petrobras amounts to US\$ 1,530 as of December 31, 2019 (US\$ 1,005 as of December 31, 2018), and comprise the minimum mandatory dividend of 25% of the adjusted income, including indexation charges based on Selic rate, net of the advances made during the year. In addition to the dividends payable

to Petrobras' shareholders, there are dividends payable to non-controlling shareholders for US\$ 28, totaling US\$ 1,558 accounted for in the statement of financial position as of December 31, 2019 (US\$ 1,109 as of December 31, 2018).

34.8. Earnings per share

	2019			2018			2017		
	Common	Preferred	Total	Common	Preferred	Total	Common	Preferred	Total
Net income attributable to shareholders of Petrobras	5,790	4,361	10,151	4,093	3,080	7,173	(52)	(39)	(91)
Continuing operations	4,369	3,291	7,660	3,750	2,822	6,572	(198)	(149)	(347)
Discontinued operations	1,421	1,070	2,491	343	258	601	146	110	256
Weighted average number of outstanding shares	7,442,454,142	5,602,042,788	13,044,496,930	7,442,454,142	5,602,042,788	13,044,496,930	7,442,454,142	5,602,042,788	13,044,496,930
Basic and diluted earnings (losses) per share - in U.S. dollars	0.78	0.78	0.78	0.55	0.55	0.55	(0.01)	(0.01)	(0.01)
Continuing operations	0.59	0.59	0.59	0.50	0.50	0.50	(0.03)	(0.03)	(0.03)
Discontinued operations	0.19	0.19	0.19	0.05	0.05	0.05	0.02	0.02	0.02
Basic and diluted earnings (losses) per ADS equivalent - in U.S. dollars(*)	1.56	1.56	1.56	1.10	1.10	1.10	(0.02)	(0.02)	(0.02)
Continuing operations	1.18	1.18	1.18	1.00	1.00	1.00	(0.06)	(0.06)	(0.06)
Discontinued operations	0.38	0.38	0.38	0.10	0.10	0.10	0.04	0.04	0.04

(*) Petrobras' ADSs are equivalent to two shares.

35. Fair value of financial assets and liabilities

	Fair value measured based on			Total fair value recorded
	Level I	Level II	Level III	
Assets				
Marketable securities	1.352	-	-	1.352
Commodity derivatives	56	3	-	59
Foreign currency derivatives	-	15	-	15
Interest rate derivatives	-	10	-	10
Balance at December 31, 2019	1.408	18	-	1.426
Balance at December 31, 2018	1.464	29	-	1.493
Liabilities				
Foreign currency derivatives	-	(333)	-	(333)
Commodity derivatives	-	3	-	(3)
Interest rate derivatives	-	-	-	-
Balance at December 31, 2019	-	(330)	-	(336)
Balance at December 31, 2018	-	(349)	-	(349)

The estimated fair value for the Company's long-term debt, computed based on the prevailing market rates, is set out in note 10.

The fair values of cash and cash equivalents, short-term debt and other financial assets and liabilities are equivalent or do not differ significantly from their carrying amounts.

36. Risk management

The Company is exposed to a variety of risks arising from its operations, including price risk (related to crude oil and oil products prices), foreign exchange rates risk, interest rates risk, credit risk and liquidity risk. Corporate risk management is part of the Company's commitment to act ethically and comply with the legal and regulatory requirements of the countries where it operates. To manage market and financial risks the Company prefers structuring measures through adequate capital and leverage management. While managing risks, the Company considers its corporate governance and controls, technical departments and statutory committees monitoring, under the guidance of the Board of Executive Officers and the Board of Directors. The Company takes account of risks in its business decisions and manages any such risk in an integrated manner in order to enjoy the benefits of diversification.

A summary of the positions of the derivative financial instruments held by the Company and recognized in other current assets and liabilities as of December 31, 2019, as well as the amounts recognized in the statement of income and other comprehensive income and the guarantees given is set out as follows:

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	Statement of Financial Position				
	Notional value		Fair value		Maturity
			Asset Position (Liability)		
	12.31.2019	12.31.2018	12.31.2019	12.31.2018	
Derivatives not designated for hedge accounting					
Future contracts - total (*)	(10,383)	(14,043)	(28)	108	
Long position/Crude oil and oil products	9,865	40,017	-	-	2020
Short position/Crude oil and oil products	(20,248)	(54,060)	-	-	2020
Forward contracts					
Long position/Foreign currency forwards (BRL/USD) (**)	US\$ 273	US\$ 137	-	(2)	2020
Short position/Foreign currency forwards (BRL/USD) (**)	US\$ 0	US\$ 92	-	(1)	2020
Long position/Foreign currency forwards (EUR/USD) (**)	EUR 2245	EUR 3000	(45)	(123)	2020
Long position/Foreign currency forwards (GPB/USD) (**)	GBP 505	GBP 450	11	(11)	2020
Short position/Foreign currency forwards (GPB/USD) (**)	GBP 282	GBP 31	(14)	-	2020
Swap					
Foreign currency / Cross-currency Swap (**)	GBP 700	GBP 700	32	1	2026
Foreign currency / Cross-currency Swap (**)	GBP 600	GBP 600	(50)	(70.5)	2034
Interest / Swap	3,008	-	6	-	2029/2034
Foreign currency / Cross-currency Swap (**)	US\$ 240	-	11	-	2024/2029
Total recognized in the Statement of Financial Position			(77)	(99)	

(*) Notional value in thousands of bbl.

(**) Amounts in US\$, GBP and EUR are presented in million.

	Gains/(losses) recognized in the statement of income			Gains/(losses) recognized in Shareholders' Equity (*)		
	2019	2018 Reclassified	2017 Reclassified	2019	2018 Reclassified	2017 Reclassified
	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	n/a
Commodity derivatives	(370)	(416)	(121)	-	-	-
Foreign currency derivatives	(166)	(370)	89	-	-	-
Interest rate derivatives	6	-	(9)	-	-	-
	(530)	(786)	(41)	-	-	-
Cash flow hedge on exports (**)	(3,136)	(3,315)	(3,154)	(5,060)	(5,635)	(5,635)
Total	(3,666)	(4,101)	(3,195)	(5,060)	(5,635)	(5,635)

(*) Amounts recognized as other comprehensive

(**) Using non-derivative financial instruments as designated hedging instruments, as set out in note 28.2.

	Guarantees given as collateral	
	12.31.2019	12.31.2018
Commodity derivatives	57	(48)
Foreign currency derivatives	230	70
Total	287	22

A sensitivity analysis of the derivative financial instruments for the different types of market risks as of December 31, 2019 is set out as follows:

Financial Instruments	Risk	Probable Scenario (*)	Reasonably possible scenario (*)	Remote Scenario (*)
Derivatives not designated for hedge accounting				
Future contracts	Crude oil and oil products – price changes	-	(128)	(256)
Forward contracts	Foreign currency – depreciation BRL x USD	(3)	(68)	(136)
		(3)	(196)	(392)

(*) The probable scenario was computed based on the following risks: oil and oil products prices: fair value at December 31, 2019; Real x U.S. Dollar - 1.2% depreciation of the Real. Source: Focus. Reasonably possible and remote scenarios consider 25% and 50% deterioration in the associated risk variables, respectively.

36.1. Risk management of crude oil and oil products prices

The Company is usually exposed to commodity price cycles, although it may use derivative instruments to hedge exposures related to prices of products purchased and sold to fulfill operational needs and in specific circumstances depending on business environment analysis and assessment of whether the Business and Management targets are being met.

Crude Oil

In March 2019, Petrobras implemented a hedge strategy for part of its oil exports foreseen for 2019. Over-the-Counter (OTC) put options referenced in the average Brent oil prices from April to the end of 2019 were purchased with strike price of US\$ 60/barrel, with premium of US\$ 320. In 2018, a similar strategy was implemented, with an average strike price of US\$ 65/barrel and total cost of approximately US\$ 445.

However, in the third quarter of 2019, based on the significant reduction in cash flow uncertainties concerning the Business and Management Plan for 2019, Petrobras sold the put options at a strike price of US\$ 60/barrel, totaling US\$ 101 received.

In the year ended December 31, 2019, due to the mark to market of these put options and the increase of the commodity price in the international market, a US\$ 216 loss was accounted as other income and expenses (a US\$ 401 loss in the year ended December 31, 2018).

Gasoline

Since September 2018, the Company also has executed a hedge strategy related to gasoline prices and foreign exchange rates by using commodity derivatives and non-deliverable forwards (NDF), in order to give flexibility on its pricing policy for this oil product, allowing the Company to hold gasoline prices constant in the domestic market for periods of up to 15 days. The Company recognized a US\$ 11 gain arising from this strategy in the year ended December 31, 2019, recorded in other income and expenses.

Diesel

With the objective of giving additional flexibility to the pricing policy, in December 2018, Petrobras adopted a hedge strategy applied to diesel prices and foreign exchange rates by using NDF, in a manner similar to the strategy applied to gasoline. In June 2019, Petrobras approved the review of the frequency of adjustments in the prices of diesel and gasoline. From then on, the price adjustments of diesel and gasoline are carried out without defined frequency. The Company recognized a US\$ 12 loss arising from this strategy on diesel in the year ended December 31, 2019, recorded in other income and expenses.

When applying this hedge strategy, the Company maintains the principles that govern the practice of competitive prices, such as international parity price, margins according to the risks inherent to the operation, share of participation in the market and mechanisms of protection through derivatives.

Other commodity derivative transactions

Petrobras, by use of its assets, positions and market knowledge from its operations in Brazil and abroad, occasionally seeks to optimize some of its commercial operations in the international market, with the use of commodity derivatives to manage price risk. Changes in operations contracted for other commodities derivatives resulted in a US\$ 150 loss in 2019 (a US\$ 19 gain in 2018).

36.2. Foreign exchange risk management

The Company's Risk Management Policy provides for, as an assumption, an integrated risk management that extends to the whole corporation, pursuing the benefit from the diversification of its businesses.

By managing its foreign exchange risk, the Company takes into account the group of cash flows derived from its operations. This concept is especially applicable to the risk relating to the exposure of the Brazilian Real against the U.S. dollar, in which future cash flows in U.S. dollar, as well as cash flows in Brazilian Real affected by the fluctuation between both currencies, such as cash flows derived from diesel and gasoline sales in the domestic market, are assessed in an integrated manner.

Accordingly, the financial risk management mainly involves structured actions encompassing the business of the Company.

Changes in the Real/U.S. dollar spot rate, as well as foreign exchange variation of the Real against other foreign currencies, may affect net income and the statement of financial position due to the exposures in foreign currencies, such as:

- High probable future transactions;
- Monetary items; and
- Firm commitments.

The Company seeks to mitigate the effect of potential variations in the Real/U.S. dollar spot rates mainly raising funds denominated in US dollars, aiming at reducing the net exposure between obligations and receipts in this currency, thus representing a form of structural protection that takes into account criteria of liquidity and cost competitiveness.

Foreign exchange variation on future exports denominated in U.S. Dollar in a given period are efficiently hedged by the US dollar debt portfolio taking into account changes in such portfolio over time.

The foreign exchange risk management strategy may involve the use of derivative financial instruments to hedge certain liabilities, mitigating foreign exchange rate risk exposure, especially when the Company is exposed to a foreign currency in which no cash inflows are expected, for example, the Pound Sterling.

In the short-term, the foreign exchange risk is managed by applying resources in cash or cash equivalent denominated in Brazilian Real, U.S. Dollar or in another currency.

a) Cash Flow Hedge involving the Company's future exports

Aligned with Company's foreign exchange risk management, and considering the initial adoption of IFRS 16 on January 1, 2019, the Company performed additional designations in the year ended December 31, 2019, amounting to US\$ 28,009 (R\$ 108,481 million), in which the hedged item was the highly probable future exports in US dollars, and as hedging instruments lease agreements denominated in US dollars.

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The carrying amounts, the fair value as of December 31, 2019, and a schedule of expected reclassifications to the statement of income of cumulative losses recognized in other comprehensive income (shareholders' equity) based on a US\$ 1.00 / R\$ 4.0307 exchange rate are set out below:

Hedging Instrument	Hedged Transactions	Nature of the Risk	Maturity Date	Present value of hedging instrument notional value at 12.31.2019	
				(US\$ million)	(R\$ million)
Foreign exchange gains and losses on proportion of non-derivative financial instruments cash flows	Foreign exchange gains and losses on a portion of highly probable future monthly exports revenues	Foreign Currency – Real vs U.S. Dollar Spot Rate	January 2019 to December 2028	87,651	353,295
Changes in the present value of hedging instrument notional value				US\$	R\$ million
Amounts designated as of January 1, 2019				66,168	256,390
Additional hedging relationships designated, designations revoked and hedging instruments re-designated				56,573	222,874
Exports affecting the statement of income				(9,247)	(36,560)
Principal repayments / amortization				(25,843)	(102,827)
Foreign exchange variation				-	13,418
Amounts designated as of December 31, 2019				87,651	353,295
Nominal value of hedging instrument (finance debt and lease liability) at December 31, 2019				104,212	420,046

In the year ended December 31, 2019, the Company recognized a US\$ 9 gain within foreign exchange gains (losses) due to ineffectiveness (a US\$ 50 loss in 2019).

The average ratio of future exports for which cash flow hedge accounting was designated to the highly probable future exports is 57.7%.

A roll-forward schedule of cumulative foreign exchange losses recognized in other comprehensive income as of December 31, 2019 is set out below:

	Exchange rate	Tax effect	Total
Balance at January 1, 2018	(14,508)	4,935	(9,573)
Recognized in Other comprehensive income	(8,950)	3,043	(5,907)
Reclassified to the statement of income - occurred exports	3,315	(1,127)	2,188
Balance at December 31, 2018	(20,143)	6,851	(13,292)
Recognized in Other comprehensive income	(3,510)	1,192	(2,318)
Reclassified to the statement of income - occurred exports	3,136	(1,066)	2,070
Balance at December 31, 2019	(20,517)	6,977	(13,540)

Additional hedging relationships may be revoked or additional reclassification adjustments from equity to the statement of income may occur as a result of changes in forecasted export prices and export volumes following a review of the Company's business plan. Based on a sensitivity analysis considering a US\$ 10/barrel decrease in Brent prices stress scenario, when compared to the Brent price projections in our Strategic Plan 2020-2024, would not indicate a reclassification adjustment from equity to the statement of income.

A schedule of expected reclassification of cumulative foreign exchange losses recognized in other comprehensive income to the statement of income as of December 31, 2019 is set out below:

	2019	2020	2021	2022	2023	2024	2025	2026 to 2028	Total
Expected realization	(4,673)	(4,495)	(4,851)	(3,131)	(1,925)	(505)	259	(1,196)	(20,517)

a.1) Accounting policy

At inception of the hedge relationship, the Company documents its objective and strategy, including identification of the hedging instrument, the hedged item, the nature of the hedged risk and evaluation of hedge effectiveness requirements.

Considering the natural hedge and the risk management strategy, the Company designates hedging relationships to account for the effects of the existing hedge between a foreign exchange gain or loss from proportions of its long-term debt obligations (denominated in U.S. dollars) and foreign exchange gain or loss of its highly probable U.S. dollar denominated future export revenues, so that gains or losses associated with the hedged transaction (the highly probable future exports) and the hedging instrument (debt obligations) are recognized in the statement of income in the same periods.

Foreign exchange gains and losses on proportions of debt obligations and lease liability (non-derivative financial instruments) have been designated as hedging instruments.

The highly probable future exports for each month are hedged by a proportion of the debt obligations with an equal US dollar nominal amount. Only a portion of the Company's forecast exports are considered highly probable.

The Company's future exports are exposed to the risk of variation in the Brazilian Real/U.S. dollar spot rate, which is offset by the converse exposure to the same type of risk with respect to its debt denominated in US dollar.

The hedge relationships are assessed on a monthly basis and they may cease and may be re-designated in order to achieve the risk management strategy.

Foreign exchange gains and losses relating to the effective portion of such hedges are recognized in other comprehensive income and reclassified to the statement of income within finance income (expense) in the periods when the hedged item affects the statement of income. The gains or losses relating to the ineffective portion are immediately recognized in finance income (expense).

Whenever a portion of future exports for a certain period, for which their foreign exchange gains and losses hedging relationship has been designated is no longer highly probable, the Company revokes the designation and the cumulative foreign exchange gains or losses that have been recognized in other comprehensive income remain separately in equity until the forecast exports occur.

If future exports for which foreign exchange gains and losses hedging relationship has been designated is no longer expected to occur, any related cumulative foreign exchange gains or losses that have been recognized in other comprehensive income from the date the hedging relationship was designated to the date the Company revoked the designation is immediately recycled from equity to the statement of income.

In addition, when a financial instrument designated as a hedging instrument expires or settles, the Company may replace it with another financial instrument in a manner in which the hedge relationship continues to occur. Likewise, whenever a hedged transaction effectively occurs, its financial instrument previously designated as a hedging instrument may be designated for a new hedge relationship.

The gains or losses relating to the ineffective portion are immediately recognized in finance income (expense). Ineffectiveness may occur as hedged items and hedge instruments have different maturity dates and due to discount rate used to determine their present value.

b) Cross currency swap – Pounds Sterling x Dollar

In 2017, the Company, through its wholly owned subsidiary Petrobras Global Trading B.V. (PGT), entered into cross currency swaps maturing in 2026 and 2034, with notional amounts of £ 700 million and £ 600 million, respectively, in order to hedge its Pounds/U.S. Dollar exposure arising from bonds issued amounting to £ 1,300. The Company recognized a US\$ 241 loss in the year ended December 31, 2019 (a US\$ 265 gain in the year ended December 31, 2018) arising from this strategy, recorded in finance income (expense). The Company does not expect to settle these swaps before their expiration dates.

c) Swap contracts – National consumer price index (IPCA) x Brazilian interbank offering rate (CDI) and CDI x Dollar

In September 2019, Petrobras contracted a cross currency swap aiming to protect against exposure arising from the 7th issuance of debentures, settled on October 9, 2019, in the total notional amount of US\$ 367 for IPCA x CDI operations, maturing in September 2029, and US\$ 240 for CDI x U.S. Dollar operations, maturing in September 2024 and September 2029.

The mark to market of IPCA x CDI swap operations registered a US\$ 11 gain in the year ended December 31, 2019, while the mark to market of CDI x USD swap operations presented a US\$ 7 loss in the same period, both recorded as finance income (expense). The Company does not expect to settle these swaps before their expiration dates.

Changes in future interest rate curves (CDI) may have an impact on the Company's results, due to the market value of these swap contracts. A sensitivity analysis on CDI with a constant increase (parallel shock) of 100 basis points, all other variables remaining constant, would result in a US\$ 20 loss, while a constant reduction (parallel shock) of 100 basis points, would result in a US\$ 24 gain.

d) Non Deliverable Forward (NDF) – Euro x Dollar and Pounds Sterling x Dollar

In 2018, the Company, also through PGT, entered into non deliverable forwards with notional amounts of Euro 3,000 million and £ 419 million, maturing in 2019, in order to reduce its euro x dollar and pounds x dollar exposures raised by bonds issued. In the year ended December 31, 2019, the notional amount was reduced to Euro 2,255 million and £ 167 million, adjusting the protection to a lower exposure to the Euro and Pounds Sterling provided by the repurchase of bonds in these currencies over the course of this period. The Company recognized a US\$ 227 loss in the year ended December 31, 2019 arising from this strategy (US\$ 139 in the same period of 2018), recorded in finance income (expense). The Company does not expect to settle these NDFs before their expiration dates.

e) Sensitivity analysis for foreign exchange risk on financial instruments

A sensitivity analysis is set out below, showing the probable scenario for foreign exchange risk on financial instruments, computed based on external data along with stressed scenarios (a 25% and a 50% change in the foreign exchange rates), except for assets and liabilities of foreign subsidiaries, when transacted in a currency equivalent to their respective functional currencies.

Financial Instruments	Exposure at 12.31.2019	Risk	Probable Scenario (*)	Reasonably possible scenario	Remote Scenario
Assets	6,088		74	1,522	3,044
Liabilities	(92,470)	Dollar/Real	(1,130)	(23,094)	(46,188)
Exchange rate - Cross currency swap	(746)		(9)	(187)	(373)
Cash flow hedge on exports	87,651		1,072	21,913	43,826

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	1,046		14	309	618
Assets	3		-	1	2
Liabilities	(18)	Euro/Real	-	(5)	(9)
	(15)		-	(4)	(7)
Assets	2,554	Euro/Dollar	(9)	639	1,277
Liabilities	(5,136)		19	(1,284)	(2,568)
Non Deliverable Forward (NDF)	2,524		(9)	631	1,262
	(58)		1	(14)	(29)
Assets	2	Pound	-	1	1
Liabilities	(21)	Sterling/Real	-	(5)	(11)
	(19)		-	(4)	(10)
Assets	1,925	Pound Sterling	(2)	481	963
Liabilities	(3,863)	/Dollar	5	(966)	(1,932)
Derivative - cross currency swap	1,718		(2)	429	859
Non Deliverable Forward (NDF)	216		-	54	108
	(4)		1	(2)	(2)
Total at December 31, 2019	950		16	285	570
Total at December 31, 2018	848		6	210	422

(*) On December 31, 2019, the probable scenario was computed based on the following risks: R\$ x U.S. Dollar - a 1.2% depreciation of the Real; lene x Dollar: a 0.4% depreciation of the lene; Euro x U.S. Dollar: a 0.4% depreciation of the Euro; Pound Sterling x U.S. Dollar: a 0.12% depreciation of the Pound Sterling; Real x Euro: a 0.9% depreciation of the Real; and Real x Pound Sterling - a 1.1% depreciation of the Real. Source: Focus and Bloomberg.

36.3. Interest rate risk management

The Company considers that interest rate risk does not create a significant exposure and therefore, preferably does not use derivative financial instruments to manage interest rate risk, except for specific situations faced by certain subsidiaries of Petrobras.

36.4. Credit risk

Credit risk management in Petrobras aims to mitigate risk of not collecting receivables, financial deposits or collateral from third parties or financial institutions through efficient credit analysis, granting and management based on quantitative and qualitative parameters that are appropriate for each market segment in which the Company operates.

The commercial credit portfolio is broad and diversified and comprises clients from the domestic and foreign markets. Credit granted to financial institutions is related to collaterals received, cash surplus invested and derivative financial instruments. It is spread among "investment grade" international banks rated by international rating agencies and Brazilian banks with low credit risk.

36.4.1. Credit quality of financial assets

a) Trade and other receivables

The Company has internal credit commissions that assess creditworthiness and define credit limits, which are regularly monitored, based on the customer's main activity, commercial relationship and credit history with Petrobras, solvency, financial situation and external market assessment of the customer.

b) Other financial assets

Credit quality of cash and cash equivalents, as well as marketable securities is based on external credit ratings provided by Standard & Poor's, Moody's and Fitch. The credit quality of those financial assets, that are neither past due nor considered to be credit impaired, are set out below:

	Cash and cash equivalents		Marketable securities	
	2019	2018	2019	2018
AAA	-	-	-	1
AA	1,053	811	-	-
A	1,173	8,421	-	-
BBB	41	51	-	-
BB	3,591	2,599	838	-
B	2	2	-	-
AAA.br	80	706	33	1,077
AA.br	1,224	1,299	48	58
A.br	-	-	-	-
BB.br	-	-	-	-
Other ratings	208	10	27	-
	7,372	13,899	946	1,136

36.5. Liquidity risk

Liquidity risk is represented by the possibility of a shortage of cash or other financial assets in order to settle the Company's obligations on the agreed dates and is managed by the Company based on policies such as: centralization of cash management, optimization of the level of cash and cash equivalents held and reduction of working capital; maintenance of an adequate cash balance to ensure that cash need for investments and short-term obligations is met even in adverse market conditions; increase in the average debt maturity, increase in funding sources from domestic and international markets (new markets and financial products), as well as funds under the partnership and divestment program.

Following its liability management strategy, the Company regularly evaluates market conditions and may enter into transactions to repurchase its own securities or those of its affiliates, through a variety of means, including tender offers, make whole exercises and open market repurchases, in order to improve its debt repayment profile and cost of debt.

A maturity schedule of the Company's finance debt (undiscounted), including face value and interest payments is set out as follows:

Maturity	2020	2021	2022	2023	2024	2025 and thereafter	Balance at	Balance at
							December 31, 2019	December 31, 2018
Principal	3,551	4,217	4,829	8,139	8,627	35,921	65,284	85,279
Interest	3,295	3,201	3,024	2,738	2,354	29,247	43,859	51,359
Total	6,846	7,418	7,853	10,877	10,981	65,168	109,143	136,638

36.6. Insurance

The Company's insurance strategy involves acquiring insurance to cover risks that may produce material impacts and to cover risks that are subject to compulsory insurance coverage (pursuant to legal or contractual requirements). The remaining risks are self-insured and Petrobras intentionally assumes the entire risk by abstaining from contracting insurance. The Company assumes a significant portion of its risk, by entering into insurance policies that have deductible clauses up to the equivalent to US\$180.

Additionally, the Company has indemnify clauses in its bylaws, as set out in note 30.

The main information concerning the insurance coverage outstanding at December 31, 2019 is set out below:

Assets	Types of coverage	Amount insured
Facilities, equipment inventory and products inventory	Fire, operational risks and engineering risks	140,248
Tankers and auxiliary vessels	Hulls	3,212
Fixed platforms, floating production systems and offshore drilling units	Oil risks	27,505
Total		170,965

Petrobras does not have loss of earnings insurance or insurance related to automobiles and pipeline networks in Brazil.

37. Related-party transactions

The Company has a related-party transactions policy, which is annually revised and approved by the Board of Directors, and is applicable to all the Petrobras Group, in accordance with the Company's by-laws.

In order to ensure the goals of the Company are achieved and to align them with transparency of processes and corporate governance best practices, this policy guides Petrobras while entering into related-party transactions and dealing with potential conflicts of interest on these transactions, based on the following assumptions and provisions:

- Prioritization of the Company's interests regardless of the counterparty;
- Arm's length basis;
- Compliance with market conditions, especially concerning terms, prices and guarantees or with adequate compensatory payment;
- Accurate and timely disclosure in accordance with applicable authorities.

The Audit Committee must approve in advance transactions between the Company and its associates, the Brazilian Federal Government, including its agencies or similar bodies and controlled entities, taking into account the materiality established by this policy. The Audit Committee reports monthly to the Board of Directors.

Transactions with entities controlled by key management personnel or by their close family members are also approved in advance by the Audit Committee regardless of the amount involved.

Transactions with the Brazilian Federal Government, including its agencies or similar bodies and controlled entities, which are under the scope of Board of Directors approval, must be preceded by the Audit Committee and Minority Shareholders Committee assessment and must have prior approval of, at least, 2/3 of the board members.

The related-party transactions policy also aims to ensure an adequate and diligent decision-making process for the Company's key management.

37.1. Transactions with joint ventures, associates, government entities and pension plans

The Company has engaged, and expects to continue to engage, in the ordinary course of business in numerous transactions with joint ventures, associates, pension plans, as well as with the Company's controlling shareholder, the Brazilian Federal Government, which include transactions with banks and other entities under its control, such as financing and banking, asset management and other transactions.

The balances of significant transactions are set out in the following table:

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	12.31.2019		12.31.2018	
	Assets	Liabilities	Assets	Liabilities
Joint ventures and associates				
Petrobras Distribuidora (BR)	224	47	-	-
Natural Gas Transportation Companies	150	717	92	336
State-controlled gas distributors (joint ventures)	338	104	307	114
Petrochemical companies (associates)	47	29	90	7
Other associates and joint ventures	35	203	193	408
Subtotal	794	1,100	682	865
Brazilian government – Parent and its controlled entities				
Government bonds	1,580	-	1,958	-
Banks controlled by the Brazilian Government	8,584	4,904	7,445	10,332
Receivables from the Electricity sector (note 13.4)	334	-	4,400	-
Petroleum and alcohol account - receivables from the Brazilian Government	304	-	307	-
Diesel Price Subsidy Program	-	-	400	-
Brazilian Federal Government - dividends	-	417	-	324
Empresa Brasileira de Administração de Petróleo e Gás Natural – Pré-Sal Petróleo S.A. – PPSA	-	20	-	144
Others	45	43	64	121
Subtotal	10,847	5,384	14,574	10,921
Pension plans	60	110	59	96
Total	11,701	6,594	15,315	11,882
Current	2,849	1,904	4,345	2,528
Non-Current	8,852	4,690	10,970	9,354
Total	11,701	6,594	15,315	11,882

(*) Purchase of crude oil and natural gas and Production Individualization Agreements (AIPs).

The income/expenses of significant transactions are set out in the following table:

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	2019	2018	2017
	Jan-Dec	Jan-Dec	Jan-Dec
Joint ventures and associates			
Petrobras Distribuidora (BR)	7,242	-	-
Natural Gas Transportation Companies	(1,858)	(932)	(1,040)
State-controlled gas distributors (joint ventures)	2,812	2,306	2,203
Petrochemical companies (associates)	2,926	3,762	3,847
Other associates and joint ventures	208	36	407
Subtotal	11,330	5,172	5,417
Brazilian government – Parent and its controlled entities			
Government bonds	107	109	153
Banks controlled by the Brazilian Government	(652)	(902)	(1,466)
Receivables from the Electricity sector (note 5.4)	300	1,713	643
Petroleum and alcohol account - receivables from the Brazilian Government	8	92	1
Diesel Price Subsidy Program	-	1,559	-
Brazilian Federal Government - dividends	(4)	3	-
Empresa Brasileira de Administração de Petróleo e Gás Natural – Pré-Sal Petróleo S.A. – PPSA	(110)	(461)	-
Others	(130)	144	227
Subtotal	(482)	2,257	(442)
Total	10,848	7,429	4,975
Revenues, mainly sales revenues	13,748	8,733	7,517
Purchases and services	(2,591)	(2,239)	(1,588)
Foreign exchange and inflation indexation charges, net	(395)	(316)	239
Finance income (expenses), net	87	1,251	(1,193)
Total	10,848	7,429	4,975

In addition to the aforementioned transactions, Petrobras and the Brazilian Federal Government entered into the Assignment Agreement in 2010, which grants the Company the right to carry out prospecting and drilling activities for hydrocarbons located in the pre-salt area limited to the production of five billion barrels of oil equivalent. For detailed information on Assignment Agreement, see note 9.

During the second quarter of 2019, the wholly owned subsidiary Transpetro signed an agreement with Transportadora Associada de Gás SA - TAG, an associate of Petrobras since June 13, 2019, to provide technical support services for gas transportation for a period of ten years.

For more information on the disposal of TAG, see note 9.

37.1.1. Diesel Price Subsidy Program

In 2018, after risk assessment, the Company joined the Diesel Price Subsidy Program established by the Brazilian Federal Government, specifically for that year. This program granted reimbursements to diesel producers and importers to the extent that their selling prices to the domestic distributors were equal or lower than prices determined by relevant regulation.

Through December 31, 2018, the Company accounted for US\$ 1,415 as revenues with respect to sales within the second and third phases of the program. Of this amount, US\$ 1,157 was disbursed to the Company in 2018, and the remaining balance through February 2019.

37.1.2. Accounting policy

A government grant is recognized when there is reasonable assurance that the grant will be received and the Company will comply with the conditions attached to the grant.

37.1.3. Petroleum and Alcohol accounts - Receivables from the Brazilian Federal Government

Pursuant to Provisional Measure 2,181 of August 24, 2001, the Brazilian Federal Government may settle the balance of receivables related to the Petroleum and Alcohol accounts by using National Treasury Notes in an amount equal to the outstanding balance, or allow the Company to offset the outstanding balance against amounts payable to the Federal Government, including taxes payable, or both.

Following several negotiation attempts at the administrative level, the Company filed a lawsuit in July 2011 to collect the receivables. In October 2016, the court ruled in favor of the Company disallowing the use of an alleged debt from the liquidated company of the group, Petrobras Comércio Internacional S.A. – Interbrás, by the Brazilian Federal Government, when offsetting the outstanding balance. In July 2017, the Brazilian Federal Government appealed the ruling and, shortly after, the Regional Federal Court (*Tribunal Regional Federal* – TRF) denied the appeal, sustained the aforementioned ruling from 2016 and determined the settlement of the amount owed by the Brazilian Federal Government including inflation charges from August 2011 based on the National Consumer Price Index – IPCA and interest at rates provided for the Brazilian Federal Justice.

In September 2018, the Brazilian Supreme Court ruled on a decision of including inflation indexation on an amount to be paid by the Brazilian Federal Government with respect to another proceeding in which the Company is not a party. According to this decision, such inflation charges were stayed and this decision affects all similar claims in which the Brazilian Federal Government is a party.

In October 2019, the Superior Federal Court (*Superior Tribunal Federal* - STF) dismissed the Brazilian Federal Government's appeal, maintaining the inflation indexation by the IPCA-E, according to the TRF ruling. Considering that the STF decision mentioned above has not yet become final and that the Brazilian Federal Government may challenge the Compliance with Judgment that Petrobras would present, the indexation to the IPCA-E, amounting to US\$ 277 at December 31, 2019, remains unrecorded as it is classified as a contingent asset.

As of December 31, 2018, the balance of receivables related to the Petroleum and Alcohol accounts was US\$ 304 (US\$ 307 as of December 31, 2018), recorded within non-current assets.

On November 1, 2019, Petrobras presented Compliance with Judgment in the case file, intending to receive the amounts due by the Brazilian Federal Government. The proceeding is awaiting a decision from the judge and a subpoena of the Federal Government to proceed.

37.2. Compensation of key management personnel

The criteria for compensation of employees and officers are established based on the relevant labor legislation and the Company's Positions, Salaries and Benefits Plan (*Plano de Cargos e Salários e de Benefícios e Vantagens*).

The compensation of employees (including those occupying managerial positions) and officers in December 2019 and December 2018 were:

Compensation of employees, excluding officers (amounts in U.S. dollars)	Dec/2019	Dec/2018
Lowest compensation	928	973
Average compensation	4,985	4,961
Highest compensation	26,602	27,219
Compensation of highest paid Petrobras officer	28,038	30,659

The compensation of Executive Officers and Board Members of Petrobras parent company, which are based on the assumptions governed by the Secretariat of Management and Governance of the State-owned Companies (*Secretaria de Coordenação e Governança das Empresas Estatais* – SEST) and the Ministry of Mines and Energy, is set out as follows

	Jan-Dec/2019			Jan-Dec/2018		
	Officers	Board members	Total	Officers	Board members	Total
Wages and short-term benefits	2.9	0.3	3.2	3.6	0.4	4.0
Social security and other employee-related taxes	1.0	-	1.0	1.0	-	1.0
Post-employment benefits (pension plan)	0.4	-	0.4	0.3	-	0.3
Variable compensation	2.8	-	2.8	1.4	-	1.4
Benefits due to termination of tenure	0.4	-	0.4	0.5	-	0.5
Total compensation recognized in the statement of income	7.5	0.3	7.8	6.8	0.4	7.2
Total compensation paid	6.0	-	6.0	4.9	0.4	5.3
Average number of members in the period (*)	7.67	9.75	17.42	7.92	10.08	18.00
Average number of paid members in the period (**)	7.67	5.00	12.67	7.92	6.00	13.92

(*) Monthly average number of members.

(**) Monthly average number of paid members.

For the year ended December 31, 2019, charges related to compensation of the board members and executive officers of the Petrobras group amounted to US\$ 15 (US\$ 24.2 for the year ended December 31, 2018).

On September 30, 2019, the Company's Extraordinary General Meeting approved a change in the overall compensation for executive officers and board members, given the creation of the Executive Office of Digital Transformation and Innovation, setting the total compensation threshold at US\$ 8.2 from April 2019 to March 2020.

The compensation of the Advisory Committees to the Board of Directors is apart from the fixed compensation set for the Board Members and, therefore, has not been classified under compensation of Petrobras' key management personnel.

In accordance with Brazilian regulations applicable to companies controlled by the Brazilian Federal Government, Board members who are also members of the Audit Committee or Audit Committee of the Petrobras Conglomerate are only compensated with respect to their Audit Committee duties. The total compensation concerning these members was US\$ 431 thousand for the year ended December 31, 2019 (US\$ 507 thousand with social security and related charges).

In 2018, the Board of Directors approved the variable compensation program (PRV) of the Board of Executive Officers for the year 2018. The amount of compensation to be paid varies according to the percentage of achievement of the financial and operational targets. The program foresees compensations being disbursed through 5 years.

Exemption from damage (indemnity)

The company's bylaws establishes the obligation to indemnify and keep the officers without losses, members with statutory functions and other employees and agents that legally act through officers' delegation, so as to cope with certain expenses related to arbitration, judicial or administrative processes that involve acts performed in the exercise of their duties or powers, since the date of your possession or the since the beginning of the contractual relation with the Company.

The period of the agreement coverage began on December 18, 2018 and continues until the occurrence of the following events, whichever comes last: (i) the end of the fifth (5th) year following the date on which the beneficiary leave, for any reason, to exercise the mandate, function or position; (ii) the course of the time required in transit of any Process in which the Beneficiary is partly due to the practice of Regular Management Act; or (iii) the course of the limitation period according to law to events that can generate the obligations of indemnification by the Company, including, but not limited to, the criminal statute applicable deadline, even if such period is applied by administrative authorities. The maximum exposure established by the company (global limit for all eventual claims) until April 2020 is US\$ 500.

Indemnity agreements shall not cover: (i) acts covered under and insurance policy purchased by the Company, as formally recognized and implemented by the insurance company; (ii) acts outside the regular exercise of the duties or powers of the Beneficiaries; (iii) acts in bad faith act, malicious acts, fraud or serious fault on the part of the Beneficiaries; (iv) self-interested acts or in favor of third parties that damage the company's social interest; (v)

obligation to pay damages arising from social action according to article 159 of Law 6,404/76 or reimbursement of the damages according to art. 11, § 5º, II of Law 6,385/76; (iv) other cases where a manifest conflict of interest with the company is established. It is worth noting that after a final unappealable decision, if it is proved that the act performed by the beneficiary is not subject to indemnification, the beneficiary is obligated to return the advanced amounts to the company.

In case of potential conflicts of interest, it is important to mention that the company may hire outside professionals, with a principled, impartial and independent reputation and with a strong experience to evaluate eventual indemnity lawsuits, verifying whether or not the act will be covered. In addition, the beneficiary of an indemnity agreement would be prevented from attending meetings or discussions concerning the payment approval of his or her own expenses.

38. Supplemental information on statement of cash flows

	<u>Jan-Dec/2019</u>	<u>Jan-Dec/2018</u>
Amounts paid/received during the period:		
Withholding income tax paid on behalf of third-parties	1,165	839
Capital expenditures and financing activities not involving cash		
Purchase of property, plant and equipment on credit	76	137
Lease (*)	2,301	-
Provision/(reversals) for decommissioning costs	5,497	4,777
Use of deferred tax and judicial deposit for the payment of contingency	3	60

(*) The effects arising from the adoption of IFRS 16 are set out in note 33.

39. Information related to guaranteed securities issued by subsidiaries

39.1. Petrobras Global Finance B.V. (PGF)

Petróleo Brasileiro S.A. – Petrobras fully and unconditionally guarantees the debt securities issued by Petrobras Global Finance B.V. (PGF), a 100-percent-owned finance subsidiary of Petrobras. There are no significant restrictions on the ability of Petrobras to obtain funds from PGF.

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Supplementary information on Oil and Gas Exploration and Production (unaudited)

(Expressed in millions of US Dollars, unless otherwise indicated)

Supplementary information on Oil and Gas Exploration and Production (unaudited)

This section provides supplemental information on oil and gas exploration and production activities of the Company. The information included in items (i) through (iii) provides historical cost information pertaining to costs incurred in exploration, property acquisition and development, capitalized costs and results of operations. The information included in items (iv) and (v) presents information on Petrobras' estimated net proved reserve quantities, standardized measure of estimated discounted future net cash flows related to proven reserves, and changes in estimated discounted future net cash flows.

The Company, on December 31, 2019, maintains activities mainly in Brazil, in addition to activities in Argentina, Colombia and Bolivia, in South America. The equity-accounted investments are comprised of the operations of Petrobras Oil and Gas B.V. (PO&G) in Nigeria, Africa (note 30.1), and the joint venture company of which Murphy Exploration & Production Company ("Murphy") has 80% stake and Petrobras America Inc ("PAI") 20% stake in United States of America, North America. The Company reports its reserves in Brazil, United States of America, Nigeria and Argentina. Bolivian reserves are not included due to restrictions determined by Bolivian Constitution. In Colombia, our activities are exploratory, and therefore, there are no associated reserves.

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i) Capitalized costs relating to oil and gas producing activities

As set out in note 26, the Company uses the successful efforts method of accounting for appraisal and development costs of crude oil and natural gas production. In addition, notes 23.3 and 24.2 presents the accounting policies applied by the Company for recognition, measurement and disclosure of property, plant and equipment and intangible assets.

The following table summarizes capitalized costs for oil and gas exploration and production activities with the related accumulated depreciation, depletion and amortization, and asset retirement obligations:

	Consolidated entities						Equity Method Investees
	Abroad					Total	
	Brazil	South America	North America	Others	Total		
December 31, 2019							
Unproved oil and gas properties	23,063	117	-	-	117	23,180	-
Proved oil and gas properties	81,063	135	-	-	135	81,198	4,202
Support Equipment	88,289	687	-	1	688	88,977	-
Gross Capitalized costs	192,414	940	-	1	941	193,355	4,202
Depreciation, depletion and amortization	(51,332)	(581)	-	(1)	(582)	(51,914)	(1,690)
Net capitalized costs	141,081	359	-	-	359	141,441	2,513
December 31, 2018							
Unproved oil and gas properties	5,999	112	-	-	112	6,111	-
Proved oil and gas properties	88,572	144	-	-	144	88,716	4,091
Support Equipment	83,822	649	-	389	1,038	84,860	6
Gross Capitalized costs	178,393	905	-	389	1,294	179,687	4,097
Depreciation, depletion and amortization	(60,890)	(544)	-	(29)	(573)	(61,463)	(1,410)
Net capitalized costs	117,503	361	-	360	721	118,224	2,687
December 31, 2017							
Unproved oil and gas properties	5,803	109	-	-	109	5,912	-
Proved oil and gas properties	96,195	111	4,656	-	4,767	100,962	3,134
Support Equipment	86,021	606	81	392	1,079	87,100	6
Gross Capitalized costs	188,019	826	4,737	392	5,955	193,974	3,140
Depreciation, depletion and amortization	(63,245)	(504)	(2,217)	(12)	(2,733)	(65,978)	(1,287)
Net capitalized costs	124,774	322	2,520	380	3,222	127,996	1,853

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ii) Costs incurred in oil and gas property acquisition, exploration and development activities

Costs incurred are summarized below and include both amounts expensed and capitalized:

	Consolidated entities					Total	Equity Method Investees
	Abroad						
	Brazil	South America	North America	Others			
December 31, 2019							
Acquisition costs:							
Proved	-	-	-	-	-	-	-
Unproved (*)	16,670	-	-	-	-	16,670	-
Exploration costs	1,069	11	-	-	11	1,080	3
Development costs	6,819	6	-	-	6	6,825	150
Total	24,558	17	-	-	17	24,575	153
December 31, 2018							
Acquisition costs:							
Proved	-	-	-	-	-	-	-
Unproved	832	-	-	-	-	832	-
Exploration costs	776	10	1	-	11	787	5
Development costs	9,685	32	229	-	261	9,946	252
Total	11,293	43	230	-	272	11,565	257
December 31, 2017							
Acquisition costs:							
Proved	-	-	-	-	-	-	-
Unproved	903	-	-	-	-	903	-
Exploration costs	1,223	33	4	-	37	1,260	4
Development costs	11,553	23	230	-	253	11,806	294
Total	13,679	56	234	-	290	13,969	298

(*) Mainly acquisition of oil exploration rights - Transfer of Rights, according to note 23.4

(iii) Results of operations for oil and gas producing activities

The Company's results of operations from oil and gas producing activities for the years ended December 31, 2019, 2018 and 2017 are shown in the following table. The Company transfers substantially all of its Brazilian crude oil and gas production to the Refining, Transportation & Marketing segment in Brazil. The internal transfer prices calculated by the Company's model may not be indicative of the price the Company would have realized had this production been sold in an unregulated spot market. Additionally, the prices calculated by the Company's model may not be indicative of the future prices to be realized by the Company. Gas prices used are those set out in contracts with third parties.

Production costs are lifting costs incurred to operate and maintain productive wells and related equipment and facilities, including operating employees' compensation, materials, supplies, fuel consumed in operations and operating costs related to natural gas processing plants.

Exploration expenses include the costs of geological and geophysical activities and projects without economic feasibility. Depreciation and amortization expenses relate to assets employed in exploration and development activities. In accordance with Codification Topic 932 – Extractive Activities – Oil and Gas, income taxes are based on statutory tax rates, reflecting allowable deductions. Interest income and expense are excluded from the results reported in this table.

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(Expressed in millions of US Dollars, unless otherwise indicated)

	Consolidated entities						Equity Method Investees
	Abroad					Total	
	Brazil	South America	North America	Others	Total		
December 31, 2019							
Net operation revenues:							
Sales to third parties	888	174	-	-	174	1,062	1,114
Intersegment	49,400	-	-	-	-	49,400	-
	50,288	174	-	-	174	50,462	1,114
Production costs	(15,749)	(69)	-	-	(69)	(15,818)	(124)
Exploration expenses	(793)	(6)	-	-	(6)	(799)	(5)
Depreciation, depletion and amortization	(11,436)	(37)	-	(13)	(50)	(11,486)	(292)
Impairment of oil and gas properties	(1,535)	-	-	(421)	(421)	(1,956)	-
Other operating expenses	(1,420)	(13)	41	(34)	(6)	(1,426)	(20)
Results before income tax expenses	19,354	50	41	(468)	(377)	18,977	672
Income tax expenses	(6,579)	(17)	(14)	159	128	(6,451)	(229)
Results of operations (excluding corporate overhead and interest costs)	12,775	33	27	(309)	(249)	12,526	443
December 31, 2018							
Net operation revenues:							
Sales to third parties	1,142	190	998	-	1,188	2,330	375
Intersegment	50,052	-	-	-	-	50,052	-
	51,194	190	998	-	1,188	52,382	375
Production costs	(19,741)	(77)	(152)	-	(229)	(19,970)	(40)
Exploration expenses	(516)	(7)	(1)	-	(8)	(524)	(2)
Depreciation, depletion and amortization	(8,716)	(40)	(221)	(21)	(282)	(8,998)	(109)
Impairment of oil and gas properties	(686)	-	(705)	-	(705)	(1,391)	-
Other operating expenses	(2,188)	(839)	(88)	(38)	(965)	(3,153)	(12)
Results before income tax expenses	19,347	(773)	(169)	(59)	(1,001)	18,346	212
Income tax expenses	(6,576)	263	57	20	340	(6,236)	(162)
Results of operations (excluding corporate overhead and interest costs)	12,771	(510)	(112)	(39)	(661)	12,110	50
December 31, 2017							
Net operation revenues:							
Sales to third parties	482	215	725	-	940	1,422	443
Intersegment	40,762	-	-	-	-	40,762	-
	41,244	215	725	-	940	42,184	443
Production costs	(17,894)	(71)	(163)	-	(234)	(18,128)	(51)
Exploration expenses	(686)	(37)	(77)	-	(114)	(800)	1
Depreciation, depletion and amortization	9,466	(44)	(302)	(8)	(354)	(9,820)	(123)
Impairment of oil and gas properties	169	(13)	(113)	-	(126)	43	-
Other operating expenses	(2,571)	(12)	(125)	(274)	(411)	(2,982)	(19)
Results before income tax expenses	10,796	38	(55)	(282)	(299)	10,497	251
Income tax expenses	3,672	(13)	18	96	101	(3,571)	(98)
Results of operations (excluding corporate overhead and interest costs)	7,124	25	(37)	(186)	(198)	6,926	153

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(iv) Reserve quantities information

As presented in note 4.1, proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations – prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain. The project to extract the hydrocarbons must have commenced or there must be reasonable certainty that the project will commence within a reasonable time. Reserves estimate involves a high degree of judgment and complexity and its application affects different items of these Financial Statements.

The Company's estimated net proved oil and gas reserves and changes thereto for the years 2019, 2018 and 2017 are shown in the following table. Proved reserves are estimated in accordance with the reserve definitions prescribed by the Securities and Exchange Commission.

Proved developed oil and gas reserves are proved reserves that can be expected to be recovered: (i) through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well; and (ii) through installed extraction equipment and infrastructure operational at the time of the reserves estimate if the extraction is done by means not involving a well.

In some cases, substantial new investments in additional wells and related facilities will be required to recover these proved reserves and are named proved undeveloped reserves.

Reserve estimates are subject to variations due to technical uncertainties in the reservoir and changes in economic scenarios. A summary of the annual changes in the proved reserves of oil is as follows (in millions of barrels):

Proved developed and undeveloped reserves - Consolidated Entities (*)	Abroad					Synthetic oil in Brazil	Total
	Crude oil in Brazil	South America	North America	Africa	Total of crude oil abroad		
Reserves at December 31, 2016	8,063.0	0.8	96.4	-	97.3	6.8	8,167.1
Revisions of previous estimates	649.3	0.3	31.4	-	31.7	0.2	681.1
Extensions and discoveries	69.1	0.3	-	-	0.3	-	69.4
Improved Recovery	212.7	-	-	-	-	-	212.7
Production for the year	(744.6)	(0.2)	(13.2)	-	(13.4)	(1.0)	(759.0)
Reserves at December 31, 2017 (1)	8,249.4	1.2	114.6	-	115.8	6.0	8,371.3
Transfers by loss of control (2)	-	-	(100.4)	-	(100.4)	-	(100.4)
Revisions of previous estimates	342.7	-	-	-	-	(0.3)	342.5
Extensions and discoveries	308.5	0.6	-	-	0.6	-	309.1
Improved Recovery	224.2	-	-	-	-	-	224.2
Sales of reserves	(254.8)	-	-	-	-	-	(254.8)
Production for the year	(701.3)	(0.3)	(14.3)	-	(14.5)	(0.9)	(716.8)
Reserves at December 31, 2018	8,168.7	1.6	-	-	1.6	4.8	8,175.1
Revisions of previous estimates	718.8	-	-	-	-	-	718.8
Extensions and discoveries	17.5	-	-	-	-	3.6	21.1
Sales of reserves	(68.3)	-	-	-	-	-	(68.3)
Production for the year	(753.9)	(0.2)	-	-	(0.2)	(0.8)	(754.8)
Reserves at December 31, 2019	8,082.8	1.4	-	-	1.4	7.7	8,091.9

(1) In 2017, total proved reserves includes 263.7 million barrels related to assets held for sale.

(2) Amounts transferred from consolidated entities to equity method investees, as the Company concluded the operation that has resulted in the formation of a joint venture company ("JV"), of which Murphy Exploration & Production Company ("Murphy") has 80% stake and Petrobras America Inc ("PAI") 20% stake.

(*) Apparent differences in the sum of the numbers are due to rounding off.

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Proved developed and undeveloped reserves - Equity Method Investees (*)	Abroad				Total of crude oil abroad	Brazil's Synthetic Oil	Total
	Crude oil in Brazil	South America	North America	Africa			
Reserves at December 31, 2016	-	-	-	69.0	69.0	-	69.0
Revisions of previous estimates	-	-	-	2.6	2.6	-	2.6
Production for the year	-	-	-	(8.2)	(8.2)	-	(8.2)
Reserves at December 31, 2017	-	-	-	63.4	63.4	-	63.4
Transfers by loss of control (2)	-	-	100.4	-	100.4	-	100.4
Revisions of previous estimates	-	-	(0.9)	3.7	2.9	-	2.9
Sales of reserves	-	-	(80.4)	-	(80.4)	-	(80.4)
Purchases of reserves	-	-	7.9	-	7.9	-	7.9
Production for the year	-	-	(0.4)	(7.3)	(7.7)	-	(7.7)
Reserves at December 31, 2018 (1)	-	-	26.6	59.8	86.4	-	86.4
Revisions of previous estimates	-	-	0.7	(6.5)	(5.8)	-	(5.8)
Extensions and discoveries	-	-	-	0.6	0.6	-	0.6
Production for the year	-	-	(4.7)	(12.3)	(16.9)	-	(16.9)
Reserves at December 31, 2019 (1)	-	-	22.7	41.6	64.2	-	64.2

(1) In 2018, total proved reserves includes 59.8 million barrels related to PO&G assets held for sale. In 2019, total proved reserves include 41.6 million barrels of assets held for sale (PO&G).

(2) Amounts transferred from consolidated entities to equity method investees, as the Company concluded the operation that has resulted in the formation of a joint venture company ("JV"), of which Murphy Exploration & Production Company ("Murphy") has 80% stake and Petrobras America Inc ("PAI") 20% stake.

(*) Apparent differences in the sum of the numbers are due to rounding off.

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A summary of the annual changes in the proved reserves of natural gas is as follows (in billions of cubic feet):

Proved developed and undeveloped reserves - Consolidated Entities (*)	Abroad				Total Natural Gas Abroad	Brazil's Synthetic Gas	Total
	Natural Gas in Brazil	South America	North America	Africa			
Reserves at December 31, 2016	8,394.0	113.9	87.2	-	201.1	9.2	8,604.3
Revisions of previous estimates	(81.5)	19.5	(24.9)	-	(5.5)	0.1	(86.9)
Extensions and discoveries	37.4	41.0	-	-	41.0	-	78.4
Improved Recovery	204.2	-	-	-	-	-	204.2
Production for the year	(877.9)	(14.2)	(21.3)	-	(35.5)	(1.2)	(914.6)
Reserves at December 31, 2017 (1)	7,676.1	160.2	40.9	-	201.1	8.1	7,885.3
Transfers by loss of control (2)	-	-	(36.8)	-	(36.8)	-	(36.8)
Revisions of previous estimates	737.2	-	-	-	-	(1.0)	736.2
Extensions and discoveries	136.8	70.1	-	-	70.1	-	206.9
Improved Recovery	207.6	-	-	-	-	-	207.6
Sales of reserves	(165.5)	-	-	-	-	-	(165.5)
Production for the year	(801.8)	(16.2)	(4.1)	-	(20.3)	(1.3)	(823.5)
Reserves at December 31, 2018	7,790.5	214.1	-	-	214.1	5.7	8,010.3
Revisions of previous estimates	1,415.7	(42.3)	-	-	(42.3)	-	1,373.4
Extensions and discoveries	15.3	-	-	-	-	7.6	22.9
Sales of reserves	(24.0)	-	-	-	-	-	(24.0)
Production for the year	(816.9)	(15.5)	-	-	(15.5)	(1.2)	(833.7)
Reserves at December 31, 2019	8,380.6	156.3	-	-	156.3	12.1	8,549.0

(1) In 2017, total proved reserves includes 173.7 billion cubic feet related to assets held for sale.

(2) Amounts transferred from consolidated entities to equity method investees, as the Company concluded the operation that has resulted in the formation of a joint venture company ("JV"), of which Murphy Exploration & Production Company ("Murphy") has 80% stake and Petrobras America Inc ("PAI") 20% stake.

(*) Apparent differences in the sum of the numbers are due to rounding off.

Proved developed and undeveloped reserves - Equity Method Investees (*)	Abroad				Total Natural Gas Abroad	Brazil's Synthetic Gas	Total
	Natural Gas in Brazil	South America	North America	Africa			
Reserves at December 31, 2016	-	-	-	12.5	12.5	-	12.5
Revisions of previous estimates	-	-	-	5.7	5.7	-	5.7
Production for the year	-	-	-	(0.9)	(0.9)	-	(0.9)
Reserves at December 31, 2017	-	-	-	17.3	17.3	-	17.3
Transfers by loss of control (2)	-	-	36.8	-	36.8	-	36.8
Revisions of previous estimates	-	-	(3.1)	34.8	31.8	-	31.8
Sales of reserves	-	-	(29.7)	-	(29.7)	-	(29.7)
Purchases of reserves	-	-	6.9	-	6.9	-	6.9
Production for the year	-	-	(0.1)	(4.8)	(4.9)	-	(4.9)
Reserves at December 31, 2018 (1)	-	-	10.8	47.3	58.1	-	58.1
Revisions of previous estimates	-	-	0.1	10.9	11.0	-	11.0
Extensions and discoveries	-	-	-	0.3	0.3	-	0.3
Production for the year	-	-	(1.7)	(11.3)	(13.0)	-	(13.0)
Reserves at December 31, 2019 (1)	-	-	9.2	47.2	56.4	-	56.4

1) In 2018, total proved reserves includes 47.3 billion cubic feet related to PO&G assets held for sale. In 2019, total proved reserves includes 47.2 billion cubic feet related to PO&G assets held for

(2) Amounts transferred from consolidated entities to equity method investees, as the Company concluded the operation that has resulted in the formation of a joint venture company ("JV"), of which Murphy Exploration & Production Company ("Murphy") has 80% stake and Petrobras America Inc ("PAI") 20% stake.

(*) Apparent differences in the sum of the numbers are due to rounding off.

Natural gas production volumes used in these tables are the net volumes withdrawn from our proved reserves, including gas consumed in operations and excluding reinjected gas. Our disclosure of proved gas reserves includes gas volumes consumed, which represent 34% of our total proved reserves of natural gas at December, 2019.

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The tables below summarize information about the changes in total proved reserves of crude oil and natural gas, in millions of barrels of oil equivalent, in our consolidated entities and equity method investees for 2019, 2018 and 2017:

Proved developed and undeveloped reserves – Consolidated Entities (*)	Abroad					Total oil equivalent in Brazil	Total for all products
	Oil equivalent in Brazil	South America	North America	Africa	Total oil equivalent abroad		
Reserves at December 31, 2016	9,462.0	19.8	111.0	-	130.8	8.3	9,601.1
Revisions of previous estimates	635.7	3.5	27.2	-	30.7	0.2	666.6
Extensions and discoveries	75.4	7.1	-	-	7.1	-	82.5
Improved Recovery	246.7	-	-	-	-	-	246.7
Production for the year	(891.0)	(2.6)	(16.7)	-	(19.3)	(1.2)	(911.4)
Reserves at December 31, 2017 (1)	9,528.8	27.9	121.5	-	149.3	7.4	9,685.5
Transfers by loss of control (2)	-	-	(106.5)	-	(106.5)	-	(106.5)
Revisions of previous estimates	465.6	-	-	-	-	(0.4)	465.2
Extensions and discoveries	331.3	12.3	-	-	12.3	-	343.6
Improved Recovery	258.8	-	-	-	-	-	258.8
Sales of reserves	(282.4)	-	-	-	-	-	(282.4)
Production for the year	(834.9)	(3.0)	(15.0)	-	(17.9)	(1.2)	(854.0)
Reserves at December 31, 2018	9,467.1	37.2	-	-	37.2	5.8	9,510.1
Revisions of previous estimates	954.7	(7.0)	-	-	(7.0)	-	947.7
Extensions and discoveries	20.1	-	-	-	-	4.9	25.0
Sales of reserves	(72.3)	-	-	-	-	-	(72.3)
Production for the year	(890.0)	(2.8)	-	-	(2.8)	(1.0)	(893.8)
Reserves at December 31, 2019	9,479.6	27.4	-	-	27.4	9.7	9,516.7

(1) In 2017, total proved reserves includes 292.7 million barrels of oil equivalent related to assets held for sale.

(2) Amounts transferred from consolidated entities to equity method investees, as the Company concluded the operation that has resulted in the formation of a joint venture company ("JV"), of which Murphy Exploration & Production Company ("Murphy") has 80% stake and Petrobras America Inc ("PAI") 20% stake.

(*) Apparent differences in the sum of the numbers are due to rounding off.

Proved developed and undeveloped reserves - Equity Method Investees (*)	Abroad					Total oil equivalent in Brazil	Total for all products
	Oil equivalent in Brazil	South America	North America	Africa	Total oil equivalent abroad		
Reserves at December 31, 2016	-	0.0	-	71.1	71.1	-	71.1
Revisions of previous estimates	-	-	-	3.5	3.5	-	3.5
Production for the year	-	-	-	(8.3)	(8.3)	-	(8.3)
Reserves at December 31, 2017	-	-	-	66.3	66.3	-	66.3
Transfers by loss of control (2)	-	-	106.5	-	106.5	-	106.5
Revisions of previous estimates	-	-	(1.4)	9.6	8.2	-	8.2
Sales of reserves	-	-	(85.4)	-	(85.4)	-	(85.4)
Purchases of reserves	-	-	9.1	-	9.1	-	9.1
Production for the year	-	-	(0.5)	(8.1)	(8.6)	-	(8.6)
Reserves at December 31, 2018 (1)	-	-	28.4	67.7	96.1	-	96.1
Revisions of previous estimates	-	-	0.7	(4.7)	(4.0)	-	(4.0)
Extensions and discoveries	-	-	-	0.6	0.6	-	0.6
Production for the year	-	-	(4.9)	(14.1)	(19.1)	-	(19.1)
Reserves at December 31, 2019 (1)	-	-	24.2	49.5	73.6	-	73.6

(1) In 2018, total proved reserves includes 67.7 million barrels of oil equivalent related to PO&G assets held for sale. In 2019, total proved reserves includes 49.5 million barrels of oil equivalent related to PO&G assets held for sale.

(2) Amounts transferred from consolidated entities to equity method investees, as the Company concluded the operation that has resulted in the formation of a joint venture company ("JV"), of which Murphy Exploration & Production Company ("Murphy") has 80% stake and Petrobras America Inc ("PAI") 20% stake.

(*) Apparent differences in the sum of the numbers are due to rounding off.

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Proved developed and undeveloped reserves - Consolidated and Equity Method Investees (*)	Abroad				Total oil equivalent abroad	Total synthetic oil equivalent in Brazil	Total for all products
	Oil equivalent in Brazil	South America	North America	Africa			
Reserves at December 31, 2016	9,462.0	19.8	111.0	71.1	201.8	8.3	9,672.2
Revisions of previous estimates	635.7	3.5	27.2	3.5	34.3	0.2	670.1
Extensions and discoveries	75.4	7.1	-	-	7.1	-	82.5
Improved Recovery	246.7	-	-	-	-	-	246.7
Production for the year	(891.0)	(2.6)	(16.7)	(8.3)	(27.7)	(1.2)	(919.8)
Reserves at December 31, 2017 (1)	9,528.8	27.9	121.5	66.3	215.6	7.4	9,751.7
Revisions of previous estimates	465.6	-	(1.4)	9.6	8.2	(0.4)	473.3
Extensions and discoveries	331.3	12.3	-	-	12.3	-	343.6
Improved Recovery	258.8	-	-	-	-	-	258.8
Sales of reserves	(282.4)	-	(85.4)	-	(85.4)	-	(367.8)
Purchases of reserves	-	-	9.1	-	9.1	-	9.1
Production for the year	(834.9)	(3.0)	(15.4)	(8.1)	(26.5)	(1.2)	(862.6)
Reserves at December 31, 2018 (1)	9,467.1	37.2	28.4	67.7	133.3	5.8	9,606.2
Revisions of previous estimates	954.7	(7.0)	0.7	(4.7)	(11.0)	-	943.7
Extensions and discoveries	20.1	-	-	0.6	0.6	4.9	25.6
Sales of reserves	(72.3)	-	-	-	-	-	(72.3)
Production for the year	(890.0)	(2.8)	(4.9)	(14.1)	(21.9)	(1.0)	(912.8)
Reserves at December 31, 2019 (1)	9,479.6	27.4	24.2	49.5	101.1	9.7	9,590.4

(1) In 2017, total proved reserves includes 292.7 million barrels of oil equivalent related to assets held for sale in Brazil; in 2018, includes 67.7 million barrels of oil equivalent related to PO&G assets held for sale in Africa; and in 2019, includes 49.5 million barrels of oil equivalent related to assets held for sale in Africa.

(*) Apparent differences in the sum of the numbers are due to rounding off.

In 2019, we incorporated 943.7 million boe of reserves proved by revisions of previous estimates, composed of:

(i) addition of 529.1 million boe due to technical reviews, mainly associated with good performance and increased production experience of pre-salt reservoirs in the Santos Basin;

(ii) addition of 266.8 million boe referring to contractual revisions, including the reallocation of volumes due to the revision of the Transfer of Rights agreement, and the extension of concession contracts in Brazil;

(iii) addition of 242.6 million boe due to the approval of new projects in the Santos, Campos and Espírito Santo Basins; and

(iv) a 94.8 million boe reduction due to economic revisions, mainly due to the price reduction.

We also incorporated 25.6 million boe into our proved reserves due to discoveries and extensions, mainly in the Santos Basin pre-salt, and reduced 72.3 million boe from our proved reserves due to proved reserve sales.

Considering the production of 912.8 million boe in 2019 and the variations above, the company's total proved reserve resulted in 9,590.4 million boe in 2019. Production refers to volumes that were included in our reserves and, therefore, does not consider natural gas liquids, since the reserve is estimated at a reference point prior to gas processing, except in the United States and Argentina. The production also does not consider volumes of injected gas, the production of Extended Well Tests in exploratory blocks and production in Bolivia, since the Bolivian Constitution does not allow the disclosure of reserves.

In 2018, we incorporated 473.3 million boe of proved reserves by revising of previous estimates, including 233.5 million boe due to economic revisions, mainly due to the increase in prices, and 239.9 million boe due to technical revisions, mainly due to the good performance of reservoirs in the pre-salt layer of Santos and Campos basins, both in Brazil. In addition, we added 258.8 million boe in our proved reserves resulting from positive responses from improved recovery (water injection), and added 343.6 million boe in our proved reserves due to extensions and discoveries, mainly in the pre-salt of Santos basin.

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We reduced 367.8 million boe of our proved reserves due to sales of reserves and increased 9.1 million boe in our proved reserves due to purchases of reserves, resulting in a net effect of a decrease of 358.7 million boe in our proved reserves.

Considering a production of 862.6 million boe in 2018 and changes above, the company total proved reserves resulted in 9,606.2 million boe. This 862.6 million boe production volume is the net volume withdrawn from our proved reserves. Therefore, exclude NGL (except for North America), as we estimate our oil and gas reserves at a reference point prior to the gas processing plants, and does not consider the production of Extended Well Tests (EWTs) in exploratory blocks and production in Bolivia, since the Bolivian Constitution prohibits the disclosure and registration of its reserves.

In 2017, we incorporated 670.1 million boe of proved reserves by revising of previous estimates, including 355.4 million boe due to economic revisions, mainly due to the increase in prices, and 314.7 million boe due to technical revisions, mainly due to better than forecasted behavior from reservoirs, in the pre-salt layer of Santos and Campos basins, both in Brazil. In addition, we added 246.7 million boe in our proved reserves resulting from positive responses from improved recovery (water injection), and added 82.5 million boe in our proved reserves due to extensions and discoveries, mainly in the pre-salt of Santos basin.

Considering a production of 919.8 million boe in 2017, the company total proved reserves resulted in 9,751.7 million boe. This 919.8 million boe production does not consider the production of Extended Well Tests (EWTs) in exploratory blocks and production in Bolivia, since the Bolivian Constitution prohibits the disclosure and registration of its reserves.

The tables below show the volumes of proved developed and undeveloped reserves, net, that is, reflecting Petrobras' participation:

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	2017				
	Crude Oil	Synthetic Oil	Natural Gas	Synthetic Gas	Total oil and gas
	(mmbbl)		(bcf)		(mboe)
Net proved developed reserves (*):					
Consolidated Entities					
Brazil	4,282.2	6.0	4,515.9	8.1	5,042.2
South America, outside Brazil	0.7	-	56.7	-	10.2
North America	72.1	-	24.2	-	76.1
Total Consolidated Entities	4,355.0	6.0	4,596.8	8.1	5,128.5
Equity Method Investees					
Africa	29.6	-	9.3	-	31.1
Total Equity Method Investees	29.6	-	9.3	-	31.1
Total Consolidated and Equity Method Investees (1)	4,384.6	6.0	4,606.0	8.1	5,159.6
Net proved undeveloped reserves (*):					
Consolidated Entities					
Brazil	3,967.2	-	3,160.2	-	4,493.9
South America, outside Brazil	0.5	-	103.5	-	17.7
North America	42.6	-	16.7	-	45.3
Total Consolidated Entities	4,010.2	-	3,280.5	-	4,557.0
Equity Method Investees					
Africa	33.8	-	8.0	-	35.1
Total Equity Method Investees	33.8	-	8.0	-	35.1
Total Consolidated and Equity Method Investees (1)	4,044.0	-	3,288.5	-	4,592.1
Total proved reserves (developed and undeveloped)	8,428.6	6.0	7,894.5	8.1	9,751.7

(1) It includes amounts related to assets held for sale (191.9 million barrels of oil and 131.8 billion cubic feet of natural gas in net proved developed reserves and 71.9 million barrels of oil and 41.9 billion cubic feet of natural gas in net proved undeveloped reserves) in Brazil.

(*) Apparent differences in the sum of the numbers are due to rounding off.

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(Expressed in millions of US Dollars, unless otherwise indicated)

	2018				
	Crude Oil	Synthetic Oil	Natural Gas	Synthetic Gas	Total oil and gas
	(mmbbl)		(bcf)		(mboe)
Net proved developed reserves (*):					
Consolidated Entities					
Brazil	4,339.5	4.8	4,807.0	5.7	5,146.4
South America, outside Brazil	1.0	-	83.5	-	15.0
Total Consolidated Entities	4,340.5	4.8	4,890.5	5.7	5,161.4
Equity Method Investees					
North America (2)	20.0	-	8.3	-	21.4
Africa	30.9	-	27.6	-	35.5
Total Equity Method Investees	51.0	-	35.9	-	56.9
Total Consolidated and Equity Method Investees (1)	4,391.5	4.8	4,926.4	5.7	5,218.3
Net proved undeveloped reserves (*):					
Consolidated Entities					
Brazil	3,829.2	-	2,983.5	-	4,326.4
South America, outside Brazil	0.5	-	130.6	-	22.3
Total Consolidated Entities	3,829.7	-	3,114.1	-	4,348.7
Equity Method Investees					
North America (2)	6.5	-	2.5	-	6.9
Africa	28.9	-	19.7	-	32.2
Total Equity Method Investees	35.4	-	22.2	-	39.1
Total Consolidated and Equity Method Investees (1)	3,865.1	-	3,136.3	-	4,387.9
Total proved reserves (developed and undeveloped)	8,256.6	4.8	8,062.7	5.7	9,606.2

(1) It includes amounts related to assets held for sale (30.9 million barrels of oil and 27.6 billion cubic feet of natural gas in net proved developed reserves and 28.9 million barrels of oil and 19.7 billion cubic feet of natural gas in net proved undeveloped reserves) in Africa (PO&G).

(2) North America oil reserves includes 4.2% of natural gas liquid (NGL) in proved developed reserves and 3.6% of NGL in proved undeveloped reserves.

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	2019				
	Crude Oil (mmbbl)	Synthetic Oil	Natural Gas (bcf)	Synthetic Gas	Total oil and gas (mboe)
Net proved developed reserves (*):					
Consolidated Entities					
Brazil	4,999.1	7.7	5,715.6	12.1	5,961.4
South America, outside Brazil (2)	0.9	-	66.9	-	12.1
Total Consolidated Entities	5,000.0	7.7	5,782.5	12.1	5,973.5
Equity Method Investees					
North America (2)	18.2	-	7.0	-	19.4
Africa	37.1	-	44.7	-	44.6
Total Equity Method Investees	55.3	-	51.7	-	64.0
Total Consolidated and Equity Method Investees (1)	5,055.3	7.7	5,834.3	12.1	6,037.4
Net proved undeveloped reserves (*):					
Consolidated Entities					
Brazil	3,083.7	-	2,665.0	-	3,527.9
South America, outside Brazil (2)	0.5	-	89.3	-	15.4
Total Consolidated Entities	3,084.2	-	2,754.3	-	3,543.3
Equity Method Investees					
North America (2)	4.4	-	2.2	-	4.8
Africa	4.5	-	2.4	-	4.9
Total Equity Method Investees	8.9	-	4.6	-	9.7
Total Consolidated and Equity Method Investees (1)	3,093.1	-	2,759.0	-	3,552.9
Total proved reserves (developed and undeveloped)	8,148.4	7.7	8,593.2	12.1	9,590.4

(1) It includes amounts related to assets held for sale (37.1 million barrels of oil and 44.7 billion cubic feet of natural gas in net proved developed reserves and 4.5 million barrels of oil and 2.4 billion cubic feet of natural gas in net proved undeveloped reserves) in Africa (PO&G).

(2) South America oil reserves includes 20.3% of natural gas liquid (NGL) in proved developed reserves and 59.2% of NGL in proved undeveloped reserves. North America oil reserves includes 3.8% of natural gas liquid (NGL) in proved developed reserves and 5.3% of NGL in proved undeveloped reserves.

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(v) Standardized measure of discounted future net cash flows relating to proved oil and gas quantities and changes therein

The standardized measure of discounted future net cash flows, related to the above proved oil and gas reserves, is calculated in accordance with the requirements of Codification Topic 932 – Extractive Activities – Oil and Gas.

Estimated future cash inflows from production in Brazil are computed by applying the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions. Future price changes are limited to those provided by contractual arrangements existing at the end of each reporting year. Future development and production costs are those estimated future expenditures necessary to develop and produce year-end estimated proved reserves based on current costs, assuming continuing economic conditions. Estimated future income taxes (including future social contributions on net income - *CSLL*) are calculated by applying appropriate year-end statutory tax rates. The amounts presented as future income taxes expenses reflect allowable deductions considering statutory tax rates. Discounted future net cash flows are calculated using 10% mid-period discount factors. This discounting requires a year-by-year estimate of when the future expenditures will be incurred and when the reserves will be produced.

The valuation prescribed under Codification Topic 932 – Extractive Activities – Oil and Gas requires assumptions as to the timing and amount of future development and production costs. The calculations are made as of December 31 each year and should not be relied upon as an indication of Petrobras' future cash flows or the value of its oil and gas reserves.

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Standardized measure of discounted future net cash flows:

	Consolidated entities					Equity Method Investees (3)
	Abroad				Total	
	Brazil (2)	South America	North America	Total		
December 31, 2019						
Future cash inflows	535,788	609	-	609	536,397	4,045
Future production costs	(272,381)	(285)	-	(285)	(272,666)	(1,349)
Future development costs	(34,346)	(141)	-	(141)	(34,487)	(515)
Future income tax expenses	(86,012)	(31)	-	(31)	(86,044)	(438)
Undiscounted future net cash flows	143,049	152	-	152	143,200	1,743
10 percent midyear annual discount for timing of estimated cash flows (1)	(54,928)	(83)	-	(83)	(55,010)	(332)
Standardized measure of discounted future net cash flows	88,121	69	-	69	88,190	1,412
December 31, 2018						
Future cash inflows	601,754	1,112	-	1,112	602,866	5,998
Future production costs	(269,942)	(425)	-	(425)	(270,367)	(1,570)
Future development costs	(34,119)	(218)	-	(218)	(34,337)	(520)
Future income tax expenses	(111,522)	(91)	-	(91)	(111,613)	(1,006)
Undiscounted future net cash flows	186,171	379	-	379	186,549	2,903
10 percent midyear annual discount for timing of estimated cash flows (1)	(75,050)	(194)	-	(194)	(75,244)	(613)
Standardized measure of discounted future net cash flows	111,121	185	-	185	111,305	2,290
December 31, 2017						
Future cash inflows	439,058	912	5,361	6,274	445,332	3,487
Future production costs	(213,037)	(412)	(2,291)	(2,703)	(215,740)	(857)
Future development costs	(46,731)	(147)	(649)	(796)	(47,527)	(524)
Future income tax expenses	(63,087)	(89)	(86)	(175)	(63,262)	(339)
Undiscounted future net cash flows	116,204	265	2,335	2,600	118,803	1,768
10 percent midyear annual discount for timing of estimated cash flows (1)	(52,516)	(138)	(707)	(845)	(53,361)	(474)
Standardized measure of discounted future net cash flows	63,687	126	1,628	1,755	65,442	1,294

(1) Semiannual capitalization

(2) Includes the amount of US\$ 1.770 million related to assets classified as held for sale in 2017.

(3) Includes the amount of US\$ 1,675 million related to PO&G assets classified as held for sale in 2018. Includes the amount of US\$ 1,047 million related to PO&G assets classified as held for sale in

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Changes in discounted net future cash

	Consolidated entities					Equity Method Investees (2)
	Abroad				Total	
	Brazil (1)	South America	North America	Total		
Balance at January 1, 2019	111,121	185	-	185	111,305	2,290
Sales and transfers of oil and gas, net of production cost	(34,522)	(65)	-	(65)	(34,587)	(792)
Development cost incurred	6,819	6	-	6	6,825	150
Net change due to purchases and sales of minerals in place	(1,387)	-	-	-	(1,387)	-
Net change due to extensions, discoveries and improved recovery related costs	385	-	-	-	385	-
Revisions of previous quantity estimates	18,317	(44)	-	(44)	18,273	8
Net change in prices, transfer prices and in production costs	(34,114)	(145)	-	(145)	(34,259)	(505)
Changes in estimated future development costs	(5,324)	60	-	60	(5,265)	(97)
Accretion of discount	11,112	25	-	25	11,137	244
Net change in income taxes	15,714	41	-	41	15,755	363
Other - unspecified	-	7	-	7	7	(249)
Balance at December 31, 2019	88,121	69	-	69	88,190	1,412
Balance at January 1, 2018	63,687	126	1,628	1,755	65,442	1,294
Transfers by loss of control (3)	-	-	(1,428)	(1,428)	(1,428)	1,428
Sales and transfers of oil and gas, net of production cost	(31,429)	(76)	(844)	(921)	(32,350)	(369)
Development cost incurred	9,685	32	229	261	9,946	252
Net change due to purchases and sales of minerals in place	(4,773)	-	-	-	(4,773)	(1,770)
Net change due to extensions, discoveries and improved recovery related costs	11,284	123	-	123	11,407	-
Revisions of previous quantity estimates	10,688	-	-	-	10,688	50
Net change in prices, transfer prices and in production costs	72,662	44	383	427	73,089	1,740
Changes in estimated future development costs	1,857	(76)	(118)	(194)	1,664	(93)
Accretion of discount	6,369	19	150	169	6,537	129
Net change in income taxes	(28,910)	(4)	-	(4)	(28,914)	(489)
Other - unspecified	-	(4)	-	(4)	(4)	119
Balance at December 31, 2018	111,121	185	-	185	111,305	2,290
Balance at January 1, 2017	34,424	98	830	927	35,351	583
Sales and transfers of oil and gas, net of production cost	(23,394)	(60)	(564)	(624)	(24,018)	(261)
Development cost incurred	11,553	23	230	253	11,806	294
Net change due to purchases and sales of minerals in place	-	-	-	-	-	-
Net change due to extensions, discoveries and improved recovery related costs	4,187	69	-	69	4,256	-
Revisions of previous quantity estimates	8,264	37	443	480	8,744	51
Net change in prices, transfer prices and in production costs	50,326	3	735	738	51,064	494
Changes in estimated future development costs	(15,878)	(31)	(144)	(175)	(16,053)	(25)
Accretion of discount	3,442	14	76	90	3,532	58
Net change in income taxes	(9,237)	(18)	(2)	(20)	(9,257)	(92)
Other - unspecified	-	(9)	25	16	16	190
Balance at December 31, 2017	63,687	126	1,628	1,755	65,442	1,294

(1) In 2017, total proved reserves includes 263.7 million barrels related to assets held for sale.

(2) Amounts transferred from consolidated entities to equity method investees, as the Company concluded the operation that has resulted in the formation of a joint venture company ("JV"), of which Murphy Exploration & Production Company ("Murphy") has 80% stake and Petrobras America Inc ("PAI") 20% stake.

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Supplementary information – General public concerned under Law 13.303/16 (unaudited)

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Additional information of general public concern – Law 13.303/16 (unaudited)

In order to comply with rules of disclosure about the activities that, in accordance with the requirements of article 3 of Petrobras' Bylaws, are related to the achievement of public interest purposes under conditions different from those of any other private sector company operating in the same market, we summarize below the commitments in effect in the year 2018.

I – Priority Thermoelectric Program – (Programa Prioritário de Termoeletricidade- PPT)

On February 24, 2000, the Brazilian federal government enacted the Decree No. 3.371 governing the implementation of thermoelectric power plants in Brazil through the Priority Thermoelectric Program (PPT). The thermoelectric power plants in the scope of this program were entitled to supply natural gas for up to 20 years with a pre-established price indexed to the U.S. inflation. The gas supply for the plants included in this program, in 2019, generated revenues of approximately US\$ 306 and costs of US\$ 581. As of December 31, 2019, the company had two plants in the scope of this program plus one plant, which supply of natural gas occurs by virtue of a court order.

II – National Program for Rationalization of the Use of Oil and Gas Products – (Programa Nacional de Racionalização do Uso dos Derivados do Petróleo e do Gás Natural – CONPET)

On February 18, 1991, the Brazilian federal government established the National Program for Rationalization of the Use of Oil and Gas Products (CONPET), which was intended to develop an anti-waste culture in the use of non-renewable natural resources. The Company is also a member of the Brazilian Labeling Program (Programa Brasileiro de Etiquetagem- PBE) in partnership with the National Institute of Metrology, Quality and Technology (INMETRO), which goal is to stimulate the production and use of gas appliances and vehicles with lower carbon emission, in addition of taking part in other agreements for the elaboration of partnerships with entities for the purpose of monitoring and guidance on vehicular emissions. In 2019, the costs associated with CONPET were immaterial.



MINISTÉRIO DE
MINAS E ENERGIA

