
UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Fiscal Year ended December 31, 2022.
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Transition period from _____ to _____.

Commission file No. 001-15891

NRG Energy, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)

41-1724239
(I.R.S. Employer Identification No.)

910 Louisiana Street, Houston, Texas
(Address of principal executive offices)

77002
(Zip Code)

(713) 537-3000

(Registrant's telephone number, including area code)

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

<u>Title of Each Class</u>	<u>Trading Symbol(s)</u>	<u>Name of Exchange on Which Registered</u>
Common Stock, par value \$0.01	NRG	New York Stock Exchange

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. 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 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer
Non-accelerated filer

Accelerated filer
Smaller reporting company
Emerging growth company

If an emerging growth company, 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 whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C 7262(b)) by the registered public accounting firm that prepared or issued its audit report

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

As of the last business day of the most recently completed second fiscal quarter, the aggregate market value of the common stock of the registrant held by non-affiliates was approximately \$6,461,030,777 based on the closing sale price of \$38.17 as reported on the New York Stock Exchange.

Indicate the number of shares outstanding of each of the registrant's classes of common stock as of the latest practicable date.

<u>Class</u>	<u>Outstanding at February 15, 2023</u>
Common Stock, par value \$0.01 per share	229,774,238

Documents Incorporated by Reference:

Portions of the Registrant's definitive Proxy Statement relating to its 2023 Annual Meeting of Stockholders are incorporated by reference into Part III of this Annual Report on Form 10-K

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Glossary of Terms

When the following terms and abbreviations appear in the text of this report, they have the meanings indicated below:

ACE	Affordable Clean Energy
Adjusted EBITDA	Adjusted earnings before interest, taxes, depreciation and amortization
AESO	Alberta Electric System Operator
ARO	Asset Retirement Obligation
ASC	The FASB Accounting Standards Codification, which the FASB established as the source of authoritative GAAP
ASU	Accounting Standards Updates – updates to the ASC
AUC	Alberta Utilities Commission
Bankruptcy Court	United States Bankruptcy Court for the Southern District of Texas, Houston Division
Brazos	Brazos Electric Power Cooperative, Inc.
BTU	British Thermal Unit
Business	NRG Business, which serves business customers
CAA	Clean Air Act
CAISO	California Independent System Operator
CARES Act	Coronavirus Aid, Relief, and Economic Security Act
CDD	Cooling Degree Day
Centrica	Centrica plc
CFTC	U.S. Commodity Futures Trading Commission
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalents
Company	NRG Energy, Inc.
Convertible Senior Notes	As of December 31, 2022, consists of NRG's \$575 million unsecured 2.75% Convertible Senior Notes due 2048
Cottonwood	Cottonwood Generating Station, a 1,177 MW natural gas-fueled plant
COVID-19	Coronavirus Disease 2019
CPP	Clean Power Plan
CPUC	California Public Utilities Commission
CWA	Clean Water Act
D.C. Circuit	U.S. Court of Appeals for the District of Columbia Circuit
DSI	Dry Sorbent Injection
DSU	Deferred Stock Unit
Dual fuel customers	Customer that have both electricity and natural gas service with the Company
Economic gross margin	Sum of retail revenue, energy revenue, capacity revenue and other revenue, less cost of fuels, purchased energy and other cost of sales
EGU	Electric Generating Unit
EPA	U.S. Environmental Protection Agency
EPC	Engineering, Procurement and Construction
ERCOT	Electric Reliability Council of Texas, the Independent System Operator and the regional reliability coordinator of the various electricity systems within Texas
ESP	Electrostatic Precipitator
ESPP	NRG Energy, Inc. Amended and Restated Employee Stock Purchase Plan
Exchange Act	The Securities Exchange Act of 1934, as amended
FASB	Financial Accounting Standards Board
FERC	Federal Energy Regulatory Commission
FGD	Flue gas desulfurization

FPA	Federal Power Act
FTRs	Financial Transmission Rights
GAAP	Generally accepted accounting principles in the United States
GHG	Greenhouse Gas
Green Mountain Energy	Green Mountain Energy Company
GW	Gigawatts
GWh	Gigawatt Hours
HDD	Heating Degree Day
Heat Rate	A measure of thermal efficiency computed by dividing the total BTU content of the fuel burned by the resulting kWhs generated. Heat rates can be expressed as either gross or net heat rates, depending whether the electricity output measured is gross or net generation and is generally expressed as BTU per net kWh
HLW	High-level radioactive waste
Home	NRG Home, which serves residential customers
ICE	Intercontinental Exchange
IRA	Inflation Reduction Act
ISO	Independent System Operator, also referred to as RTOs
ISO-NE	ISO New England Inc.
Ivanpah	Ivanpah Solar Electric Generation Station, a 393 MW solar thermal power plant located in California's Mojave Desert in which NRG owns 54.5% interest
kWh	Kilowatt-hours
LaGen	Louisiana Generating LLC
LIBOR	London Inter-Bank Offered Rate
MDth	Thousand Dekatherms
Midwest Generation	Midwest Generation, LLC
MISO	Midcontinent Independent System Operator, Inc.
MMBtu	Million British Thermal Units
MMDth	Million Dekatherms
MW	Megawatts
MWh	Saleable megawatt hour net of internal/parasitic load megawatt-hour
NAAQS	National Ambient Air Quality Standards
NEIL	Nuclear Electric Insurance Limited
NEPOOL	New England Power Pool
NERC	North American Electric Reliability Corporation
Net Capacity Factor	The net amount of electricity that a generating unit produces over a period of time divided by the net amount of electricity it could have produced if it had run at full power over that time period. The net amount of electricity produced is the total amount of electricity generated minus the amount of electricity used during generation
Net Exposure	Counterparty credit exposure to NRG, net of collateral
Net Generation	The net amount of electricity produced, expressed in kWhs or MWhs, that is the total amount of electricity generated (gross) minus the amount of electricity used during generation
NOL	Net Operating Loss
NO _x	Nitrogen Oxides
NPNS	Normal Purchase Normal Sale
NRC	U.S. Nuclear Regulatory Commission
NRG	NRG Energy, Inc.
NRG LTIP	NRG Energy, Inc. Amended and Restated Long-Term Incentive Plan
Nuclear Decommissioning Trust Fund	NRG's nuclear decommissioning trust fund assets, which are for the Company's portion of the decommissioning of the STP, units 1 & 2

Nuclear Waste Policy Act	U.S. Nuclear Waste Policy Act of 1982
NYISO	New York Independent System Operator
NYMEX	New York Mercantile Exchange
OCI/OCL	Other Comprehensive Income/(Loss)
ORDC	Operating Reserve Demand Curve
ORDPA	Online Reliability Deployment Price Adder
Peaking	Units expected to satisfy demand requirements during the periods of greatest or peak load on the system
Petra Nova	Petra Nova Parish Holdings, LLC
PJM	PJM Interconnection, LLC
PM2.5	Particulate Matter that has a diameter of less than 2.5 micrometers
PPA	Power Purchase Agreement
PUCT	Public Utility Commission of Texas
Rayburn	Rayburn Country Electric Cooperative, Inc.
RCRA	Resource Conservation and Recovery Act of 1976
Receivables Securitization Facilities	Collectively, the Receivables Facility and the Repurchase Facility
RECs	Renewable Energy Certificates
Renewable PPA	A third-party PPA entered into directly with a renewable generation facility for the offtake of the RECs or other similar environmental attributes generated by such facility, coupled with the associated power generated by that facility.
Renewables	Consists of the following projects in which NRG has an ownership interest: Agua Caliente, Ivanpah, and solar generating stations located at various NFL Stadiums
Renewables Platform	The renewable operating and development platform sold to Global Infrastructure Partners with NRG's interest in NRG Yield.
REP	Retail electric provider
Revolving Credit Facility	The Company's \$3.7 billion revolving credit facility as of December 31, 2022, a component of the Senior Credit Facility, due 2024 which was amended on May 28, 2019 and August 20, 2020. The revolving credit facility was amended on February 14, 2023, increasing the facility to \$4.3 billion
RGGI	Regional Greenhouse Gas Initiative
RMR	Reliability Must-Run
RPS	Renewable Portfolio Standards
RPSU	Relative Performance Stock Unit
RSU	Restricted Stock Unit
RTO	Regional Transmission Organization
SCR	Selective Catalytic Reduction Control System
SEC	U.S. Securities and Exchange Commission
Securities Act	The Securities Act of 1933, as amended
Senior Credit Facility	NRG's senior secured credit facility, comprised of the Revolving Credit Facility and the 2023 Term Loan Facility. The 2023 Term Loan Facility was repaid in the second quarter of 2019
Senior Notes	As of December 31, 2022, NRG's \$4.6 billion outstanding unsecured senior notes consisting of \$375 million of the 6.625% senior notes due 2027, \$821 million of 5.75% senior notes due 2028, \$733 million of the 5.25% senior notes due 2029, \$500 million of the 3.375% senior notes due 2029, \$1.0 billion of the 3.625% senior notes due 2031 and \$1.1 billion of the 3.875% senior notes due 2032
Senior Secured Notes	As of December 31, 2022, NRG's \$2.5 billion outstanding Senior Secured First Lien Notes consists of \$600 million of the 3.75% Senior Secured First Lien Notes due 2024, \$500 million of the 2.0% Senior Secured First Lien Notes due 2025, \$900 million of the 2.45% Senior Secured First Lien Notes due 2027, and \$500 million of the 4.45% Senior Secured First Lien Notes due 2029
SNF	Spent Nuclear Fuel

SO ₂	Sulfur Dioxide
South Central Portfolio	NRG's South Central Portfolio, which owned and operated a portfolio of generation assets consisting of Bayou Cove, Big Cajun-I, Big Cajun-II, Cottonwood and Sterlington, was sold on February 4, 2019. NRG is leasing back the Cottonwood facility through May 2025
S&P	Standard & Poor's
STP	South Texas Project — nuclear generating facility located near Bay City, Texas in which NRG owns a 44% interest
STPNOC	South Texas Project Nuclear Operating Company
Tax Act	The Tax Cuts and Jobs Act of 2017
TDSP	Transmission/distribution service provider
Texas Genco	Texas Genco LLC
TSR	Total Shareholder Return
TWh	Terawatt Hours
U.S.	United States of America
U.S. DOE	U.S. Department of Energy
VaR	Value at Risk
VIE	Variable Interest Entity
Winter Storm Elliott	A major winter storm that had impacts across the majority of the United States and parts of Canada occurring in December 2022
Winter Storm Uri	A major winter and ice storm that had widespread impacts across North America occurring in February 2021

PART I

Item 1 — Business

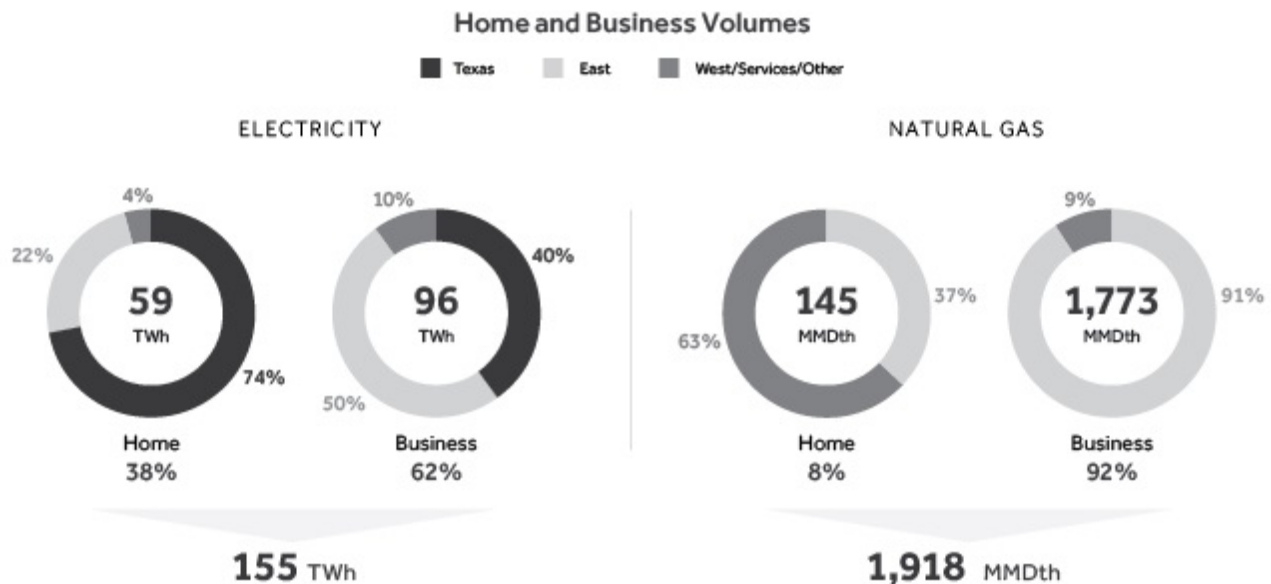
General

NRG Energy, Inc., or NRG or the Company, is a consumer services company built on dynamic retail brands. NRG brings the power of energy to customers by producing and selling energy and related products and services, nation-wide in the U.S. and Canada in a manner that delivers value to all of NRG's stakeholders. NRG sells power, natural gas, and home and power services, and develops innovative, sustainable solutions, predominately under the brand names NRG, Reliant, Direct Energy, Green Mountain Energy, Stream, and XOOM Energy. The Company has a customer base that includes approximately 5.4 million Home customers as well as commercial, industrial, and wholesale customers, supported by approximately 16 GW of generation as of December 31, 2022.

On December 6, 2022, NRG and Vivint Smart Home, Inc. ("Vivint") announced the entry into a definitive agreement under which the Company will acquire Vivint, a smart home platform company, in an all-cash transaction. The acquisition will accelerate the realization of NRG's consumer-focused growth strategy and create a leading essential home services platform fueled by market-leading brands, unparalleled insights, proprietary technologies and complementary sales channels. The close of the acquisition is targeted for the first quarter of 2023 and is subject to customary closing conditions.

NRG sold 155 TWhs of electricity and 1,918 MMDth of natural gas in 2022, making it one of the largest competitive energy retailers in the U.S. As of the end of 2022, NRG had recurring electricity and/or natural gas sales in 24 U.S. states, the District of Columbia, and 8 provinces in Canada. NRG's retail brands, collectively, have the largest share of competitively served residential electric customers in Texas and nationwide.

The following chart represents NRG's sales volumes for the year ended December 31, 2022:



Strategy

NRG's strategy is to maximize stakeholder value through the safe production and sale of reliable electricity and natural gas to its customers in the markets it serves, while positioning the Company to provide innovative solutions to the end-use energy or service customer. This strategy is intended to enable the Company to optimize its integrated model to generate stable and predictable cash flow, significantly strengthen earnings and cost competitiveness, and lower risk and volatility. Sustainability is a philosophy that underpins and facilitates value creation across NRG's business for its stakeholders. It is an integral piece of NRG's strategy and ties directly to business success, reduced risks and enhanced reputation.

To effectuate the Company's strategy, NRG is focused on: (i) serving the energy needs of end-use residential, commercial and industrial, and wholesale counterparties in competitive markets through multiple brands and channels; (ii) offering a variety of energy products and services, including renewable energy solutions, that are differentiated by innovative features, premium service, sustainability, and loyalty/affinity programs; (iii) excellence in operating performance of its assets; (iv) optimal hedging of its portfolio; and (v) engaging in disciplined and transparent capital allocation.

The Company announced in 2021 a four-year plan, that began in 2022, to spend \$2 billion in order to achieve growth through optimization of the Company's core power and natural gas sales, as well as integrated solution sales within its core network in both power and home services. The planned acquisition of Vivint announced in December 2022 will be the primary growth vehicle to achieve this plan.

Business Overview

The Company's core business is the sale of electricity and natural gas to residential, commercial and industrial and wholesale customers, supported by the Company's wholesale generation. NRG manages its operations based on the combined results of the retail and wholesale generation businesses with a geographical focus.

The Company's business is segmented as follows:

- Texas, which includes all activity related to customer, plant and market operations in Texas, other than Cottonwood;
- East, which includes all activity related to customer, plant and market operations in the East;
- West/Services/Other, which primarily includes the following assets and activities: (i) all activity related to customer, plant and market operations in the West and Canada, (ii) the services businesses, (iii) activity related to the Cottonwood facility, (iv) the remaining renewables activity, including the Company's equity method investment in Ivanpah Master Holdings, LLC, and (v) activity related to the Company's equity method investment for the Gladstone power plant in Australia; and
- Corporate activities.

In Texas, the Company's generation supply is fully integrated with its retail load. The integrated model provides the advantage of being able to supply a portion of the Company's retail customers with electricity from the Company's assets, which reduces the need to sell electricity to and buy electricity from other institutions and intermediaries, resulting in stable earnings and cash flows, lower transaction costs and less credit exposure. The integrated model also results in a reduction in actual and contingent collateral through offsetting transactions, thereby reducing transactions with third parties.

The Company's integrated model consists of three core functions: Customer Operations, Market Operations and Plant Operations, which directly support each other in each geographic region.

Customer Operations

Customer Operations is responsible for growing and retaining the customer base and delivering an outstanding customer experience. This includes acquisition and retention of all of NRG's residential, small commercial, government and commercial & industrial customers. NRG employs a multi-brand strategy that leverages a wide array of sales and partnership channels, direct face-to-face sales channels, call centers, websites, and brokers. Go-to-market activities include market strategy planning and development, product innovation, offer design, campaign execution, marketing and creative services, and selling. Customer portfolio maintenance and retention activities include fulfillment, billing, payment processing, collections, customer service, issue resolution, and contract renewals. NRG provides energy and related services at either fixed, indexed or month-to-month prices. Home customers typically contract for terms ranging from one month to five years, while Business contracts are often between one year and five years in length. Throughout all Customer Operations activities, the customer experience is kept at the forefront to inform decision-making and optimize retention, while creating supporters and advocates for NRG's brands in the market. Following the expansion of the customer base with the acquisition of Direct Energy in 2021, Customer Operations now comprises three end-use customer facing teams: NRG Home, which serves residential customers, NRG Business, which serves business customers, and NRG Services, which primarily includes the services businesses acquired.

Product Offerings

NRG sells a variety of products to residential and small commercial customers, including retail electricity and energy management, natural gas, home security, line and surge protection products, HVAC installation, repair and maintenance, home protection products, carbon offsets, back-up power stations, portable power, portable solar and portable lighting. Home and Services customers make purchase decisions based on a variety of factors, including price, incentive, customer service, brand, innovative offers/features and referrals from friends and family. Through its broad range of service offerings and value propositions, NRG is able to attract, retain, and increase the value of its customer relationships. NRG's brands are recognized for exemplary customer service, innovative smart energy and technology product offerings, and environmentally-friendly solutions.

The Company provides power and natural gas to the business-to-business markets in North America, as well as retail services, including demand response, commodity sales, energy efficiency and energy management solutions to Business customers. The Company is an integrated provider of supply and distributed energy resources and focuses on distributed products and services as businesses seek greater reliability, cleaner power and other benefits that they cannot obtain from the grid. These solutions include system power, distributed generation, renewable products, carbon management and specialty services, backup generation, storage and distributed solar, demand response, and energy efficiency and advisory services.

Market Operations

Market Operations has two primary objectives: to supply energy to customers in the most cost-efficient manner and to maximize the value of the Company's assets after satisfying its customer load requirements. These objectives are intended to reduce supply costs and maximize earnings with predictable cash flows.

Power and natural gas are the two main commercial groups within market operations.

Power

The power commercial group is responsible for end-use electricity supply including power plant optimization and certain fuel supply. To meet the market operations objectives, NRG enters into supply, power and gas hedging agreements via a wide range of products and contracts, including (i) physical and financial commodity instruments, (ii) fuel supply and transportation contracts, (iii) PPAs and Renewable PPAs and (iv) capacity and other contracted revenue or supply sources, as further discussed below.

In addition, because changes in power prices in the markets where NRG operates are generally correlated to changes in natural gas prices, NRG uses hedging strategies that may include power and natural gas forward purchases and sales contracts to manage the commodity price risk.

Physical and Financial Commodity Instruments

NRG trades electric power, natural gas and related commodities, environmental products, weather products and financial products, including forwards, futures, options and swaps. NRG enters into these instruments primarily to manage price and delivery risk, optimize physical and contractual assets in the portfolio, manage working capital requirements, reduce the carbon exposure in its business and comply with laws.

Fuel Supply and Transportation Contracts

NRG's fuel requirements consist of various forms of fossil fuel and nuclear fuel. The prices of fossil fuels can be volatile. The Company obtains its fossil fuels from multiple suppliers and through multiple transporters. Although availability is generally not an issue, localized shortages, transportation availability, delays arising from extreme weather conditions and supplier financial stability issues can and do occur. The preceding factors related to the sources and availability of raw materials are fairly uniform across the Company's business and fuel products used. NRG's primary fuel requirements consist of the following:

Natural Gas — NRG operates a fleet of mid-merit and peaking natural gas plants. Fuel needs are managed by the natural gas commercial group, on a spot basis, especially for peaking assets, as the Company does not believe it is prudent to forward purchase natural gas for these types of units as the dispatch is highly unpredictable.

Coal — NRG actively manages its coal requirements based on forecasted generation, market volatility and its inventory on site. The Company believes it is adequately hedged, using forward coal supply agreements, for its domestic coal consumption for 2023. As of December 31, 2022, NRG had purchased forward contracts to provide fuel for approximately 89% of the Company's expected requirements for 2023 and 2024. For the domestic fleet, NRG purchased approximately 15.3 million tons of coal in 2022, almost all of which was Powder River Basin coal. For fuel transport, NRG has entered into various rail transportation and rail car lease agreements with varying tenures that will provide for most of the Company's transportation requirements of Powder River Basin coal for the next two years.

Nuclear Fuel — STP's owners, including NRG, satisfy their fuel supply requirements by: (i) acquiring uranium concentrates and contracting for conversion of the uranium concentrates into uranium hexafluoride; (ii) contracting for enrichment of uranium hexafluoride; and (iii) contracting for fabrication of nuclear fuel assemblies. Through its proportionate participation in STPNOC, which is the NRC-licensed operator of STP that is responsible for all aspects of fuel procurement, NRG is party to a number of long-term forward purchase contracts with many of the world's largest suppliers covering STP's requirements for uranium concentrates of all of STP's requirements through 2025 and 75% for the duration of the original operating license (through 2027/2028). Similarly, STP has begun the process of covering fuel supply requirements into the extended license period and has secured a fabrication contract with Westinghouse through 2047/2048. As of December 31, 2022, STP has secured approximately 25% of uranium hexafluoride through 2029. Other fuel requirements such as uranium, conversion and enrichment remain open at this time.

Renewable PPAs

The Company's strategy is to procure mid to long-term renewable generation through power purchase agreements. As of December 31, 2022, NRG has entered into Renewable PPAs totaling approximately 2.4 GW with third-party project developers and other counterparties, of which approximately 45% are operational. The average tenure of these agreements is twelve years. The Company expects to continue evaluating and executing similar agreements that support the needs of the business. The total GW entered into through Renewable PPAs may be impacted by contract terminations when they occur.

Capacity and Other Contracted Revenue Sources

NRG's revenues and cash flows, primarily in the East and West, benefit from capacity/demand payments and other contracted revenue sources, originating from market clearing capacity prices, resource adequacy contracts, tolling arrangements and other long-term contractual arrangements.

The Company's largest sources of continuing capacity revenues are capacity auctions in PJM. PJM operates a pay-for-performance model where capacity payments are modified based on real-time performance and NRG's actual revenues will be the combination of revenues based on the cleared auction MW plus the net of any over- and under-performance of NRG's respective generation assets.

Natural Gas

The natural gas commercial group is responsible for all costing, logistics and supply for all of NRG's residential, commercial & industrial and wholesale customers. The Direct Energy acquisition, which closed on January 5, 2021, significantly increased the Company's capabilities and scale across the natural gas value chain. NRG has contractual rights to natural gas transportation and storage assets across its footprint that allow for optimal supply economics in support of its various businesses. NRG's diversified load coupled with this asset portfolio enables the Company to deliver supply economically while providing incremental optimization activities when market conditions allow. The scale of the natural gas operation extends from the wellhead (through its producer services business) to end use customers (through NRG's various sales channels). This scale, coupled with the Company's associated assets, gas system platform and people, create significant opportunity across North America.

Plant Operations

The Company owns and leases a diversified wholesale generation portfolio with approximately 16 GW of fossil fuel, nuclear and renewable generation capacity at 23 plants as of December 31, 2022. The Company's wholesale generation assets are diversified by fuel-type and dispatch level, which helps mitigate the risks associated with fuel price volatility and market demand cycles. NRG continually evaluates its generation portfolio to focus on asset optimization opportunities and the locational value of its generation assets in each of the markets where the Company participates, as well as opportunities for the development of new generation.

The following table summarizes NRG's generation portfolio as of December 31, 2022:

Type	(In MW) ^(a)			
	Texas	East	West/Services/ Other	Total
Natural gas	4,721	1,881	1,279	7,881
Coal	4,174	1,948	605	6,727
Oil	—	455	—	455
Nuclear	1,132	—	—	1,132
Utility Scale Solar	—	—	219	219
Battery Storage	2	—	—	2
Total generation capacity	10,029	4,284	2,103	16,416

(a) Utility Scale Solar is described in MW on an alternating current basis. MW figures provided represent nominal summer net MW capacity of power generated as adjusted for the Company's owned or leased interest.

Plant Operations is responsible for operating the Company's generation facilities at the highest standards of safety and reliability, and includes (i) operations and maintenance, (ii) asset management, and (iii) development, engineering and construction.

Operations & Maintenance

NRG operates and maintains its generation portfolio, as well as approximately 7,800 MW of additional coal, natural gas and wind generation capacity at 12 plants operated on behalf of third parties, as of December 31, 2022, using prudent industry practices for the safe, reliable and economic generation of electricity in compliance with all local, state and federal requirements. The Company follows a consistent set of operating requirements, including a solid base of training, required adherence to specific safety and environmental limits, procedure and checklist usage, and the implementation of continuous process improvement through incident investigations.

NRG uses best-in-class maintenance practices for preventive, predictive, and corrective maintenance planning. The Company's strategic planning process evaluates equipment condition, performance, and obsolescence to support the development of a comprehensive work scope and schedule for long-term performance.

Asset Management

NRG manages all aspects of its generation portfolio to optimize the lifecycle value of the assets, consistent with the Company's goals. The Company evaluates capital projects required for continued operation and strategic enhancement of the assets, provides quality assurance on capital outlays, and assesses the impact of rules, regulations, and laws on business profitability. In addition, the Company manages its long-term contracts, PPAs, and real estate holdings and provides third-party asset management services.

Development, Engineering & Construction

NRG develops, engineers and executes major plant modifications, "new build" generation and energy storage projects that enhance the value of its generation portfolio and provide options to meet generation growth needs in the retail markets it serves, in accordance with the Company's strategic goals. These projects have included gas-fired generation development and construction, coal to gas conversions, grid scale energy storage development, grid scale renewable construction, and asset demolition, remediation and reclamation work.

Operational Statistics

The following statistics represent the Company's retail load and customer count:

	Year ended December 31,		
	2022	2021	2020
Sales volumes - Electricity (in GWh)			
Home - Texas	43,155	42,397	38,473
Home - East	13,269	14,108	10,221
Home - West/Services/Other	2,250	2,252	—
Business - Texas	38,447	34,367	17,928
Business - East	47,724	53,204	1,596
Business - West/Services/Other	10,231	10,625	—
Total Load	155,076	156,953	68,218
Sales volumes - Natural gas (in MDth)			
Home - East	53,051	50,417	23,509
Home - West/Services/Other	92,035	97,272	—
Business - East	1,618,946	1,620,036	—
Business - West/Services/Other	154,074	109,021	—
Total Load	1,918,106	1,876,746	23,509

	Year ended December 31,		
	2022	2021	2020
Customer count - Electricity customers^{(a)(b)} (in thousands)			
<i>Home - Texas</i>			
Average retail	2,961	3,040	2,431
Ending retail	2,859	3,010	2,434
<i>Home - East</i>			
Average retail	1,408	1,484	1,019
Ending retail	1,381	1,402	970
<i>Home - West/Services/Other</i>			
Average retail ^(c)	383	525	18
Ending retail ^(c)	390	512	17
Customer count - Natural gas customers^(b) (in thousands)			
<i>Home - East</i>			
Average retail	375	360	156
Ending retail	380	364	166
<i>Home - West/Services/Other</i>			
Average retail	416	452	—
Ending retail	396	434	—
Total Customer count			
Average retail - Home	5,543	5,861	3,624
Ending retail - Home	5,406	5,722	3,587

(a) Includes services customers

(b) Dual fuel customers are included within electricity customer counts only

(c) Includes 135 thousand whole home warranty customers as of December 31, 2021. The whole home warranty business was sold in January 2022

The following are industry statistics for the Company's fossil and nuclear plants, as defined by the NERC:

Annual Equivalent Availability Factor, or EAF — Measures the percentage of maximum generation available over time as the fraction of net maximum generation that could be provided over a defined period of time after all types of outages and deratings, including seasonal deratings, are taken into account.

Net Heat Rate — The net heat rate represents the total amount of fuel in BTU required to generate one net kWh provided.

Net Capacity Factor — The net amount of electricity that a generating unit produces over a period of time divided by the net amount of electricity it could have produced if it had run at full power over that time period. The net amount of electricity produced is the total amount of electricity generated minus the amount of electricity used during generation by the station.

The tables below presents these performance metrics for the Company's generation portfolio, including leased facilities, for the years ended December 31, 2022 and 2021:

	Year Ended December 31, 2022				
	Net Owned Capacity (MW)	Net Generation (In thousands of MWh) ^(a)	Fossil and Nuclear Plants ^(a)		
Annual Equivalent Availability Factor			Average Net Heat Rate BTU/kWh	Net Capacity Factor	
Texas	10,027	37,275	69.5 %	10,733	41.8 %
East	4,285	7,282	78.1 %	11,959	17.3 %
West/Services/Other	1,172	6,676	84.5 %	7,442	64.9 %

(a) Excludes equity method investments

Year Ended December 31, 2021

	Net Owned Capacity (MW)	Net Generation (In thousands of MWh) ^(a)	Fossil and Nuclear Plants ^(a)		
			Annual Equivalent Availability Factor	Average Net Heat Rate BTU/kWh	Net Capacity Factor
Texas	10,083	36,920	70.6 %	10,717	42.4 %
East	5,476	7,494	79.8 %	11,877	8.8 %
West/Services/Other	2,318	7,949	88.0 %	7,337	47.2 %

(a) Excludes equity method investments

The generation performance by region for the three years ended December 31, 2022, 2021 and 2020 is shown below:

(In thousands of MWh)	Net Generation		
	2022	2021	2020
Texas			
Coal	18,860	18,876	15,701
Gas	8,763	8,846	6,006
Nuclear ^(a)	9,652	9,198	9,678
Total Texas	<u>37,275</u>	<u>36,920</u>	<u>31,385</u>
East			
Coal	6,738	5,774	1,888
Oil	7	201	322
Gas	537	1,519	1,892
Total East ^(b)	<u>7,282</u>	<u>7,494</u>	<u>4,102</u>
West/Services/Other			
Gas	6,669	7,941	9,165
Renewables	7	8	6
Total West/Services/Other ^(c)	<u>6,676</u>	<u>7,949</u>	<u>9,171</u>
Total generation performance	<u>51,233</u>	<u>52,363</u>	<u>44,658</u>

(a) Reflects the Company's undivided interest in total MWh generated by STP

(b) Includes gas generation of 855 thousand MWh and 870 thousand MWh and oil generation of 199 thousand MWh and 322 thousand MWh for the years ended December 31, 2021 and 2020, respectively, that was sold to Generation Bridge

(c) Includes gas generation of 2,445 thousand MWh and 3,002 thousand MWh for the years ended December 31, 2021 and 2020, respectively, that was sold to Generation Bridge

Competition

While there has been consolidation in the competitive retail space over the past few years, there is still considerable competition for customers. In Texas, there is healthy competition in deregulated areas and customers can choose providers based on the most appealing offers. Outside of Texas, electricity retailers compete with the incumbent utilities, in addition to other retail electric providers, which can inhibit competition depending on the market rules of the state. There is a high degree of fragmentation, with both large and small competitors offering a range of value propositions, including value, rewards, and sustainability-based offerings.

Wholesale generation is highly fragmented and diverse in terms of industry structure by region. As such, there is wide variation in terms of the capabilities, resources, nature and identities of the Company's competitors depending on the market. Competitors include regulated utilities, municipalities, cooperatives, other independent power producers, and power marketers or trading companies, including those owned by financial institutions.

Seasonality and Price Volatility

The sale of power and natural gas to retail customers are seasonal businesses with the demand for power generally peaking during the summer, and the demand for natural gas generally peaking during the winter. As a result, net working capital requirements for the Company's retail operations generally increase during summer and winter months along with the higher revenues, and then decline during off-peak months. Weather may impact operating results and extreme weather conditions could have a material impact. The rates charged to retail customers may be impacted by fluctuations in total power

prices and market dynamics, such as the price of natural gas, transmission constraints, competitor actions, and changes in market heat rates.

Annual and quarterly operating results of the Company's generation portfolio can be significantly affected by weather and energy commodity price volatility. Significant other events, such as the demand for natural gas, interruptions in fuel supply infrastructure and relative levels of hydroelectric capacity can increase seasonal fuel and power price volatility. The preceding factors related to seasonality and price volatility are fairly uniform across the regions in which the Company operates.

Market Framework

NRG sells electricity, natural gas and related products and services to customers throughout the U.S. and Canada. In most of the states and regions that have introduced retail consumer choice, NRG competitively offers electricity, natural gas, portable power and other value-enhancing services to customers. Each retail consumer choice state or province establishes its own retail competition laws and regulations, and the specific operational, licensing, and compliance requirements vary by state or province. Regulated terms and conditions of default service, as well as any movement to replace default service with competitive services, as is done in ERCOT, can affect customer participation in retail competition. In Canada, NRG sells energy and related services to residential and commercial customers in the province of Alberta pursuant both to a regulated rate service governed by provincial regulations as well as a competitive service with rates set by market forces. Sales of energy to commercial customers take place in other provinces as well. The attractiveness of NRG's retail offerings may be impacted by the rules, regulations, market structure and communication requirements from public utility commissions in each state and province.

NRG's fleet of power plants which it owns, operates or manages are located in organized energy markets, known as RTOs or ISOs. Each organized market administers day-ahead and real-time centralized bid-based energy and ancillary services markets pursuant to tariffs approved by FERC, or in the case of ERCOT, market rules approved by the PUCT. These tariffs and rules dictate how the energy markets operate, how market participants make bilateral sales with one another and how entities with market-based rates are compensated. Established prices reflect the value of energy at the specific location and time it is delivered, which is known as the Locational Marginal Price. Each market is subject to market mitigation measures designed to limit the exercise of locational market power. These market structures facilitate NRG's sale of power and capacity products at market-based rates.

Other than ERCOT and AESO, each of the ISO regions also operates a capacity or resource adequacy market that provides an opportunity for generating and demand response resources to earn revenues to offset their fixed costs that are not recovered in the energy and ancillary services markets. The ISOs are also responsible for transmission planning and operations.

Texas

NRG's business in Texas is subject to standards and regulations adopted by the PUCT and ERCOT¹, including the requirement for retailers to be certified by the PUCT in order to contract with end-users to sell electricity. The ERCOT market is one of the nation's largest and, historically, fastest growing power markets. ERCOT is an energy-only market. The majority of the retail load in the ERCOT market region is served by competitive retail suppliers, except certain areas that have not opted into competitive consumer choice and are served by municipal utilities and electric cooperatives.

East

While most of the states in the East region of the U.S. have introduced some level of retail consumer choice for electricity and/or natural gas, the incumbent utilities currently provide default service in most of the states and as a result typically serve the majority of residential customers. NRG's retail activities in the East are subject to standards and regulations adopted by the ISOs, state public utility commissions and legislators, including the requirement for retailers to be certified in each state in order to contract with end-users to sell electricity.

Power plants owned, operated or managed by NRG and NRG's demand response assets located in the East region of the U.S. are within the control areas of PJM, NYISO, ISO-NE and MISO. Each of the market regions in the East region provides for robust competition in the day-ahead and real-time energy and ancillary services markets. Additionally, the assets in the East region receive a significant portion of their revenues from capacity markets. PJM and ISO-NE use a forward capacity auction, while NYISO uses a month-ahead capacity auction. MISO has an annual auction. Capacity market prices are sensitive to design parameters, as well as additions of new capacity. PJM operates a pay-for-performance model where capacity payments are modified based on real-time generator performance. In such markets, NRG's actual capacity revenues will be the combination of cleared auction prices times the quantity of MW cleared, plus the net of any over-performance "bonus payments" and any under-performance charges. Additionally, bidding rules allow for the incorporation of a risk premium into generator bids.

¹ The Cottonwood facility is located in Deweyville, Texas, but operates in the MISO market

West

In the West region of the U.S., NRG owns equity interests, operates or manages power plants located entirely within the CAISO footprint. The CAISO operates day-ahead and real-time locational markets for energy and ancillary services, while managing congestion primarily through nodal prices. The CAISO system facilitates NRG's sale of power, ancillary services and capacity products at market-based rates, either within the CAISO's centralized energy and ancillary service markets or bilaterally. The CPUC also determines capacity requirements for LSEs and for specified local areas utilizing inputs from the CAISO. Both the CAISO and CPUC rules require LSEs to contract with sufficient generation resources in order to maintain minimum levels of generation within defined local areas. Additionally, the CAISO has independent authority to contract with needed resources under certain circumstances, typically either when LSEs have failed to procure sufficient resources, or system conditions change unexpectedly.

Canada

In Canada, NRG sells to residential and commercial retail customers in Alberta, within the AESO footprint, under both regulated rates approved by the AUC as well as through competitive service. The Company's regulated rates are approved through periodic rate applications that establish rates for power and gas sales as well as for recovery of other costs associated with operating the regulated business. In addition, the Company sells energy to commercial customers in other provinces. All sales and operations are subject to applicable federal and provincial laws.

Regulatory Matters

As participants in wholesale and retail energy markets and owners and operators of power plants, certain NRG entities are subject to regulation by various federal and state government agencies. These include the CFTC, FERC, NRC and the PUCT, as well as other public utility commissions in certain states where NRG's generation or distributed generation assets are located. In addition, NRG is subject to the market rules, procedures and protocols of the various ISO and RTO markets in which it participates. Likewise, certain NRG entities participating in the retail markets are subject to rules and regulations established by the states and provinces in which NRG entities are licensed to sell at retail. NRG must also comply with the mandatory reliability requirements imposed by NERC and the regional reliability entities in the regions where NRG operates.

NRG's operations within the ERCOT footprint are not subject to rate regulation by FERC, as they are deemed to operate solely within the ERCOT market and not in interstate commerce. These operations are subject to regulation by the PUCT, as well as to regulation by the NRC with respect to NRG's ownership interest in STP.

Federal Energy Regulation

Inflation Reduction Act — The IRA allocates \$369 billion in spending for energy security and addressing climate change. Much of these investments come through the tax code in the form of clean energy tax credits. In the past, investment tax credits and production tax credits have played a vital role in the growth of wind and solar projects around the U.S., but they have had short lifespans, phaseouts and the uncertainty of extensions. The IRA provides 10-year extensions on these tax credits, which will provide more certainty needed for investment decisions to build out these projects in the long-term. With new renewable generation coming online, renewable energy supply costs will likely become cheaper and more plentiful. NRG Home can also benefit from increased residential usage to charge electric vehicles ("EV") and special EV products. The IRA also introduced new tax provisions including a corporate book minimum tax and an excise tax on net stock repurchases with both taxes effective beginning in fiscal year 2023 for NRG. The Company will continue to evaluate the impact of the corporate book minimum tax when the U.S. Treasury and the IRS release further guidance. Additionally, the IRA establishes a tax credit associated with existing nuclear facilities which begins in 2024 and terminates at the end of 2031. The tax credit will fully apply when gross revenues are at or below \$25 per MWh and phases out completely at \$43.75 per MWh. The U.S. Treasury is in the process of defining the methods by which gross revenues may be calculated pursuant to the IRA.

State and Provincial Energy Regulation

Illinois Legislation — Illinois enacted the Climate and Equitable Jobs Act ("CEJA") on September 15, 2021, which targets 100% clean energy by 2050. CEJA focuses on (i) decarbonization, (ii) incentives to transition coal plants into clean energy facilities and (iii) nuclear subsidies. A component of CEJA is the Coal-to-Solar Energy Storage Grant Program. On June 1, 2022, the Illinois Department of Commerce and Economic Opportunity announced that NRG is eligible to receive almost \$160 million over 10 years to develop battery storage at both the Waukegan and Will County power plant sites.

Regional Regulatory Developments

NRG is affected by rule/tariff changes that occur in the ISO regions. For further discussion on regulatory developments see Item 15 — Note 24, *Regulatory Matters*, to the Consolidated Financial Statements.

Texas

Public Utility Commission of Texas' Actions with Respect to Wholesale Pricing and Market Design — In September 2021, the PUCT opened a rulemaking project to evaluate whether it should amend its rules to modify the High System Wide Offer cap ("HCAP") and the ORDC, which is intended to ensure prices in the competitive market appropriately reflect the value of operating reserves as the system approaches scarcity conditions. This rulemaking project concluded in December 2021, resulting in a rule amendment that lowered the HCAP to \$5,000 per MWh and which expands the minimum contingency level to 3,000 MW in Phase I. These two changes are broadly offsetting in their effect on overall average energy prices. In 2022, the PUCT has focused on the development of a winter firm fuel product. The PUCT directed ERCOT to issue a Request for Proposal to procure dual fuel capability with on-site fuel storage as part of the initial firm fuel procurement for the winter of 2022 and 2023. The procurement amount was 2,940MW with a total cost of \$53 million.

The PUCT engaged an independent consultant, E3, to evaluate various resource adequacy proposals and recommend a policy direction to increase incentives for investment in dispatchable generation in ERCOT. On November 10, 2022, the independent consultant provided a report including various market design options such as a Forward Reliability Market, Load Serving Entity Reliability Obligation, and a new concept called a Performance Credit Mechanism ("PCM"). The PCM measures real-time contribution to system reliability and provides compensation for resources to be available. The PUCT staff filed a summary of comments and their recommendations, which support PCM. On January 19, 2023, the Commission approved an order adopting the PCM as their policy direction for resource adequacy in ERCOT, however, implementation is delayed until the legislature reviews.

Activity on Securitization and ERCOT Pricing during Winter Storm Uri — The Texas Legislature acted to pass a variety of securitization vehicles to finance exceptionally high power and gas costs from Winter Storm Uri, including HB 4492. ERCOT subsequently filed two applications requesting the PUCT to issue Debt Obligation Orders ("DOOs") based on the legislation. On October 13, 2021, the PUCT issued DOOs authorizing ERCOT's securitization of \$800 million to cover short payments and reimburse congestion revenue right account holders for amounts related to the default of market participants other than electric cooperatives Brazos and Rayburn, which are discussed below (the "Default Securitization") and \$2.1 billion related to highly priced ancillary service and ORPDA during Winter Storm Uri (the "Uplift Securitization").

The DOOs require ERCOT to issue loans or securitized bonds through a bankruptcy remote special purpose entity as the borrower and distribute the proceeds to affected market participants for default-related short payments and to LSEs for certain ancillary-service and ORDPA costs using an allocation of proceeds based on an LSE's exposure to relevant costs as calculated by the LSE's prevailing load-ratio share during the period of Winter Storm Uri, and a further redistribution of proceeds initially allocated to other LSEs and customers who opt-out of securitization. In turn, ERCOT charges non-bypassable fees related to the Default Securitization and Uplift Securitization to all qualified scheduling entities and to all LSEs (other than those that have opted-out), respectively. The Uplift Securitization provided for a one-time opt-out for certain LSEs or individual transmission-level customers who in exchange for foregoing any securitization-related proceeds likewise avoid future fees assessed by ERCOT for the use of repaying ERCOT's debt obligations. However, nearly all competitive REPs were required by the law to participate, ensuring the charge established by the law is competitively neutral. The \$2.1 billion Uplift Securitization was disbursed by ERCOT in June 2022, with NRG's LSEs collectively receiving \$689 million. NRG's LSEs that assessed customers certain ancillary-service and ORDPA costs during the period of Winter Storm Uri provided a refund or credit to those customers proportionate to the LSE's total recovery. The \$800 million Default Securitization was disbursed by ERCOT in November 2021, with NRG receiving \$12 million.

Electric Cooperative Bankruptcy and Securitization — Of the defaults in the ERCOT market the majority was attributable to Brazos, who filed bankruptcy on March 1, 2021 following the events of Winter Storm Uri. Brazos' bankruptcy case culminated in a settlement between Brazos and ERCOT that was embodied in Brazos' chapter 11 plan of reorganization. Brazos' chapter 11 plan was confirmed by the Bankruptcy Court on November 14, 2022, and the chapter 11 plan became effective on December 15, 2022.

Under the terms of the Brazos' chapter 11 plan, Brazos and ERCOT are providing market participants a recovery of funds that were short-paid in relation to Brazos based on elections made by each market participant. NRG elected the accelerated cash recovery option and has received 43% of the \$68 million of its short pay. NRG expects to receive an additional 22% of its short pay in various installments over the following 12-year period. The plan and ERCOT settlement also provide that there be no default uplift under the current ERCOT protocols in relation to the Brazos short payments.

In February 2022, Rayburn successfully completed a securitization transaction and fully paid its outstanding obligations to ERCOT.

Reliability and Plant Operations Standards — The PUCT created a rulemaking to establish weatherization standards and issued a notice for comments in response to provisions of Texas Senate Bill 3 ("SB3") that require mandatory standards for power generators and others within the electric-power sector. On October 21, 2021, Commissioners of the PUCT voted to adopt Phase I of the rule without substantial modifications from the proposal, and those rules are now in effect. On May 26, 2022, the

PUCT issued a proposal for publication to repeal Phase I rules and implement Phase II rules. The new rules entail conducting a weather study by ERCOT and directing the State Climatologist to create a percentile-based standard of weatherization and implement weatherization plan audits based on weather related outages that occur during weather emergencies. NRG filed comments to the rulemaking on June 23, 2022. On September 29, 2022, the PUCT adopted the Phase II Weatherization Standards.

PJM

PJM Delays Base Residual Auction Results and Files to Update Tariff — The Base Residual Auction for the 2024/2025 delivery year commenced on December 7, 2022 and closed on December 13, 2022. On December 19, 2022, PJM announced that it would delay the publication of the auction results. On December 23, 2022, PJM made a filing at FERC to revise the definition of Locational Deliverability Area Reliability Requirement in the Tariff. This would allow PJM to exclude certain resources from the calculation of the Local Deliverability Area Reliability Requirement. If accepted by FERC, the proposal will affect the clearing price of the auction. NRG has protested the filing.

Capacity Performance Penalties and Bonuses from Winter Storm Elliott — PJM experienced approximately 23 hours of Capacity Performance events from December 23-24, 2022 across PJM's entire footprint. The Company will be subject to penalty or bonus payments related to the events with settlements to occur in 2023. PJM anticipates that certain market participants who incurred penalties may encounter challenges in paying penalties levied upon them. This may result in bonus payments being prorated. On February 2, 2023, PJM made a filing at FERC that, if approved, would give PJM the ability to extend the payment period for PJM member who incurred penalties for an additional 9 months.

Indian River RMR Proceeding — On June 29, 2021, Indian River notified PJM that it intended to retire Unit 4, effective May 31, 2022, due to expected uneconomic operations. On July 30, 2021, PJM responded to the deactivation notice and stated that PJM had identified reliability violations resulting from the proposed deactivation of Unit 4. NRG filed a cost based RMR rate schedule at FERC on April 1, 2022. FERC accepted the rate schedule with a June 1, 2022 effective date, subject to refund and established hearing and settlement procedures. Multiple parties protested. Parties are currently in settlement negotiations.

PJM Revisions to Minimum Offer Price Rule — On July 30, 2021, PJM filed proposed tariff changes at FERC to largely eliminate the current minimum offer price rules ("MOPR") except in very narrow cases. The proposal would eliminate: (i) the current MOPR for new entrant natural gas resources effective with the 2023/2024 delivery year and (ii) the expanded MOPR established in FERC's December 2019 Order to address out-of-market subsidies. On September 30, 2021, PJM's proposal went into effect by operation of law because the FERC Commissioners were split 2-2 as to the lawfulness of the change. Multiple parties filed motions for rehearing and ultimately appealed to the federal court of appeals. On December 21, 2021 and December 30, 2021, respectively, the Third Circuit Court of Appeals and the Seventh Circuit Court of Appeals issued an order holding the appeals in abeyance. The Seventh Circuit appeal is being held in abeyance while the appeal in the Third Circuit is moving forward with briefing and oral argument. Any changes to the PJM capacity market construct may impact the outcome of future Base Residual Auctions.

PJM's ORDC Filing and Compliance Directives — On May 21, 2020, PJM proposed energy and reserve market reforms to enhance price formation in reserve markets, which included modifying its ORDC and aligning market-based reserve products in Day-Ahead and Real-Time markets. In addition to approving PJM's proposal, FERC also directed PJM to implement a forward-looking Energy and Ancillary Services Offset to be used in PJM's capacity markets. After multiple compliance filings, parties filed appeals at the Court of Appeals for the D.C. Circuit of FERC's orders, and on August 13, 2021, FERC filed a motion and was granted a voluntary remand of the case back to the agency. On December 22, 2021, FERC issued its order on voluntary remand affirming in part and reversing in part FERC's determination. Specifically, FERC reversed itself and ordered PJM to: (i) eliminate the more robust ORDC curves and reserve penalty adders and maintain the existing (lower) curves and (lower) penalty adders and (ii) restore its tariff provisions related to its prior backward-looking Energy and Ancillary Services Offset. In response to requests for rehearing of the December 2021 order, FERC issued a notice denying the rehearings by operation of law and providing for further consideration on February 22, 2022. Multiple parties filed appeals in various appellate courts and those appeals are now all before the Sixth Circuit Court of Appeals for consideration.

Independent Market Monitor Market Seller Offer Cap Complaint — On March 18, 2021, finding that the calculation of the default Market Seller Offer Cap was unjust and unreasonable, FERC issued an Order, which permitted the current PJM May 2021 capacity auction for the 2022/2023 delivery rule to continue under the existing rules and set a procedural schedule for parties to file briefs with possible solutions. On September 2, 2021, FERC issued an order in response to a complaint filed by the PJM Independent Market Monitor's proposal, which eliminates the Cost of New Entry-based Market Seller Offer Cap and implements a limited default cap for certain asset classes based on going-forward costs and provides for unit specific cost review by the Independent Market Monitor for all other non-zero offers into the auctions. On October 4, 2021, as required by the Order, PJM submitted its compliance tariff and certain parties filed a motion for rehearing, which was denied by operation of law. On February 18, 2022, FERC addressed the arguments raised on rehearing and rejected the rehearing requests. Multiple parties filed appeals at the Court of Appeals for the D.C. Circuit. A decision is pending.

New York

NYISO's Revisions to the Buyer Side Mitigation Rules — On January 5, 2022, the NYISO filed its Comprehensive Mitigation Review proposing changes to the buyer-side mitigation rules. The proposal would remove certain facilities to be reviewed under the buyer-side mitigation rules to serve the goals of New York's Climate Leadership and Community Protection Act, adopt a marginal capacity accreditation market design and adjust the rules surrounding installed and unforced capacity. On February 9, 2022 FERC issued a deficiency notice, focusing on capacity accreditation issues, which NYISO responded. On May 10, 2022, FERC issued an order accepting the NYISO's Comprehensive Mitigation Review. Changes to NYISO's Buyer Side Mitigation rules may impact the outcome of future capacity auctions.

California

California Resource Adequacy Proceedings — As part of the Integrated Resource Procurement docket, the CPUC approved a decision on June 24, 2021 that requires all LSEs to procure a pro rata share of 11.5 GW of new non-fossil resource adequacy from 2023 to 2026. In that same docket, the CPUC ordered the state's major investor-owned utilities to procure additional summer reliability resources through 2023. On June 23, 2022, the CPUC approved a decision that raises the reserve margin from 15 percent to 16 percent in 2023 and at least 17 percent in 2024. SB846 establishes a pathway for PG&E's Diablo Canyon Nuclear power plant, which units are scheduled to close in 2024 and 2025, to remain open for at least five additional years. Finally, the CPUC completed a series of 2022 stakeholder meetings regarding details for implementation of a new Resource Adequacy ("RA") program beginning in 2025 which will require procurement to meet needs during every hour of the day. The result of these changes will likely keep RA prices elevated in the near term and if LSEs cannot meet their RA obligations, penalties may be issued.

Midway-Sunset Reliability Must Run Proceeding — San Joaquin Energy, LLC, a subsidiary of NRG, owns a 50%, non-controlling interest in the Midway-Sunset Cogeneration Company ("MSCC"). MSCC owns a cogeneration facility near Fellows, California and submitted mothball notices for the cogeneration facility to the CAISO in the latter half of 2020. On December 17, 2020, the CAISO Board effectively rejected the mothball notices by authorizing its staff to designate the MSCC facility as a reliability must-run ("RMR") resource conditioned on execution of a RMR contract. On January 29, 2021, MSCC made its RMR filing at FERC. Multiple parties filed protests and on March 16, 2021, MSCC filed a response to those protests. On April 2, 2021, FERC accepted the RMR filing, suspended it to become effective February 1, 2021, subject to refund and established hearing and settlement judge proceedings. On September 27, 2021, the CAISO gave notice to MSCC extending the term of the reliability designation through December 31, 2022. On April 29, 2022, the participants in the settlement proceeding filed a Joint Offer of Settlement with the FERC, which was approved by FERC on July 28, 2022.

Environmental Regulatory Matters

NRG is subject to numerous environmental laws in the development, construction, ownership and operation of power plants. These laws generally require that governmental permits and approvals be obtained before construction and maintained during operation of power plants. Federal and state environmental laws historically have become more stringent over time. Future laws may require the addition of emissions controls or other environmental controls or impose restrictions on the Company's operations. Complying with environmental laws often involves specialized human resources and significant capital and operating expenses, as well as occasionally curtailing operations. NRG decides to invest capital for environmental controls based on the relative certainty of the requirements, an evaluation of compliance options, and the expected economic returns on capital.

A number of regulations that affect the Company have been revised recently and continue to be revised by the EPA, including ash storage and disposal requirements, NAAQS revisions and implementation and effluent limitation guidelines. NRG will evaluate the impact of these regulations as they are revised but cannot fully predict the impact of each until anticipated revisions and legal challenges are resolved.

Air

The CAA and related regulations (as well as similar state and local requirements) have the potential to affect air emissions, operating practices and pollution control equipment required at power plants. Under the CAA, the EPA sets NAAQS for certain pollutants including SO₂, ozone, and PM_{2.5}. Many of the Company's facilities are located in or near areas that are classified by the EPA as not achieving certain NAAQS (non-attainment areas). The relevant NAAQS may become more stringent. In January 2023, the EPA proposed increasing the stringency of the PM_{2.5} NAAQS. The Company maintains a comprehensive compliance strategy to address continuing and new requirements. Complying with increasingly stringent air regulations could require the installation of additional emissions control equipment at some NRG facilities or retiring of units if installing such controls is not economic. Significant changes to air regulatory programs affecting the Company are described below.

CPP/ACE Rules — The attention in recent years on GHG emissions has resulted in federal and state regulations. In October 2015, the EPA promulgated the CPP, addressing GHG emissions from existing EGUs. On February 9, 2016, the U.S.

Supreme Court stayed the CPP. In July 2019, EPA promulgated the ACE rule, which rescinded the CPP, which had sought to broadly regulate CO₂ emissions from the power sector. On January 19, 2021, the D.C. Circuit vacated the ACE rule (but on February 22, 2021, at the EPA's request, stayed the issuance of the portion of the mandate that would vacate the repeal of the CPP). On June 30, 2022, the U.S. Supreme Court held that the "generation shifting" approach in the CPP exceeded the powers granted to the EPA by Congress. The Court did not address the related issues of whether the EPA may adopt only measures applied at each source. The Company anticipates that there will be additional rulemaking by the EPA over the next several years.

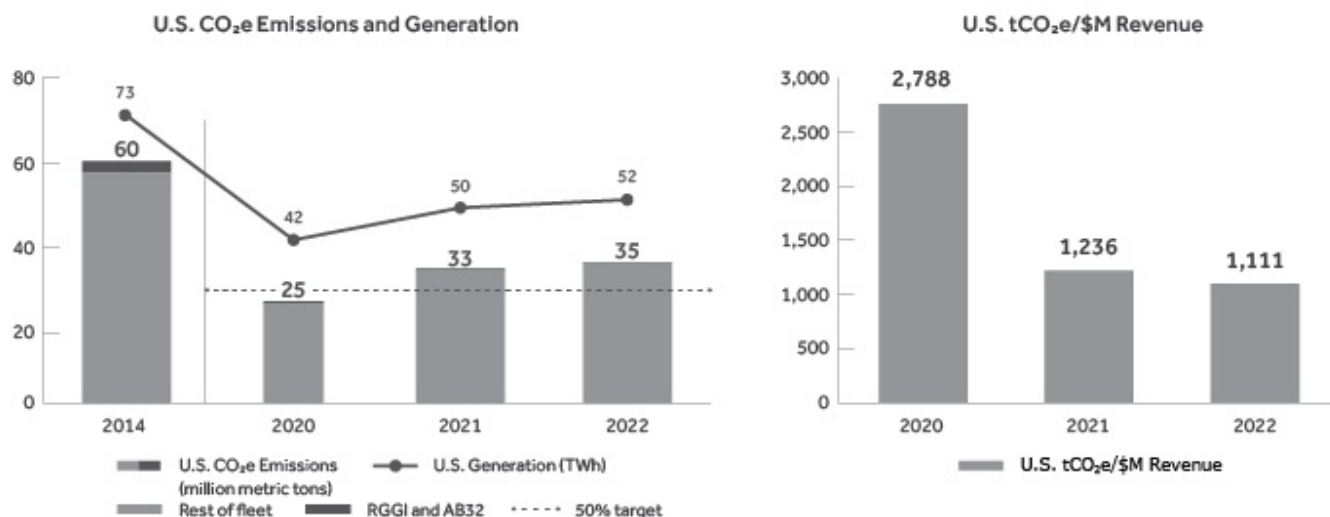
Cross-State Air Pollution Rule ("CSAPR") — In April 2022, the EPA proposed revising the CSAPR to address the good-neighbor provisions of the 2015 ozone NAAQS. If the rule were finalized as proposed, it would apply to 25 states (including Texas) beginning in 2023. In 2023, the revised Group 3 trading program (previously established in the Revised CSAPR Update Rule) would have emission budgets based on NO_x emission rates that the EPA says are achievable by existing controls at power plants. Starting in 2026, the NO_x budgets would be reduced significantly based on levels achievable if SCR controls were installed at coal-fueled power plants that do not currently have such controls. Starting in 2025, the budgets would be updated annually to account for retirements, changes to operations, and new units. The proposal also contemplates heightened surrender requirements for units that exceed certain NO_x emission rate thresholds. The Company cannot predict the outcome of this proposed revision and anticipates that this rulemaking will be subject to legal challenges after it is finalized. The EPA anticipates finalizing the revised rule in Spring 2023.

Greenhouse Gas Emissions — NRG emits CO₂ (and small quantities of other GHGs) when generating electricity at a majority of its facilities. Nearly all (>99%) of NRG's domestic GHG emissions are subject to federal (U.S. EPA) GHG reporting requirements.

NRG's climate goals are to reduce greenhouse gas emissions by 50% by 2025, from its current 2014 baseline, and to achieve net-zero emissions by 2050. Greenhouse gas emissions include directly controlled emissions, emissions from NRG's purchased energy, and emissions from employee business travel. In early 2021, NRG's climate goals were certified by the Science Based Targets initiative as aligned with a 1.5 degree Celsius trajectory. From the current 2014 baseline to 2022, the Company's CO₂e emissions decreased from 60 million metric tons to 35 million metric tons, representing a cumulative 42% reduction. The decrease is attributed to reductions in fleet-wide annual net generation and a market-driven shift away from coal as a primary fuel to natural gas. The increase in emissions in 2022, as compared to 2021, was primarily due to increased generation driven by power market conditions and weather. The Company is continuing to target a 50% reduction in greenhouse gas emissions by 2025, however, assuming no mitigating events occur, current power market forecasts suggest that the projected reduction in NRG's greenhouse gas emissions at that time will be less than the targeted goal. The Company expects these forecasts to continue to evolve over time given recent and expected future changes in regulatory policies and prices in electricity and natural gas markets. The Company continues to actively monitor and explore various options to meet the goal when both economically and legally feasible.

As of December 31, 2022, less than 5% of the Company's consolidated revenues were derived from coal-fired operating assets.

The following charts reflect the Company's domestic generation portfolio, including leased facilities and those accounted for through equity method investments, but excluding the battery storage and remaining renewables activity. Prior year information on U.S. CO₂e emissions and U.S. generation was adjusted to remove divested assets.



Byproducts, Wastes, Hazardous Materials and Contamination

In April 2015, the EPA finalized the rule regulating byproducts of coal combustion (e.g., ash and gypsum) as solid wastes under the RCRA. On July 30, 2018, the EPA promulgated a rule that amended the ash rule by extending some of the deadlines and providing more flexibility for compliance. On August 21, 2018, the D.C. Circuit found, among other things, that the EPA had not adequately regulated unlined ponds and legacy surface impoundments. On August 28, 2020, the EPA finalized "A Holistic Approach to Closure Part A: Deadline to Initiate Closure," which amended the April 2015 Rule to address the August 2018 D.C. Circuit decision and extend some of the deadlines. On November 12, 2020, the EPA finalized "A Holistic Approach to Closure Part B: Alternative Demonstration for Unlined Surface Impoundments," which further amended the April 2015 Rule to, among other things, provide procedures for requesting approval to operate existing ash impoundments with an alternate liner. NRG anticipates further rulemaking related to the Federal Permit Program and legacy surface impoundments.

Domestic Site Remediation Matters

Under certain federal, state and local environmental laws, a current or previous owner or operator of a facility, including an electric generating facility, may be required to investigate and remediate releases or threatened releases of hazardous or toxic substances or petroleum products. NRG may be responsible for property damage, personal injury and investigation and remediation costs incurred by a party in connection with hazardous material releases or threatened releases. These laws impose liability without regard to whether the owner knew of or caused the presence of the hazardous substances, and the courts have interpreted liability under such laws to be strict (without fault) and joint and several. Cleanup obligations can often be triggered during the closure or decommissioning of a facility, in addition to spills during its operations.

Jewett Mine Lignite Contract — The Company's Limestone facility historically burned lignite obtained from the Jewett mine. Active mining ceased as of December 31, 2016; however, the Company remains responsible for reclamation activities and is responsible for all reclamation costs. NRG has recorded an adequate ARO liability. The Railroad Commission of Texas has imposed a bond obligation of approximately \$99 million for the reclamation of the Jewett mine, which NRG supports through surety bonds. The cost of the reclamation may exceed the value of the bonds. NRG may provide additional performance assurance if required by the Railroad Commission of Texas.

Nuclear Waste — The federal government's program to construct a nuclear waste repository at Yucca Mountain, Nevada was discontinued in 2010. Since 1998, the U.S. DOE has been in default of the federal government's obligations to begin accepting spent nuclear fuel ("SNF"), and high-level radioactive waste ("HLW"), under the Nuclear Waste Policy Act. Owners of nuclear plants, including the owners of STP, had been required to enter into contracts setting out the obligations of the owners and the U.S. DOE, including the fees to be paid by the owners for the U.S. DOE's services to license a spent fuel repository. Effective May 16, 2014, the U.S. DOE stopped collecting the fees.

On February 5, 2013, STPNOC entered into a settlement agreement with the U.S. DOE for payment of damages relating to the U.S. DOE's failure to accept SNF and HLW under the Nuclear Waste Policy Act through December 31, 2013, which has been extended three times through addendums to cover payments through December 31, 2022. There are no facilities for the

reprocessing or permanent disposal of SNF currently in operation in the U.S., nor has the NRC licensed any such facilities. STPNOC currently stores all SNF generated by its nuclear generating facilities on-site. STPNOC plans to continue to assert claims against the U.S. DOE for damages relating to the U.S. DOE's failure to accept SNF and HLW.

Under the federal Low-Level Radioactive Waste Policy Act of 1980, as amended in 1985, the state of Texas is required to provide, either on its own or jointly with other states in a compact, for the disposal of all low-level radioactive waste generated within the state. Texas is currently in a compact with the state of Vermont, and the compact low-level waste facility located in Andrews County in Texas has been operational since 2012.

Water

The Company is required under the CWA to comply with intake and discharge requirements, requirements for technological controls and operating practices. As with air quality regulations, federal and state water regulations have become more stringent and imposed new requirements.

Effluent Limitations Guidelines — In November 2015, the EPA revised the Effluent Limitations Guidelines ("ELG") for Steam Electric Generating Facilities, which imposed more stringent requirements (as individual permits were renewed) for wastewater streams from FGD, fly ash, bottom ash and flue gas mercury control. On September 18, 2017, the EPA promulgated a final rule that, among other things, postponed the compliance dates to preserve the status quo for FGD wastewater and bottom ash transport water by two years to November 2020 until the EPA amended the rule. On October 13, 2020, the EPA amended the 2015 ELG rule by: (i) altering the stringency of certain limits for FGD wastewater; (ii) relaxing the zero-discharge requirement for bottom ash transport water; and (iii) changing several deadlines. On July 26, 2021, the EPA announced that it is initiating a new rulemaking to evaluate revising the ELG rule. While the EPA is developing the new rule, the existing rule (as amended in 2020) will stay in place, and the EPA expects permitting authorities to continue to implement the current regulation. The Company anticipates that the EPA will release a proposed rule in the first half of 2023. In October 2021, NRG informed its regulators that the Company intends to comply with the ELG by ceasing combustion of coal by the end of 2028 at its domestic coal units outside of Texas, and installing appropriate controls by the end of 2025 at its two plants that have coal-fired units in Texas.

Regional Environmental Developments

Ash Regulation in Illinois — On July 30, 2019, Illinois enacted legislation that required the state to promulgate regulations regarding coal ash at surface impoundments. On April 15, 2021, the state promulgated the implementing regulation, which became effective on April 21, 2021. NRG has applied for initial operating permits and has begun to apply for construction permits (for closure) as required by the regulation.

Houston Nonattainment for 2008 Ozone Standard — During the fourth quarter of 2022, the EPA changed the Houston area's classification from Serious to Severe nonattainment for the 2008 Ozone Standard. Accordingly, Texas is required to develop a new control strategy and submit it to the EPA.

Customers

NRG sells to a wide variety of customers, primarily end-use customers in the residential, commercial and industrial sectors. The Company owns and operates power plants to generate and sell power to wholesale customers, such as utilities and other intermediaries. The Company had no customer that comprised more than 10% of the Company's consolidated revenues for the year ended December 31, 2022.

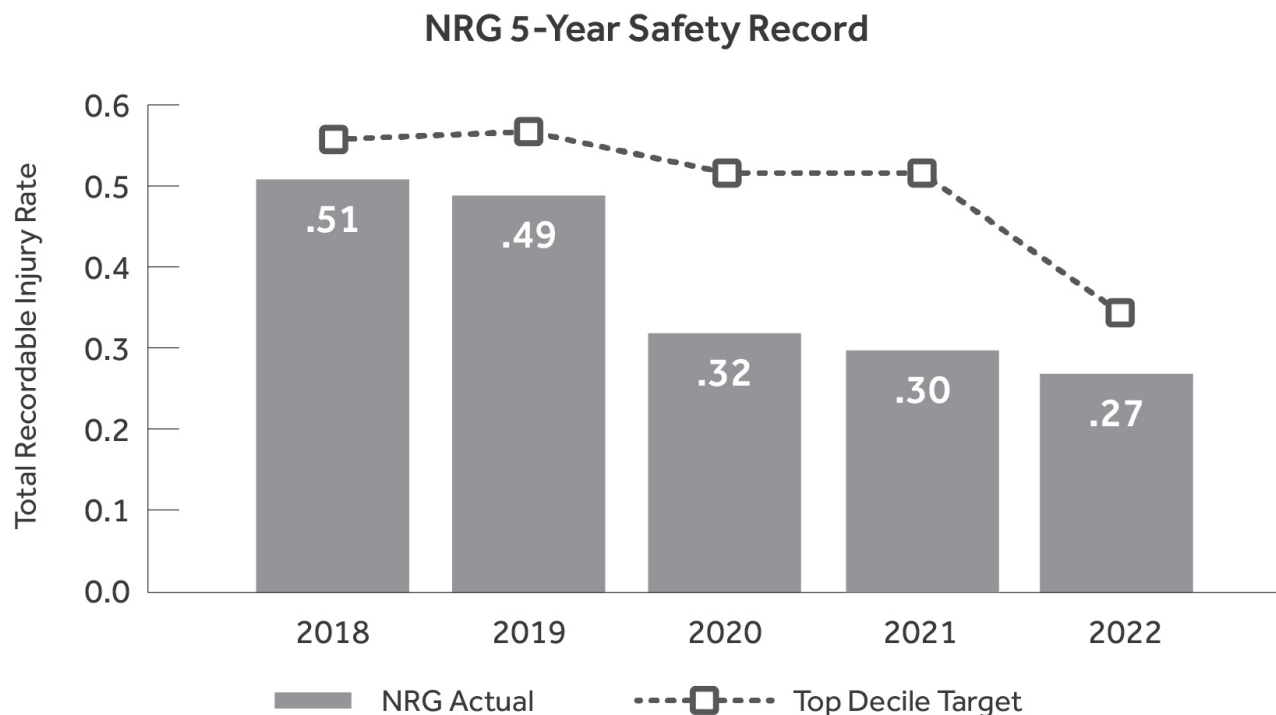
Human Capital

As of December 31, 2022, NRG and its consolidated subsidiaries had 6,603 employees, approximately 12% of whom were covered by U.S. collective bargaining agreements. During 2022, the Company did not experience any labor stoppages or labor disputes at any of its facilities.

NRG believes its employees are vital to its success and is committed to offering employees a rewarding career that provides opportunities for growth and the ability to make valuable contributions toward the achievement of the Company's business objectives. NRG focuses on safety, health and wellness, diversity, equity and inclusion, talent development and total rewards for its employees.

Safety

Safety is embedded in the culture at NRG. The Company strives to begin meetings with a safety moment and regularly reminds its employees that safety comes first. NRG has achieved its targeted top decile safety record of Occupational Safety and Health Administration recordable injury rates in each of the 5 previous years.



Health and Wellness

For several years, NRG has invested in the health and well-being of its employees and their families. NRG provides programs that holistically support its employees' physical, emotional and financial wellness, allowing employees the opportunity to take control of their well-being and focus on what matters most to them for a healthy, secure future.

For the 2022 plan year, the Company included well-being goals in the Annual Incentive Plan (AIP), ensuring participants are motivated to improve their physical, emotional and financial well-being. Accordingly, certain key employee programs were evaluated and enhanced for 2023: several new programs were added to NRG's voluntary benefits offerings, NRG's retirement savings plan match was increased by 50% in the U.S. and by 100% in Canada, and paid parental leave was increased to 6 weeks regardless of gender.

Diversity, Equity and Inclusion

NRG is committed to diversity, equity and inclusion ("DE&I") as an integral way the Company operates. In 2020, NRG completed a gender and race pay equity study to ensure that the Company's pay decisions were not influenced by gender, race, or other similar factors. The study demonstrated equitable pay practices after accounting for education, experience, performance and location. The Company committed to conduct this study every three years, including in 2023.

In 2022, the Company used a portion of its cash balances to invest in a money market fund in which a portion of the fund's fee is donated to Rio Bank, a Texas-based minority-owned financial institution. This commitment demonstrates the Company's support for the communities in which it is located and does business.

NRG also held its first company-wide Day of Service in honor of Martin Luther King, Jr. Day in 2022. Employees were encouraged to participate in events held across multiple states to listen, learn and serve their communities.

Talent Development

NRG deploys various talent development strategies and programs with the goal of ensuring a pipeline of leadership who can execute on the Company's strategy and drive value for all stakeholders. The Board of Directors regularly engages with management on leadership development and succession planning, including providing feedback on development plans and bench strength for key senior leader positions. The Board of Directors also has a structured program that allows directors to interact directly with individuals deeper within the organization whom management, through a robust talent assessment

program, as well as mentoring relationships, has identified as high potential future leaders. In 2021, the Company launched an annual Executive Leadership Program to strengthen the identified pipeline of future leaders and create a cohort of high potential candidates for the program. The Company has a performance management tool that emphasizes a continuous feedback loop and a robust online training curriculum with topics including leadership, communication and productivity.

Total Rewards

NRG seeks to provide market competitive compensation and benefits, benchmarked against direct peers, industry, and, where appropriate, general peers. To ensure incentives are properly aligned with business needs and can attract and retain qualified employees, the Compensation Committee of the Board of Directors actively reviews the Company's total rewards programs, including benchmarking programs against peer groups, assessing the risks of programs and evaluating the design of the annual and long-term incentive programs. The Company offers full-time employees incentives designed to motivate and reward success. NRG continues to evaluate its offerings taking into consideration the needs of its employees to ensure they are competitive and best serve its employees. Every two years, the Company engages an independent third-party to benchmark its compensation and benefits programs against its peers and report the results to the Compensation Committee of the Board of Directors.

For further discussion and recent available data regarding the Company's efforts and programs please see the Company's 2022 Proxy Statement and 2021 Sustainability Report, which are available on the Company's website at: www.nrg.com. Information included in these documents is not intended to be incorporated into this Form 10-K.

Available Information

NRG's annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to section 13(a) or 15(d) of the Exchange Act are available free of charge through the SEC's website, www.sec.gov, and through the Company's website, www.nrg.com, as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. The Company also routinely posts press releases, presentations, webcasts, sustainability reports and other information regarding the Company on the Company's website. The information posted on the Company's website is not a part of this report.

Item 1A — Risk Factors

NRG's risk factors are grouped into the following categories: (i) Risks Related to the Proposed Acquisition of Vivint; (ii) Risks Related to the Operation of NRG's Business; (iii) Risks Related to Governmental Regulation and Laws; (iv) Risks Related to Economic and Financial Market Conditions, and the Company's Indebtedness; and (v) Risks Related to Public Health Threats.

Risks Related to the Proposed Acquisition of Vivint

If completed, the acquisition of Vivint may not achieve its intended results.

The Company entered into the Purchase Agreement with the expectation that the acquisition would result in various benefits, including, among other things, cost savings and operating efficiencies. Achieving the anticipated benefits of the acquisition is subject to a number of uncertainties, including whether the businesses of NRG and Vivint are integrated in an efficient and effective manner. Failure to achieve these anticipated benefits could result in increased costs, lower-than-expected revenues or income generated by the combined company and diversion of management's time and energy and could have an adverse effect on the Company's business, financial results and prospects.

The Company will be subject to business uncertainties and contractual restrictions while the acquisition of Vivint is pending that could adversely affect its financial results.

Uncertainty about the effects of the acquisition of Vivint on employees, customers and suppliers may have an adverse effect on NRG's business. Although the Company intends to take steps designed to reduce any adverse effects, these uncertainties may impair its ability to attract, retain and motivate key personnel until the acquisition is completed and for a period of time thereafter, and could cause customers, suppliers and others to seek to change existing business relationships.

Employee retention and recruitment may be particularly challenging prior to the completion of the acquisition, as employees and prospective employees may experience uncertainty about their future roles with the combined company. If, despite the Company's retention and recruiting efforts, key employees depart or fail to accept employment with NRG because of issues relating to the uncertainty and difficulty of integration or a desire not to remain with the combined company, the Company's financial results could be affected.

The pursuit of the acquisition and the preparation for the integration of NRG and Vivint may place a significant burden on management and internal resources. The diversion of management attention away from ongoing business concerns and any difficulties encountered in the transition and integration process could affect the Company's business, results of operations and financial condition.

In addition, the Company has agreed not to take any actions that would materially delay the satisfaction of any of the closing conditions to the transaction or prevent any of those conditions from being satisfied. This restriction on the Company's actions may prevent it from pursuing otherwise attractive business opportunities or making other changes to its business prior to the completion of the acquisition or termination of the merger agreement.

Risks Related to the Operation of NRG's Business

NRG's financial performance may be impacted by price fluctuations in the retail and wholesale power and natural gas markets, as well as fluctuations in coal and oil markets and other market factors that are beyond the Company's control.

Market prices for power, capacity, ancillary services, natural gas, coal and oil are unpredictable and tend to fluctuate substantially. Electric power generally must be produced concurrently with its use. As a result, power prices are subject to significant volatility due to supply and demand imbalances, especially in the day-ahead and spot markets. Long and short-term power and gas prices may also fluctuate substantially due to other factors outside of the Company's control, including:

- changes in generation capacity in the Company's markets, including the addition of new supplies of power as a result of the development of new plants, expansion of existing plants, the continued operation of uneconomic power plants due to state subsidies, retirement of existing plants or addition of new transmission capacity;
- environmental regulations and legislation;
- electric supply disruptions, including plant outages and transmission disruptions;
- changes in power and gas transmission infrastructure;
- fuel price volatility and transportation capacity constraints or inefficiencies;
- changes in law, including judicial decisions;
- weather conditions, including extreme weather conditions and seasonal fluctuations, including the effects of climate change;
- changes in commodity prices and the supply of commodities, including but not limited to natural gas, coal and oil;
- changes in the demand for power or gas, or in patterns of power or gas usage, including the potential development of demand-side management tools and practices, distributed generation, and more efficient end-use technologies;
- development of new fuels, new technologies and new forms of competition for the production of power;
- economic and political conditions;
- federal, state and provincial power regulations and legislation, and regulations and actions of the ISO and RTOs;
- changes in prices related to RECs; and
- changes in capacity prices and capacity markets.

While retail rates are generally designed to allow retail sellers of electricity and natural gas to pass through price fluctuations and other changes to costs, the Company may not be able to pass through all such changes to customers. For example, serving retail power customers in ISOs that have a capacity market exposes the Company to the risk that capacity costs can change and may not be recoverable, or the Company may engage in sales of power at fixed prices. Additionally, increases in wholesale costs to retail customers may cause additional customer defaults or increased customer attrition, or may be impacted by regulatory rules.

Further, in low natural gas price environments, natural gas can be the more cost-competitive fuel compared to coal for generating electricity. The Company enters into guaranteed supply contracts to provide for the amount of coal needed to operate its base load coal-fired generating facilities. The Company may experience periods where it holds excess amounts of coal if fuel pricing results in the Company reducing or idling coal-fired generating facilities. In addition, the Company may incur costs to terminate supply contracts for coal in excess of its generating requirements.

Such factors and the associated fluctuations in power prices have affected the Company's wholesale and retail profitability in the past and are expected to continue to do so in the future.

Volatile power and gas supply costs and demand for power and gas could adversely affect the financial performance of NRG's retail operations.

NRG's retail power operations purchase a significant portion of their supply from third parties. All of the gas sold by the Company in retail and wholesale markets is purchased from third parties. As a result, financial performance depends on the ability to obtain adequate supplies of power and gas from third parties at prices below the prices NRG charges its customers. Consequently, the Company's earnings and cash flows could be adversely affected in any period in which the wholesale power or gas prices rise at a greater rate than the rates the Company can charge to customers. The price of wholesale electricity and gas supply purchases associated with the retail operations' energy commitments can be different than that reflected in the rates charged to customers due to, among other factors:

- varying supply procurement contracts used and the timing of entering into related contracts;
- subsequent changes in the overall price of natural gas;
- daily, monthly or seasonal fluctuations in the price of natural gas relative to the 12-month forward prices;

- transmission and transportation constraints and the Company's ability to move power or gas to its customers; and
- changes in market heat rate (i.e., the relationship between power and natural gas prices).

The Company's earnings and cash flows could also be adversely affected in any period in which its customers' actual usage of electricity or gas significantly varies from the forecasted usage, which could occur due to, among other factors, weather events, changes in usage patterns, competition and economic conditions.

Substantially all of NRG's businesses operates, wholly or partially, without long-term power sale agreements.

Many of NRG's retail customers are contracted for a period of one year or less, and NRG may or may not hedge its retail power sales exposure, or may hedge in a manner that is not effective at managing quantity or price risk in the retail market. In addition, many of NRG's generation facilities are exposed to market risk because they operate as "merchant" facilities without long-term power sales agreements for some or all of their generating capacity and output. Without the benefit of long-term power sales or purchase agreements, and without long-term load obligations, NRG cannot be sure that it will be able to sell or purchase power at commercially attractive rates or that its generation facilities will be able to operate profitably. This could lead to future impairments of the Company's property, plants and equipment, the closing of certain of its facilities or the loss of retail customers, which could have a material adverse effect on the Company's results of operations, financial condition or cash flows.

Competition may have a material adverse effect on NRG's results of operations, cash flows and the market value of its assets.

NRG has numerous competitors in all aspects of its business, and additional competitors may enter the industry. The Company's retail operations specifically face competition for customers. Competitors may offer different products, lower prices, and other incentives which may attract customers away from the Company. In some retail electricity markets, the principal competitor may be the incumbent utility. The incumbent utility has the advantage of long-standing relationships with its customers and strong brand recognition. Furthermore, NRG may face competition from other energy service providers, other energy industry participants, or nationally branded providers of consumer products and services, who may develop businesses that will compete with NRG.

The Company's plant operations face competition from newer or more efficient plants owned by competitors, which may put some of the Company's plants at a disadvantage to the extent these competitors are able to consume the same or less fuel as the Company's plant. Over time, the Company's plants may be unable to compete with these more efficient plants, which could result in retirements.

NRG's competitors may have greater liquidity, greater access to credit and other financial resources, lower cost structures, more effective risk management policies and procedures, greater ability to incur losses, longer-standing relationships with customers, greater brand awareness, greater potential for profitability from retail sales or greater flexibility in the timing of their sale of generation capacity and ancillary services than NRG does. Competitors may also have better access to subsidies or other out-of-market payments that put NRG at a competitive disadvantage.

NRG's competitors may be able to respond more quickly to new laws or regulations or emerging technologies, or devote greater resources to marketing of retail energy than NRG can. In addition, current and potential competitors may make strategic acquisitions or establish cooperative relationships among themselves or with third parties. Accordingly, it is possible that new competitors or alliances among current and new competitors may emerge and rapidly gain significant market share.

There can be no assurance that NRG will be able to compete successfully against current and future competitors, and any failure to do so would have a material adverse effect on the Company's business, financial condition, results of operations and cash flow.

NRG's costs, results of operations, financial condition and cash flows could be adversely impacted by disruption of its fuel supplies.

NRG relies on natural gas, coal and oil to fuel a majority of its power generation facilities. Grid operations depend on the continuing financial viability of contractual counterparties, as well as the infrastructure (including rail lines, rail cars, barge facilities, roadways, riverways and natural gas pipelines) available to serve generation facilities and to ensure that there is sufficient power produced to meet retail demand. As a result, the Company's wholesale generation facilities are subject to the risks of disruptions or curtailments in the production of power at its generation facilities if no fuel is available at any price, if a counterparty fails to perform or if there is a disruption in the fuel delivery infrastructure.

NRG routinely hedges both its wholesale sales and purchases to support its retail load obligations. In order to hedge these obligations, the Company may enter into long-term and short-term contracts for the purchase and delivery of fuel. Many of the forward power sales contracts do not allow the Company to pass through changes in fuel costs or discharge the power sale obligations in the case of a disruption in fuel supply due to force majeure events or the default of a fuel supplier or transporter. Disruptions in the Company's fuel supplies or power supply arrangements may therefore require it to find alternative fuel

sources at higher costs, to find other sources of power to deliver to retail customers or other counterparties at a higher cost, or to pay damages to counterparties for failure to deliver power or sell electricity or natural gas as contracted. Any such event could have a material adverse effect on the Company's financial performance.

NRG also buys significant quantities of energy and fuel on a short-term or spot market basis. Prices sometimes rise or fall significantly over a relatively short period of time. The price NRG can obtain for the sale of energy may not rise at the same rate, or may not rise at all, to match a rise in fuel or delivery costs. Retail rates may also not rise at the same rate or may not rise at all. This may have a material adverse effect on the Company's financial performance.

NRG's plant operating characteristics and equipment, particularly at its coal-fired plants, often dictate the specific fuel quality to be combusted. The availability and price of specific fuel qualities may vary due to supplier financial or operational disruptions, transportation disruptions and force majeure. At times, coal of specific quality may not be available at any price or the Company may not be able to transport such coal to its facilities on a timely basis. In this case, the Company may not be able to run the coal facility even if it would be profitable. Operating a coal facility with different quality coal can lead to emission or operating problems. If the Company had sold forward the power from such a coal facility, it could be required to supply or purchase power from alternate sources, perhaps at a loss. This could have a material adverse impact on the financial results of specific plants and on the Company's results of operations.

There may be periods when NRG will not be able to meet its commitments under forward sale or purchase obligations at a reasonable cost or at all.

The Company may sell fixed price gas as a proxy for power. Because the obligations under most of the Company's forward sale agreements are not contingent on a unit being available to generate power, NRG is generally required to deliver power to the buyer, even in the event of a plant outage, fuel supply disruption or a reduction in the available capacity of the unit. To the extent that the Company does not have sufficient lower-cost capacity to meet its commitments under its forward sale obligations, the Company would be required to supply replacement power either by running its other, higher cost power plants or by obtaining power from third-party sources at market prices that could substantially exceed the contract price. If NRG fails to deliver the contracted power, it would be required to pay the difference between the market price at the delivery point and the contract price, and the amount of such payments could be substantial.

NRG's trading operations and use of hedging agreements could result in financial losses that negatively impact its results of operations, and NRG's hedging activities may increase the volatility in the Company's quarterly and annual financial results.

The Company typically enters into hedging agreements, including contracts to purchase or sell commodities at future dates and at fixed prices, to manage the commodity price risks inherent in its business. The Company's risk management policies and hedging procedures may not mitigate risk as planned, and the Company may fail to fully or effectively hedge its commodity supply and price risk. In addition, these activities, although intended to mitigate price volatility, expose the Company to other risks. When the Company sells or buys power or gas forward, it gives up the opportunity to buy or sell at the future price, which not only may result in lost opportunity costs but also may require the Company to post significant amounts of cash collateral or other credit support to its counterparties. The Company also relies on counterparty performance under its hedging agreements and is exposed to the credit quality of its counterparties under those agreements. Further, if the values of the financial contracts change in a manner that the Company does not anticipate, or if a counterparty fails to perform under a contract, it could harm the Company's business, operating results or financial position.

NRG does not typically hedge the entire exposure of its operations against commodity price volatility. To the extent it does not hedge against commodity price volatility, the Company's results of operations and financial position may be improved or diminished based upon movement in commodity prices.

NRG may engage in trading activities, including the trading of power, fuel and emissions allowances that are not directly related to the operation of the Company's generation facilities or the management of related risks. These trading activities take place in volatile markets and some of these trades could be characterized as speculative. The Company would expect to settle these trades financially rather than through the production of power or the delivery of fuel. This trading activity may expose the Company to the risk of significant financial losses which could have a material adverse effect on its business and financial condition.

NRG generally attempts to balance its fixed-price physical and financial purchases and sales commitments in terms of contract volumes and the timing of performance and delivery obligations through the use of financial and physical derivative contracts. These derivatives are accounted for in accordance with the FASB ASC 815, *Derivatives and Hedging* ("ASC 815"), which requires the Company to record all derivatives on the balance sheet at fair value with changes in the fair value resulting from fluctuations in the underlying commodity prices immediately recognized in earnings, unless the derivative qualifies for cash flow hedge accounting treatment or a scope exception. As a result, the Company's quarterly and annual results are subject to significant fluctuations caused by changes in market prices.

NRG may not have sufficient liquidity to hedge market risks effectively.

The Company is exposed to market risks through its retail and wholesale operations, which involve the purchase of electricity and natural gas for resale, the sale of energy, capacity and related products, and the purchase and sale of fuel, transmission services and emission allowances. These market risks include, among other risks, volatility arising from location and timing differences that may be associated with buying and transporting fuel, converting fuel into energy and delivering energy to a buyer.

NRG undertakes these market activities through agreements with various counterparties. Many of the Company's agreements with counterparties include provisions that require the Company to provide guarantees, offset or netting arrangements, letters of credit, a first lien on assets and/or cash collateral to protect the counterparties against the risk of the Company's default or insolvency. The amount of such credit support that must be provided typically is based on the difference between the price of the commodity in a given contract and the market price of the commodity. Significant movements in market prices can result in the Company being required to provide cash collateral and letters of credit in very large amounts. The effectiveness of the Company's strategy may depend on the amount of collateral available to enter into or maintain these contracts, and liquidity requirements may be greater than the Company anticipates or will be able to meet. Without a sufficient amount of working capital to post as collateral in support of performance guarantees or as a cash margin, the Company may not be able to manage price volatility effectively or to implement its strategy. An increase in the amount of letters of credit or cash collateral required to be provided to the Company's counterparties may negatively affect the Company's liquidity and financial condition.

Further, if retail customers use more power or gas than expected, or if any of NRG's facilities experience unplanned outages, the Company may be required to procure additional power or gas at spot market prices to fulfill contractual commitments. Without adequate liquidity to meet margin and collateral requirements, the Company may be exposed to significant losses, may miss significant opportunities, and may have increased exposure to the volatility of spot markets.

NRG relies on storage, transportation assets and suppliers, which it does not own or control, to deliver natural gas.

The Company depends on natural gas pipelines and other transportation and storage facilities owned and operated by third parties to deliver natural gas to wholesale and retail markets and to provide retail energy services to customers. The Company's ability to provide natural gas for its present and projected customers will depend upon its suppliers' ability to obtain and deliver supplies of natural gas, as well as NRG's ability to acquire supplies directly from new sources. Factors beyond the control of the Company and its suppliers may affect the Company's ability to deliver such supplies. These factors include other parties' control over the drilling of new wells and the facilities to transport natural gas to the Company's receipt points, development of additional interstate pipeline infrastructure, availability of supply sources competition for the acquisition of natural gas, priority allocations, impact of severe weather disruptions to natural gas supplies and the regulatory and pricing policies of federal and state regulatory agencies, as well as the availability of Canadian reserves for export to the U.S. Energy deregulation legislation may increase competition among natural gas utilities and impact the quantities of natural gas requirements needed for sales service. If supply, transportation or storage is disrupted, including for reasons of force majeure, the ability of the Company to sell and deliver its products and services may be hindered. As a result, the Company may be responsible for damages incurred by its customers, such as the additional cost of acquiring alternative supply at then-current market rates. These conditions could have a material impact on the Company's financial condition, results of operations and cash flows.

Operation of power generation facilities involves significant risks and hazards customary to the power industry that could have a material adverse effect on NRG's revenues and results of operations, and NRG may not have adequate insurance to cover these risks and hazards.

The ongoing operation of NRG's facilities involves risks that include the breakdown or failure of equipment or processes, performance below expected levels of output or efficiency and the inability to transport the Company's products to its customers in an efficient manner due to a lack of transmission capacity. Unplanned outages of generating units, including extensions of scheduled outages due to mechanical failures or other problems occur from time to time and are an inherent risk of the Company's business. Unplanned outages typically increase the Company's operation and maintenance expenses and may reduce the Company's revenues as a result of selling fewer MWh or incurring non-performance penalties and/or require NRG to incur significant costs as a result of obtaining replacement power from third parties in the open market or running one of its higher cost units to satisfy the Company's forward power sales obligations. NRG's inability to operate the Company's plants efficiently, manage capital expenditures and costs, and generate earnings and cash flow from the Company's asset-based businesses could have a material adverse effect on the Company's results of operations, financial condition or cash flows.

In addition, NRG provides plant operations and commercial services to a variety of third parties. There is a risk that mistakes, mis-operations, or actions taken by these third parties could be attributed to NRG, including the risk of investigation or penalties being assessed to NRG in connection with the services it offers, or that regulators could question whether NRG had the appropriate safeguards in place.

Power generation involves hazardous activities, including acquiring, transporting and unloading fuel, operating large pieces of rotating equipment and delivering electricity to transmission and distribution systems. In addition to natural risks such as earthquake, flood, lightning, hurricane and wind, other hazards, such as fire, explosion, structural collapse and machinery failure are inherent risks in the Company's operations. These and other hazards can cause significant personal injury or loss of life, severe damage to and destruction of property, plant and equipment, contamination of, or damage to, the environment and suspension of operations. The occurrence of any one of these events may result in NRG being named as a defendant in lawsuits asserting claims for substantial damages, including for environmental cleanup costs, personal injury and property damage and fines and/or penalties.

NRG maintains an amount of insurance protection that it considers adequate, obtains warranties from vendors and obligates contractors to meet certain performance levels, but the Company cannot provide any assurance that these measures will be sufficient or effective under all circumstances and against all hazards or liabilities to which it may be subject. A successful claim for which the Company is not adequately insured or protected could hurt its financial results and materially harm NRG's financial condition. NRG cannot provide any assurance that its insurance coverage will continue to be available at all or at rates or on terms similar to those presently available. Any losses not covered by insurance could have a material adverse effect on the Company's financial condition, results of operations or cash flows.

Supplier and/or customer concentration may expose the Company to significant financial credit or performance risks.

NRG often relies on a single contracted supplier or a small number of suppliers for the provision and transportation of fuel, chemicals and other services required for the operation of certain of its facilities. If these suppliers cannot perform these services, the Company utilizes the marketplace. There can be no assurance that the marketplace can provide these services as, when and where required or at comparable prices.

The Company may also hedge a portion of its exposure to power and fuel price fluctuations through various physical or financial agreements with counterparties. Counterparties to these agreements may breach or may be unable to perform their obligations, and in case of renewable generation, such counterparties may be subject to additional risks, such as facility development and transmission risks, unfavorable weather and atmospheric conditions, and mechanical or operational failures. NRG may not be able to enter into replacement agreements on terms as favorable as its existing agreements, or at all. If the Company is unable to enter into replacement purchase agreements or other replacement hedging agreements, the Company would be exposed to market price volatility and the risk that fuel and transportation may not be available during certain periods at any price.

The failure of any supplier or customer to fulfill its contractual obligations to NRG could have a material adverse effect on the Company's financial results. Consequently, the financial performance of the Company's facilities is dependent on the credit quality of, and continued performance by, suppliers and customers.

Maintenance, expansion and refurbishment of power generation facilities involve significant risks that could result in unplanned power outages or reduced output and could have a material adverse effect on NRG's results of operations, cash flows and financial condition.

NRG's facilities require periodic maintenance and repair. Any unexpected failure, including failure associated with breakdowns, forced outages or any unanticipated capital expenditures could result in reduced profitability.

NRG cannot be certain of the level of capital expenditures that will be required due to changing environmental and safety laws (including changes in the interpretation or enforcement thereof), needed facility repairs and unexpected events (such as natural disasters or terrorist attacks). The unexpected requirement of large capital expenditures could have a material adverse effect on the Company's liquidity and financial condition.

NRG and its subsidiaries have guaranteed the performance of third parties, which may result in substantial costs in the event of non-performance.

NRG and its subsidiaries have issued certain guarantees of the performance of others, which obligate NRG and its subsidiaries to perform in the event that the third parties do not perform. In the event of non-performance by the third parties, NRG could incur substantial cost to fulfill their obligations under these guarantees. Such performance guarantees could have a material impact on the operating results, financial condition, or cash flows of the Company.

NRG relies on power transmission and distribution facilities that it does not own or control and that are subject to transmission constraints within a number of the Company's core regions.

NRG depends on transmission and distribution facilities owned and operated by others to deliver power to its customers. If transmission or distribution is disrupted, including by force majeure events, or if the transmission or distribution infrastructure is inadequate, NRG's ability to deliver power may be adversely impacted. The Company also cannot predict whether transmission or distribution facilities will be expanded in specific markets to accommodate competitive access to those markets.

In addition, in certain of the markets in which NRG operates, energy transmission congestion may occur and the Company may be deemed responsible for congestion costs associated with power sales or purchases, or retail sales, particularly where the Company's load is not co-located with its retail sales obligations. If NRG were liable for such congestion costs, the Company's financial results could be adversely affected.

Rates and terms for service of certain residential and commercial customers in Alberta are subject to regulatory review and approval.

The Company owns Direct Energy Regulated Services, which serves as a regulated rate supplier for residential and commercial energy customers in portions of the province of Alberta. It is required to engage in regulatory approval proceedings as a part of the process of establishing the terms and rates for sales of power and natural gas. These proceedings typically involve multiple parties, including governmental bodies and officials, consumer advocacy groups and various consumers of energy, who have differing concerns but also have the common objective of limiting rate increases or even reducing rates. Decisions are subject to appeal, potentially leading to additional uncertainty associated with the approval proceedings. The potential duration of such proceedings creates a risk that rates ultimately approved by the applicable regulatory body may not be sufficient for the Company to recover its costs by the time the rates become effective. Established rates are also subject to subsequent reviews by regulators, whereby various portions of rates could be adjusted, subject to refund or disallowed. In certain instances, the Company could agree to negotiated settlements related to various rate matters and other cost recovery elements. These settlements are subject to regulatory approval. The ultimate outcome and timing of regulatory rate proceedings have a significant effect on the Company to recover its costs or earn an adequate return. In addition, subsequent legislative or regulatory action could alter the terms on which the regulated business operates and future earnings could be negatively impacted. The Company also operates a competitive energy supply business in Alberta that is not subject to rate regulation and is subject to stringent requirements to segregate operations and information relating to the competitive business from the regulated business. Failure to comply with these and other requirements on the business could subject the Company's regulated and competitive businesses in Alberta to fines, penalties, and restrictions on the ability to continue business.

Because NRG owns less than a majority of the ownership interests of some of its project investments, the Company cannot exercise complete control over their operations.

NRG has limited control over the operation of some project investments and joint ventures because the Company's investments are in projects where it beneficially owns less than a majority of the ownership interests. NRG seeks to exert a degree of influence with respect to the management and operation of projects in which it owns less than a majority of the ownership interests by negotiating to obtain positions on management committees or to receive certain limited governance rights, such as rights to veto significant actions. However, the Company may not always succeed in such negotiations. NRG may be dependent on its co-venturers to operate such projects. The Company's co-venturers may not have the level of experience, technical expertise, human resources management or other attributes necessary to operate these projects optimally. The approval of co-venturers also may be required for NRG to receive distributions of funds from projects or to transfer the Company's interest in projects.

NRG may be unable to integrate the operations of acquired entities in the manner expected.

NRG enters into acquisitions that result in various benefits, including, among other things, cost savings and operating efficiencies. Achieving the anticipated benefits of these acquisitions depends on whether the businesses can be integrated into NRG in an efficient and effective manner. The integration process could take longer than anticipated and could result in the loss of valuable employees, the disruption of NRG's businesses, processes and systems or inconsistencies in standards, controls, procedures, practices, policies and compensation arrangements, any of which could divert the attention of management and adversely affect the Company's ability to achieve the anticipated benefits of the acquisitions. NRG may have difficulty addressing possible differences in corporate cultures and management philosophies. Failure to achieve these anticipated benefits could result in increased costs or decreases in the amount of expected revenues and could adversely affect NRG's future business, financial condition, operating results and prospects.

Future acquisition or disposition activities could involve unknown risks and may have materially adverse effects and NRG may be subject to trailing liabilities from businesses that it disposes of or that are inactive.

NRG may in the future acquire or dispose of businesses or assets, acquire or sell books of retail customers, or pursue other business activities, directly or indirectly through subsidiaries, that involve a number of risks. The acquisition of companies and assets is subject to substantial risks, including the failure to identify material problems during due diligence, the risk of overpaying for assets or customers, the inability to retain customers and the inability to arrange financing for an acquisition as may be required or desired. Further, the integration and consolidation of acquisitions requires substantial human, financial and other resources and, ultimately, the Company's acquisitions may not be successfully integrated. In the case of dispositions, such risks may relate to employment matters, counterparties, regulators and other stakeholders in the disposed business, the separation of disposed assets from NRG's business, the management of NRG's ongoing business, and other financial, legal and operational

matters related to such disposition, which may be unknown to NRG at the time. In addition, NRG may be subject to material trailing liabilities from disposed businesses. Any such risk may result in one or more costly disputes or litigation. There can be no assurances that any future acquisitions will perform as expected or that the returns from such acquisitions will support the indebtedness incurred to acquire them or the capital expenditures needed to develop them. There can also be no assurances that NRG will realize the anticipated benefits from any such dispositions. The failure to realize the anticipated returns or benefits from an acquisition or disposition could adversely affect NRG's results of operations, cash flows and financial condition.

The operation of the Company's businesses is subject to advanced persistent cyber-based security threats and integrity risk. Attacks on NRG's infrastructure that breach cyber/data security measures could expose the Company to significant liabilities, reputational damage, regulatory action, and disrupt business operations, which could have a material adverse effect.

Numerous functions affecting the efficient operation of NRG's businesses depend on the secure and reliable storage, processing and communication of electronic data and the use of sophisticated computer hardware and software systems, much of which is connected (directly or indirectly) to the internet. As a result, NRG's information technology systems and infrastructure, and those of its vendors and suppliers, are susceptible to cyber-based security threats which could compromise confidentiality, integrity or availability. While the Company has controls in place designed to protect its infrastructure, such breaches and threats are becoming increasingly sophisticated and complex, requiring continuing evolution of its program. Any such breach, disruption or similar event that impairs NRG's information technology infrastructure could disrupt normal business operations and affect the Company's ability to control its generation assets, maintain confidentiality, availability and integrity of restricted data, access retail customer information and limit communication with third parties, which could have a material adverse effect on the Company.

As part of the continuing development of new and modified reliability standards, the FERC has approved changes to its Critical Infrastructure Protection reliability standards and has established standards for assets identified as "critical cyber assets." Under the Energy Policy Act of 2005, the FERC can impose penalties (up to \$1 million per day, per violation) for failure to comply with mandatory electric reliability standards, including standards to protect the power system against potential disruptions from cyber/data and physical security breaches.

Further, the Company's retail business requires accessing, collecting, storing and transmitting sensitive customer data in the ordinary course of business. Concerns about data privacy have led to increased regulation and other actions that could impact NRG's businesses and changes in data privacy and data protection laws and regulations or any failure to comply with such laws and regulations could adversely affect the Company's business and financial results. NRG's retail business may need to provide sensitive customer data to vendors and service providers who require access to this information in order to provide services, such as call center operations, to the retail business.

Although the Company takes precautions to protect its infrastructure, it has been, and will likely continue to be, subject to attempts at phishing and other cybersecurity intrusions. International conflict increases the risk of state-sponsored cyber threats and escalated use of cybercriminal and cyber-espionage activities. In particular, the current geopolitical climate has further escalated cybersecurity risk, with various government agencies, including the U.S. Cybersecurity & Infrastructure Security Agency, issuing warnings of increased cyber threats, particularly for U.S. critical infrastructure. While the Company has not experienced a cyber/data event causing any material operational, reputational or financial impact, it recognizes the growing threat within the general marketplace and the industry, and there is no assurance that NRG will be able to prevent any such impacts in the future. If a material breach of the Company's information technology systems were to occur, the critical operational capabilities and reputation of its business may be adversely affected, customer confidence may be diminished, and NRG may be subject to substantial legal or regulatory scrutiny and claims, any of which may contribute to potential legal or regulatory actions against the Company, loss of customers and otherwise have a material adverse effect. Any loss or disruption of critical operational capabilities to support the Company's generation, commercial or retail operations, loss of customers, or loss of confidential or proprietary data through a breach, unauthorized access, disruption, misuse or disclosure could adversely affect NRG's reputation, expose the Company to material legal or regulatory claims and impair the Company's ability to execute its business strategy, which could have a material adverse effect. In addition, NRG may experience increased capital and operating costs to implement increased security for its information technology infrastructure. NRG cannot provide any assurance that such events and impacts will not be material in the future, and the Company's efforts to deter, identify and mitigate future breaches may require additional significant capital and may not be successful.

Negative publicity may damage NRG's reputation or its brands.

NRG's reputation and brands could be damaged for numerous reasons, including negative views of the Company's environmental impact, sustainability goals, supply chain practices, product and service offerings, sponsorship relationships, charitable giving programs and public statements made by Company officials. The Company may also experience criticism or backlash from media, customers, employees, government entities, advocacy groups and other stakeholders that disagree with positions taken by the Company or its executives. If the Company's brands or reputation are damaged, it could negatively

impact the Company's business, financial condition, results of operations, and ability to attract and retain highly qualified employees.

Risks that are beyond NRG's control, including but not limited to acts of terrorism or related acts of war, natural disaster or other catastrophic events could have a material adverse effect on NRG's financial condition, results of operations and cash flows.

NRG's generation facilities and the facilities of third parties on which they rely may be targets of terrorist activities, as well as events occurring in response to or in connection with such activities, all of which could cause environmental repercussions and/or result in full or partial disruption of the facilities ability to generate, transmit, transport or distribute electricity or natural gas. Strategic targets, such as energy-related facilities, may be at greater risk of future terrorist activities than other domestic targets. Any such environmental repercussions or disruption could result in a significant decrease in revenues or significant reconstruction or remediation costs beyond what could be recovered through insurance policies, which could have a material adverse effect on the Company's financial condition, results of operations and cash flows. In addition, significant weather events or terrorist actions could damage or shut down the power or gas transmission and distribution facilities upon which the Company is dependent, which may reduce retail volume for extended periods of time. Power or gas supply may be sold at a loss if these events cause a significant loss of retail customer demand.

The Company has made investments, and may continue to make investments, in new business initiatives predominantly focused on consumer products and in markets that may not be successful, may not achieve the intended financial results or may result in product liability and reputational risk that could adversely affect the Company.

NRG continues to pursue growth in its existing businesses and markets and further diversification across the competitive energy value chain. Such initiatives may involve significant risks and uncertainties, including distraction of management from current operations, inadequate return on capital, and unidentified issues not discovered in the diligence performed prior to launching an initiative or entering a market.

As part of these initiatives, the Company may be liable to customers for any damage caused to customers' homes, facilities, belongings or property during the installation of Company products and systems, such as home back-up generators and residential HVAC system repairs, installation and replacements. Where such work is performed by independent contractors, such as repairs performed under the Company's home warranty and protection plan products, the Company may nonetheless face claims and costs for damage. In addition, shortages of skilled labor for Company projects could significantly delay a project or otherwise increase its costs. The products that the Company sells or manufactures may expose the Company to product liability claims relating to personal injury, death, or environmental or property damage, and may require product recalls or other actions. Although the Company maintains liability insurance, the Company cannot be certain that its coverage will be adequate for liabilities actually incurred or that insurance will continue to be available to the Company on economically reasonable terms, or at all. Further, any product liability claim or damage caused by the Company could significantly impair the Company's brand and reputation, which may result in a failure to maintain customers and achieve the Company's desired growth initiatives in these new businesses.

Changes in technology may impair the value of NRG's power plants and the attractiveness of its retail products, and the Company may potentially be affected by emerging technologies that may over time affect change in capacity markets and the energy industry overall with the inclusion of distributed generation and clean technology.

Research and development activities are ongoing in the industry to provide alternative and more efficient technologies to produce power, including wind, photovoltaic (solar) cells, hydrogen, energy storage, and improvements in traditional technologies and equipment, such as more efficient gas turbines. Advances in these or other technologies could reduce the costs of power production to a level below what the Company has currently forecasted, which could adversely affect its cash flows, results of operations or competitive position. Technology, including distributed technology or changes in retail rate structures, may also have a material impact on the Company's ability to retain retail customers.

Some emerging technologies, such as distributed renewable energy technologies, broad consumer adoption of electric vehicles and energy storage devices, could affect the price of energy. These emerging technologies may affect the financial viability of utility counterparties and could have significant impacts on wholesale market prices, which could ultimately have a material adverse effect on NRG's financial condition, results of operations and cash flows.

NRG's business, financial condition and results of operations could be adversely impacted by strikes or work stoppages by its unionized employees or inability to replace employees as they retire.

As of December 31, 2022, approximately 12% of NRG's employees were covered by collective bargaining agreements. In the event that the Company's union employees strike, participate in a work stoppage or slowdown or engage in other forms of labor strife or disruption, NRG would be responsible for procuring replacement labor or the Company could experience reduced power generation or outages. Although NRG's ability to procure such labor is uncertain, contingency staffing planning is completed as part of each respective contract negotiation. Strikes, work stoppages or the inability to negotiate future collective

bargaining agreements on favorable terms could have a material adverse effect on the Company's business, financial condition, results of operations and cash flows. In addition, a number of the Company's employees at NRG's plants are close to retirement. The Company's inability to replace retiring workers could create potential knowledge and expertise gaps as such workers retire.

Risks Related to Governmental Regulation and Laws

NRG's business is subject to substantial energy regulation and may be adversely affected by legislative or regulatory changes, as well as liability under, or any future inability to comply with, existing or future energy regulations or requirements.

NRG's business is subject to extensive U.S. federal, state and local laws and foreign laws. Compliance with, or changes to, the requirements under these legal regimes may cause the Company to incur significant additional costs, reduce the Company's ability to hedge exposure or to sell retail power within certain states or to certain classes of retail customers, or restrict the Company's marketing practices, its ability to pass through costs to retail customers, or its ability to compete on favorable terms with competitors, including the incumbent utility. Retail competition and home warranty services are regulated on a state-by-state or at the province-by-province level and are highly dependent on state and provincial laws, regulations and policies, which could change at any moment. Failure to comply with such requirements could result in the shutdown of a non-complying facility, the imposition of liens, fines, and/or civil or criminal liability.

Public utilities under the FPA are required to obtain FERC acceptance of their rate schedules for wholesale sales of electricity. Except for ERCOT generation facilities and power marketers, all of NRG's non-qualifying facility generating companies and power marketing affiliates in the U.S. make sales of electricity in interstate commerce and are public utilities for purposes of the FPA. FERC has granted each of NRG's generating and power marketing companies that make sales of electricity outside of ERCOT the authority to sell electricity at market-based rates. FERC's orders that grant NRG's generating and power marketing companies market-based rate authority reserve the right to revoke or revise that authority if FERC subsequently determines that NRG can exercise market power in transmission or generation, create barriers to entry, or engage in abusive affiliate transactions. In addition, NRG's market-based sales are subject to certain market behavior rules, and if any of NRG's generating and power marketing companies were deemed to have violated those rules, they are subject to potential disgorgement of profits associated with the violation and/or suspension or revocation of their market-based rate authority. If NRG's generating and power marketing companies were to lose their market-based rate authority, such companies would be required to obtain FERC's acceptance of a cost-of-service rate schedule and could become subject to the accounting, record-keeping, and reporting requirements that are imposed on utilities with cost-based rate schedules. This could have a material adverse effect on the rates NRG charges for power from its facilities.

Substantially all of the Company's generation assets are also subject to the reliability standards promulgated by the designated Electric Reliability Organization (currently NERC) and approved by FERC. If NRG fails to comply with the mandatory reliability standards, NRG could be subject to sanctions, including substantial monetary penalties and increased compliance obligations. NRG is also affected by legislative and regulatory changes, as well as changes to market design, market rules, tariffs, cost allocations, and bidding rules that occur in the existing ISOs. The ISOs that oversee most of the wholesale power markets impose, and in the future may continue to impose, mitigation, including price limitations, offer caps, non-performance penalties and other mechanisms to address some of the volatility and the potential exercise of market power in these markets. These types of price limitations and other regulatory mechanisms may have a material adverse effect on the profitability of NRG's generation facilities that sell energy and capacity into the wholesale power markets.

The regulatory environment is subject to significant changes due to state and federal policies affecting wholesale and retail competition and the creation of incentives for the addition of large amounts of new renewable generation and, in some cases, transmission. These changes are ongoing, and the Company cannot predict the future design of the wholesale power markets or the ultimate effect that the changing regulatory environment will have on NRG's business. In addition, in some of these markets, interested parties have proposed material market design changes. If competitive restructuring of the electric power markets is reversed, discontinued, or delayed, the Company's business prospects and financial results could be negatively impacted. In addition, there have been a number of reforms to the regulation of the derivatives markets, both in the United States and internationally. These regulations, and any further changes thereto, or adoption of additional regulations, including any regulations relating to position limits on futures and other derivatives or margin for derivatives, could negatively impact NRG's ability to hedge its portfolio in an efficient, cost-effective manner by, among other things, potentially decreasing liquidity in the forward commodity and derivatives markets or limiting NRG's ability to utilize non-cash collateral for derivatives transactions.

NRG's business may be affected by interference in the competitive wholesale marketplace.

NRG's generation and competitive retail operations rely on a competitive wholesale marketplace. The competitive wholesale marketplace may be impacted by out-of-market subsidies, including bailouts of uneconomic nuclear plants, imports of power from Canada, renewable mandates or subsidies, mandates to sell power below its cost of acquisition and associated costs as well as out-of-market payments to new or existing generators. These out-of-market subsidies to existing or new

generation undermine the competitive wholesale marketplace, which can lead to premature retirement of existing facilities, including those owned by the Company. If these measures continue, capacity and energy prices may be suppressed, and the Company may not be successful in its efforts to insulate the competitive market from this interference. The Company's retail operations may be materially impacted by rules or regulations that allow regulated utilities to participate in competitive retail markets or own and operate facilities that could be provided by competitive market participants.

Additions or changes in tax laws and regulations could potentially affect the Company's financial results or liquidity.

NRG is subject to various types of tax arising from normal business operations in the jurisdictions in which the Company operates. Any additions or changes to tax legislation, or their interpretation and application, including those with retroactive effect, could have a material adverse effect on NRG's financial condition and results of operations, including income tax provision and accruals reflected in the consolidated financial statements. The Inflation Reduction Act, enacted on August 16, 2022, includes the implementation of a 15% corporate alternative minimum tax ("CAMT") effective in 2023. The CAMT may lead to volatility in the Company's cash tax payment obligations, particularly in periods of significant commodity or currency variability resulting from potential changes in the fair value of derivative instruments. There remains unanswered questions on how the operative rules for CAMT will be implemented and interpreted. The Company continuously monitors and assesses proposed tax legislation that could negatively impact its business.

The integration of the Capacity Performance product into the PJM market could lead to substantial changes in capacity income and non-performance penalties, which could have a material adverse effect on NRG's results of operations, financial condition and cash flows.

PJM operates a pay-for-performance model where capacity payments are modified based on real-time generator performance. Capacity market prices are sensitive to design parameters, as well as additions of new capacity. NRG may experience substantial changes in capacity income and incur non-performance penalties, which could have a material adverse effect on NRG's results of operations, financial condition and cash flows.

NRG's ownership interest in a nuclear power facility subjects the Company to regulations, costs and liabilities uniquely associated with these types of facilities.

Under the Atomic Energy Act of 1954, as amended ("AEA"), ownership and operation of STP, of which NRG indirectly owns a 44% interest, is subject to regulation by the NRC. Such regulation includes licensing, inspection, enforcement, testing, evaluation and modification of all aspects of nuclear reactor power plant design and operation, environmental and safety performance, technical and financial qualifications, decommissioning funding assurance and transfer and foreign ownership restrictions. The current facility operating licenses for STP expire on August 20, 2047 (Unit 1) and December 15, 2048 (Unit 2).

There are unique risks to owning and operating a nuclear power facility. These include liabilities related to the handling, treatment, storage, disposal, transport, release and use of radioactive materials, particularly with respect to spent nuclear fuel, and uncertainties regarding the ultimate, and potential exposure to, technical and financial risks associated with modifying or decommissioning a nuclear facility. The NRC could require the shutdown of the plant for safety reasons or refuse to permit restart of the unit after unplanned or planned outages. New or amended NRC safety and regulatory requirements may give rise to additional operation and maintenance costs and capital expenditures. Additionally, aging equipment may require more capital expenditures to keep each of these nuclear power plants operating efficiently. This equipment is also likely to require periodic upgrading and improvement. Any unexpected failure, including failure associated with breakdowns, forced outages, or any unanticipated capital expenditures, could result in reduced profitability. STP will be obligated to continue storing spent nuclear fuel if the U.S. DOE continues to fail to meet its contractual obligations to STP made pursuant to the U.S. Nuclear Waste Policy Act of 1982 to accept and dispose of STP's spent nuclear fuel. Costs associated with these risks could be substantial and could have a material adverse effect on NRG's results of operations, financial condition or cash flow to the extent not covered by the Decommissioning Trusts or recovered from ratepayers. In addition, to the extent that all or a part of STP is required by the NRC to permanently or temporarily shut down or modify its operations, or is otherwise subject to a forced outage, NRG may incur additional costs to the extent it is obligated to provide power from more expensive alternative sources — either NRG's own plants, third-party generators or the ERCOT — to cover the Company's then existing forward sale obligations. Such shutdown or modification could also lead to substantial costs related to the storage and disposal of radioactive materials and spent nuclear fuel.

While STP maintains property and liability insurance for losses related to nuclear operations, there may be limitations on the amounts and types of insurance commercially available. See also Item 15 — Note 23, *Commitments and Contingencies, Nuclear Insurance*. An accident at STP or another nuclear facility could have a material adverse effect on NRG's financial condition, its operational results, reputation, or liquidity as losses may exceed the insurance coverage available and/or may result in the obligation to pay retrospective premium obligations.

NRG is subject to environmental laws that impose extensive and increasingly stringent requirements on the Company's ongoing operations, as well as potentially substantial liabilities arising out of environmental contamination. These environmental requirements and liabilities could adversely impact NRG's results of operations, financial condition and cash flows.

NRG is subject to the environmental laws of foreign and U.S., federal, state and local authorities. The Company must comply with numerous environmental laws and obtain numerous governmental permits and approvals to build and operate the Company's plants. Federal and state environmental laws generally have become more stringent over time. Should NRG fail to comply with any environmental requirements that apply to its operations, the Company could be subject to administrative, civil and/or criminal liability and fines, and regulatory agencies could take other actions seeking to curtail the Company's operations. In addition, when new requirements take effect or when existing environmental requirements are revised, reinterpreted or subject to changing enforcement policies, NRG's business, results of operations, financial condition and cash flows could be adversely affected.

NRG's businesses are subject to physical, market and economic risks relating to potential effects of climate change, and policies at the national, regional and state levels to regulate GHG emissions and mitigate climate change which could adversely impact NRG's results of operations, financial condition and cash flows.

Fluctuations in weather and other environmental conditions, including temperature and precipitation levels, may affect consumer demand for electricity or natural gas. In addition, the potential physical effects of climate change, such as increased frequency and severity of storms, floods and other climatic events, could disrupt NRG's operations and supply chain, and cause it to incur significant costs in preparing for or responding to these effects. These or other changes in climate could lead to increased operating costs or capital expenses. NRG's customers may also experience the potential physical impacts of climate change and may incur significant costs in preparing for or responding to these efforts, including changing the fuel mix and resiliency of their energy solutions and supply.

Hazards customary to the power production industry include the potential for unusual weather conditions, which could affect fuel pricing and availability, the Company's route to market or access to customers, i.e., transmission and distribution lines, transportation and delivery, or critical plant assets. The contribution of climate change to the frequency or intensity of weather-related events could affect NRG's operations and planning process.

Climate change could also affect the availability of a secure and economical supply of water in some locations, which is essential for the continued operation of NRG's generation plants. NRG monitors water supply risk carefully. If it is determined that a water supply risk exists that could impact projected generation levels at any plant, risk mitigation efforts are identified and evaluated for implementation.

Further, demand for NRG's energy-related services could be similarly impacted by consumers' preferences or market or regulatory factors favoring energy efficiency, lower carbon energy sources or reduced electricity or natural gas usage.

NRG's GHG emissions reduction targets can be found in Item 1, *Business — Environmental Regulatory Matters*. The Company's ability to achieve these targets depends on many factors, including the ability to retire high emitting assets, ability to reduce emissions based on technological advances and innovation, and ability to source energy from less carbon intense resources. In addition, any future decarbonization efforts may increase costs, or NRG may otherwise be limited in its ability to apply them. The cost associated with NRG's GHG emissions reduction goals could be significant. Failure to achieve the Company's emissions targets could result in a negative impact on access to and cost of capital, changing investor sentiment regarding investment in the Company or reputation harm.

Enhanced data privacy and data protection laws and regulations or any non-compliance with such laws and regulations, could adversely affect NRG's business and financial results.

The consumer privacy landscape continues to experience momentum for greater privacy protection and reform at the state and federal level in response to precedents set forth by the General Data Protection Regulation (the "GDPR") and the California Consumer Privacy Act (the "CCPA"). The development and evolving nature of domestic and international privacy regulation and enforcement could impact and potentially limit how NRG processes personally identifiable information. Beginning January 1, 2023, California residents have increased access rights (including the right to limit the use and disclosure of sensitive personal information), which are enforced by a new state privacy regulator, resulting in more scrutiny of business practices and disclosures. Additional states including Virginia, Utah, Connecticut, Colorado, and Nevada have similarly adopted enhanced data privacy legislation effective in 2023 and patterned after the standards set forth by CCPA, including broader data access rights, with Virginia going a step further requiring businesses to perform data protection assessments for certain processing activities.

As new laws and regulations are created, requiring businesses to implement processes to enable customer access to their data and enhanced data protection and management standards, NRG cannot forecast the impact that they may have on the Company's business. Any non-compliance with laws may result in proceedings or actions against the Company by

governmental entities or individuals. Moreover, any inquiries or investigations, government penalties or sanctions, or civil actions by individuals may be costly to comply with, resulting in negative publicity, increased operating costs, significant management time and attention, and may lead to remedies that harm the business, including fines, demands or orders that existing business practices be modified or terminated.

NRG's retail operations are subject to changing rules and regulations that could have a material impact on the Company's profitability.

The competitiveness of NRG's retail operations partially depends on regulatory policies that establish the structure, rules, terms and conditions on which services are offered to retail customers. These policies can include, among other things, controls on the retail rates that NRG can charge, the imposition of additional costs on sales, restrictions on the Company's ability to obtain new customers through various marketing channels and disclosure requirements. The Company's retail operations may be materially impacted by rules or regulations that allow regulated utilities to participate in competitive retail markets or own and operate facilities that could be provided by competitive market participants. Additionally, state, federal or provincial imposition of net metering or RPS programs can make it more or less expensive for retail customers to supplement or replace their reliance on grid power.

The Company's international operations are exposed to political and economic risks, commercial instability and events beyond the Company's control in the countries in which it operates, which risks may negatively impact the Company's business.

The Company's international operations depend on products manufactured, purchased and sold in the U.S. and internationally. In some cases, these countries have greater political and economic volatility and greater vulnerability to infrastructure and labor disruptions than in NRG's other markets. Operating a business in a number of different regions and countries exposes the Company to a number of risks, including: multiple and potentially conflicting laws, regulations and policies that are subject to change, imposition of currency restrictions on repatriation of earnings or other restraints, imposition of burdensome tariffs or quotas, national and international conflict, including terrorist acts and political and economic instability or civil unrest that may severely disrupt economic activity in affected countries.

The occurrence of one or more of these events may negatively impact the Company's business, results of operations and financial condition.

Risks Related to the Economic and Financial Market Conditions, and the Company's Indebtedness

NRG's level of indebtedness could adversely affect its ability to raise additional capital to fund its operations or return capital to stockholders. It could also expose it to the risk of increased interest rates and limit its ability to react to changes in the economy or its industry.

NRG's substantial debt could have negative consequences, including:

- increasing NRG's vulnerability to general economic and industry conditions;
- requiring a substantial portion of NRG's cash flow from operations to be dedicated to the payment of principal and interest on its indebtedness, therefore reducing NRG's ability to pay dividends or to use its cash flow to fund its operations, capital expenditures and future business opportunities;
- limiting NRG's ability to enter into long-term power sales or fuel purchases which require credit support;
- limiting NRG's ability to obtain additional financing for working capital including collateral postings, capital expenditures, debt service requirements, acquisitions and general corporate or other purposes;
- limiting NRG's ability to adjust to changing market conditions and placing it at a competitive disadvantage compared to its competitors who have less debt; and
- exposing NRG to the risk of increased interest rates because certain of its borrowings are at variable rates of interest, primarily through its Revolving Credit Facility.

The Company's credit documents contain financial and other restrictive covenants that may limit the Company's ability to return capital to stockholders or otherwise engage in activities that may be in its long-term best interests. NRG's failure to comply with those covenants could result in an event of default which, if not cured or waived, could result in the acceleration of all of the Company's indebtedness. The Company's corporate credit agreement includes a sustainability-linked metric and sustainability-linked bonds, which could result in increased interest expense to the Company if the sustainability metrics set forth therein are not met. Furthermore, financial and other restrictive covenants contained in any project level subsidiary debt may limit the ability of NRG to receive distributions from such subsidiary.

In addition, NRG's ability to arrange financing, either at the corporate level, a non-recourse project-level subsidiary or otherwise, and the costs of such capital, are dependent on numerous factors, including: general economic and capital market conditions; credit availability from banks and other financial institutions; investor confidence in NRG, its partners and the

regional wholesale power markets; NRG's financial performance and the financial performance of its subsidiaries; NRG's level of indebtedness and compliance with covenants in debt agreements; maintenance of acceptable credit ratings; cash flow; and provisions of tax and securities laws that may impact raising capital.

NRG may not be successful in obtaining additional capital for these or other reasons. The failure to obtain additional capital from time to time may have a material adverse effect on its business and operations.

Adverse economic conditions could adversely affect NRG's business, financial condition, results of operations and cash flows.

Adverse economic conditions, including inflation, and declines in wholesale energy prices, partially resulting from adverse economic conditions, may impact NRG's results of operations. The breadth and depth of negative economic conditions may have a wide-ranging impact on the U.S. business environment. In addition, adverse economic conditions also reduce the demand for energy commodities. Reduced demand from negative economic conditions continues to impact the key domestic wholesale energy markets NRG serves. In general, economic and commodity market conditions will continue to impact NRG's unhedged future energy margins, liquidity, earnings growth and overall financial condition. In addition, adverse economic conditions, declines in wholesale energy prices, reduced demand for energy and other factors may negatively impact the trading price of NRG's common stock and impact forecasted cash flows, which may require NRG to evaluate its goodwill and other long-lived assets for impairment. Any such impairment could have a material impact on NRG's financial condition.

Goodwill and other intangible assets that NRG has recorded in connection with its acquisitions are subject to impairment evaluations and, as a result, the Company could be required to write off some or all of this goodwill and other intangible assets, which may adversely affect the Company's financial condition and results of operations.

Goodwill is not amortized but is reviewed annually or more frequently for impairment. Other intangibles are also reviewed at least annually or more frequently, if certain conditions exist, and are amortized. Any reduction in or impairment of the value of goodwill or other intangible assets will result in a charge against earnings, which could materially adversely affect NRG's reported results of operations and financial position in future periods.

Risks Related to Public Health Threats

Public health threats or outbreaks of communicable diseases could have a material adverse effect on the Company's operations and financial results.

The Company may face risks related to public health threats or outbreaks of communicable diseases. A widespread healthcare crisis, such as an outbreak of a communicable disease, could adversely affect the global economy and the Company's ability to conduct its business for an indefinite period of time. For example, the ongoing global COVID-19 pandemic negatively impacted local and global economies, disrupted financial markets and international trade, resulted in increased unemployment levels and impacted local and global supply chains, all of which also negatively impacted the electricity industry and the Company's business. Federal, state, and local governments have implemented, and may continue to implement, various mitigation measures, including travel restrictions, border closings, restrictions on public gatherings, shelter-in-place orders and limitations on business activities. Although the operations of the Company are considered an essential service, some of these measures may adversely impact the ability of NRG employees, contractors, suppliers, customers, and other business partners to conduct business activities. This could have a material adverse effect on the Company's results of operations, financial condition, risk exposure and liquidity.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This Annual Report on Form 10-K of NRG Energy, Inc., or NRG or the Company, includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or Exchange Act. The words "believes," "projects," "anticipates," "plans," "expects," "intends," "estimates," "should," "forecasts," "plans" and similar expressions are intended to identify forward-looking statements. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause NRG's actual results, performance and achievements, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. These factors, risks and uncertainties include the factors described under Item 1A — *Risk Factors* and the following:

- Business uncertainties related to the acquisition of Vivint;
- NRG's ability to obtain and maintain retail market share;
- General economic conditions, changes in the wholesale power and gas markets and fluctuations in the cost of fuel;
- Volatile power and gas supply costs and demand for power and gas;
- Changes in law, including judicial and regulatory decisions;
- Hazards customary to the power production industry and power generation operations, such as fuel and electricity price volatility, unusual weather conditions, catastrophic weather-related or other damage to facilities, unscheduled generation outages, maintenance or repairs, unanticipated changes to fuel supply costs or availability due to higher demand, shortages, transportation problems or other developments, environmental incidents, or electric transmission or gas pipeline system constraints and the possibility that NRG may not have adequate insurance to cover losses as a result of such hazards;
- The effectiveness of NRG's risk management policies and procedures and the ability of NRG's counterparties to satisfy their financial commitments;
- NRG's ability to enter into contracts to sell power or gas and procure fuel on acceptable terms and prices;
- NRG's inability to estimate with any degree of certainty the future impact that COVID-19, any resurgence of COVID-19 or variants thereof, or other pandemic may have on NRG's results of operations, financial position, risk exposure and liquidity;
- NRG's ability to successfully integrate, realize cost savings and manage any acquired businesses;
- NRG's ability to engage in successful acquisitions and divestitures, as well as other mergers and acquisitions activity;
- Cyber terrorism and cybersecurity risks, data breaches or the occurrence of a catastrophic loss and the possibility that NRG may not have sufficient insurance to cover losses resulting from such hazards or the inability of NRG's insurers to provide coverage;
- Counterparties' collateral demands and other factors affecting NRG's liquidity position and financial condition;
- NRG's ability to operate its businesses efficiently and generate earnings and cash flows from its asset-based businesses in relation to its debt and other obligations;
- The liquidity and competitiveness of wholesale markets for energy commodities;
- Government regulation, including changes in market rules, rates, tariffs and environmental laws;
- NRG's ability to develop and innovate new products, as retail and wholesale markets continue to change and evolve;
- Price mitigation strategies and other market structures employed by ISOs or RTOs that result in a failure to adequately and fairly compensate NRG's generation units;
- NRG's ability to mitigate forced outage risk;
- NRG's ability to borrow funds and access capital markets, as well as NRG's substantial indebtedness and the possibility that NRG may incur additional indebtedness in the future;
- Operating and financial restrictions placed on NRG and its subsidiaries that are contained in NRG's corporate credit agreements, and in debt and other agreements of certain of NRG subsidiaries and project affiliates generally;
- The ability of NRG and its counterparties to develop and build new power generation facilities;
- NRG's ability to implement its strategy of finding ways to meet the challenges of climate change, clean air and protecting natural resources, while taking advantage of business opportunities;
- NRG's ability to increase cash from operations through operational and market initiatives, corporate efficiencies, asset strategy, and a range of other programs throughout NRG to reduce costs or generate revenues;
- NRG's ability to successfully evaluate investments and achieve intended financial results in new business and growth initiatives;

- NRG's ability to develop and maintain successful partnering relationships as needed.

In addition, unlisted factors may present significant additional obstacles to the realization of forward-looking statements. Forward-looking statements speak only as of the date they were made and NRG undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise except as otherwise required by applicable laws. The foregoing factors that could cause NRG's actual results to differ materially from those contemplated in any forward-looking statements included in this Annual Report on Form 10-K should not be construed as exhaustive.

Item 1B — Unresolved Staff Comments

None.

Item 2 — Properties

Listed below are descriptions of NRG's interests in facilities, operations and/or projects owned or leased as of December 31, 2022. The rated MW capacity figures provided represent nominal summer MW capacity of power generated. Net MW capacity is adjusted for the Company's owned or leased interest as of December 31, 2022. The Company believes its existing facilities, operations and/or projects are suitable for the conduct of its business. The following table summarizes NRG's power production and cogeneration facilities by region:

Name of Facility	Power Market	Plant Type	Primary Fuel	Location	Rated MW Capacity ^(a)	Net MW Capacity ^(b)	% Owned
Texas							
Cedar Bayou	ERCOT	Fossil	Natural Gas	TX	1,494	1,494	100.0
Cedar Bayou 4	ERCOT	Fossil	Natural Gas	TX	504	252	50.0
Elbow Creek	ERCOT	Other	Battery Storage	TX	2	2	100.0
Greens Bayou	ERCOT	Fossil	Natural Gas	TX	330	330	100.0
Gregory	ERCOT	Fossil	Natural Gas	TX	365	365	100.0
Limestone	ERCOT	Fossil	Coal	TX	1,660	1,660	100.0
San Jacinto	ERCOT	Fossil	Natural Gas	TX	160	160	100.0
South Texas Project	ERCOT	Nuclear	Uranium	TX	2,572	1,132	44.0
T.H. Wharton	ERCOT	Fossil	Natural Gas	TX	1,002	1,002	100.0
W.A. Parish ^(c)	ERCOT	Fossil	Coal	TX	2,514	2,514	100.0
W.A. Parish	ERCOT	Fossil	Natural Gas	TX	1,118	1,118	100.0
Total Texas					11,721	10,029	
East							
Astoria Turbines ^(d)	NYISO	Fossil	Natural Gas	NY	420	420	100.0
Chalk Point	PJM	Fossil	Natural Gas	MD	80	80	100.0
Fisk	PJM	Fossil	Oil	IL	171	171	100.0
Indian River ^(e)	PJM	Fossil	Coal	DE	410	410	100.0
Indian River	PJM	Fossil	Oil	DE	16	16	100.0
Joliet ^(f)	PJM	Fossil	Natural Gas	IL	1,381	1,381	100.0
Powerton	PJM	Fossil	Coal	IL	1,538	1,538	100.0
Vienna	PJM	Fossil	Oil	MD	167	167	100.0
Waukegan	PJM	Fossil	Oil	IL	101	101	100.0
Total East					4,284	4,284	
West/Services/Other							
Cottonwood	MISO	Fossil	Natural Gas	TX	1,166	1,166	— ^(g)
Gladstone		Fossil	Coal	AUS	1,613	605	37.5
Ivanpah	CAISO	Renewable	Solar	CA	393	214	54.5
Midway-Sunset	CAISO	Fossil	Natural Gas	CA	226	113	50.0
Stadiums and Other		Renewable	Solar	various	5	5	100.0
Total West/Services/Other					3,403	2,103	
Total Fleet					19,408	16,416	

(a) MW capacity of the facility without taking into account NRG ownership percentage

(b) Actual capacity can vary depending on factors including weather conditions, operational conditions, and other factors. Additionally, ERCOT, NYISO and PJM require periodic demonstration of capability, and the capacity may vary individually and in the aggregate from time to time

(c) In May 2022, W.A. Parish Unit 8 came offline as a result of damage to the steam turbine/generator. Based on work completed to date, the Company is targeting to return the unit to service by the end of the second quarter of 2023

(d) On January 6, 2023, the Company closed on the sale of land and related assets at the Astoria site but continues to own and operate the Astoria gas turbines. The gas turbines' planned retirement date remains April 30, 2023

(e) The Company previously announced the shut down of the Indian River facility. However, PJM identified reliability impacts resulting from the proposed deactivation and Indian River Unit 4 currently remains active under a RMR agreement which is expected to end December 31, 2026

(f) The Company plans to retire Joliet 7 and 8 on June 1, 2023

(g) NRG leases 100% interests in the Cottonwood facility through a facility lease agreement expiring in May 2025 and operates the Cottonwood facility

The following units were deactivated during 2022:

Name of Facility	Power Market	Plant Type	Primary Fuel	Location	Rated MW Capacity	Net MW Capacity	% Owned
East							
Waukegan 7	PJM	Fossil	Coal	IL	682	682	100.0 %
Waukegan 8	PJM	Fossil	Coal	IL	101	101	100.0 %
Will County 4	PJM	Fossil	Coal	IL	510	510	100.0 %
Total					1,293	1,293	

Other Properties

NRG owns several real properties and facilities related to its generation assets, other vacant real property unrelated to its generation assets, and properties not used for operational purposes. NRG believes it has satisfactory title to its plants and facilities in accordance with standards generally accepted in the electric power industry, subject to exceptions that, in the Company's opinion, would not have a material adverse effect on the use or value of its portfolio.

NRG leases its operational and corporate headquarters at 910 Louisiana Street, Houston, Texas, its financial and commercial corporate offices at 804 Carnegie Center, Princeton, New Jersey, as well as its retail operations offices, call centers, and various other office space.

Item 3 — Legal Proceedings

See Item 15 — Note 23, *Commitments and Contingencies*, to the Consolidated Financial Statements for discussion of the material legal proceedings to which NRG is a party.

Item 4 — Mine Safety Disclosures

The information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K (17 CFR 229.104) is included in Exhibit 95.1 to this Form 10-K.

PART II

Item 5 — Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Information and Holders

NRG's common stock trades on the New York Stock Exchange under the symbol "NRG". NRG's authorized capital stock consists of 500,000,000 shares of common stock and 10,000,000 shares of preferred stock. A total of 25,000,000 shares of the Company's common stock are authorized for issuance under the NRG LTIP. For more information about the NRG LTIP, refer to Item 12 — *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters* and Item 15 — Note 21, *Stock-Based Compensation*, to the Consolidated Financial Statements.

As of January 31, 2023, there were 15,792 common stockholders of record.

NRG increased the annual dividend to \$1.40 from \$1.30 per share beginning in the first quarter of 2022 and further increased the annual dividend by 8% to \$1.51 per share beginning in the first quarter of 2023. NRG expects to target an annual dividend growth rate of 7-9% per share in subsequent years.

Issuer Purchases of Equity Securities

The table below sets forth the information with respect to purchases made by or on behalf of NRG or any "affiliated purchaser" (as defined in Rule 10b-18(a)(3) under the Exchange Act) of NRG's common stock during the quarter ended December 31, 2022.

For the three months ended December 31, 2022	Total Number of Shares Purchased	Average Price Paid per Share ^(b)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs ^{(a)(c)}
Month #1 (October 1, 2022 to October 31, 2022)	1,817,278	\$ 41.71	1,817,278	\$ 390,876,781
Month #2 (November 1, 2022 to November 30, 2022)	823,175	\$ 44.25	823,175	\$ 354,437,274
Month #3 (December 1, 2022 to December 31, 2022)	—	\$ —	—	\$ 354,437,274
Total at December 31, 2022	2,640,453	\$ 42.50	2,640,453	

(a) On December 6, 2021, the Company announced that the Board of Directors had authorized \$1 billion for share repurchases, as part of NRG's Capital Allocation policy. The program began in December 2021 and is expected to be completed in 2023, subject to the availability of excess cash and full visibility of the achievement of the Company's 2023 targeted credit metrics

(b) The average price paid per share excludes commissions of \$0.02 per share paid in connection with the open market share repurchases

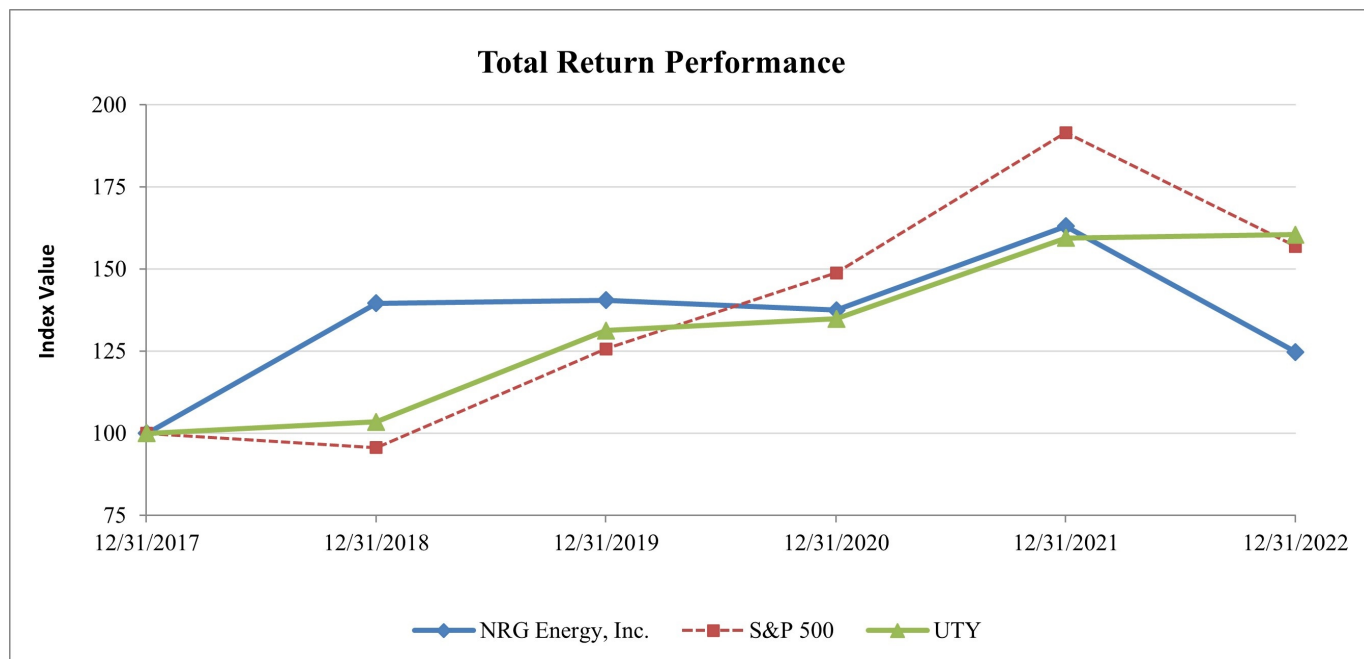
(c) Includes commissions of \$0.02 per share paid in connection with the open market share repurchases

Stock Performance Graph

The performance graph below compares the cumulative total stockholder return on NRG's common stock for the period December 31, 2017 through December 31, 2022, with the cumulative total return of the Standard & Poor's 500 Composite Stock Price Index ("S&P 500") and the Philadelphia Utility Sector Index ("UTY").

The performance graph shown below is being furnished and compares each period assuming that \$100 was invested on December 31, 2017, in each of the common stock of NRG, the stocks included in the S&P 500 and the stocks included in the UTY, and that all dividends were reinvested.

Comparison of Cumulative Total Return



	<u>12/31/2017</u>	<u>12/31/2018</u>	<u>12/31/2019</u>	<u>12/31/2020</u>	<u>12/31/2021</u>	<u>12/31/2022</u>
NRG Energy, Inc.	\$ 100.00	\$ 139.59	\$ 140.55	\$ 137.54	\$ 163.06	\$ 124.79
S&P 500	100.00	95.62	125.72	148.85	191.58	156.88
UTY	100.00	103.52	131.28	134.85	159.45	160.49

Item 6 — Reserved

Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations

The discussion and analysis below has been organized as follows:

- Executive Summary, including the business environment in which the Company operates, a discussion of regulation, weather, competition and other factors that affect the business, and other significant events that are important to understanding the results of operations and financial condition;
- Results of operations for the years ended December 31, 2022 and December 31, 2021, including an explanation of significant differences between the periods in the specific line items of NRG's Consolidated Statements of Operations;
- Liquidity and capital resources including liquidity position, financial condition addressing credit ratings, material cash requirements and commitments, and other obligations; and
- Critical accounting estimates that are most important to both the portrayal of the Company's financial condition and results of operations, and require management's most difficult, subjective, or complex judgments.

As you read this discussion and analysis, refer to NRG's Consolidated Statements of Operations in this Form 10-K, which present the results of the Company's operations for the years ended December 31, 2022 and 2021, and also refer to Item 1 to this Form 10-K for more detail discussion about the Company's business. A discussion and analysis of fiscal year 2020 may be found in Part II, Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations of the Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

Executive Summary

NRG Energy, Inc., or NRG or the Company, is a consumer services company built on dynamic retail brands. NRG brings the power of energy to customers by producing and selling energy and related products and services, nation-wide in the U.S. and Canada in a manner that delivers value to all of NRG's stakeholders. NRG sells power, natural gas, home and power services, and develops innovative, sustainable solutions, predominately under the brand names NRG, Reliant, Direct Energy, Green Mountain Energy, Stream, and XOOM Energy. The Company has a customer base that includes approximately 5.4 million Home customers as well as commercial, industrial, and wholesale customers, supported by approximately 16 GW of generation as of December 31, 2022.

Business Environment

The industry dynamics and external influences affecting the Company, its businesses, and the retail energy and power generation industry in 2022 and for the future medium term include:

Market Dynamics — The price of natural gas plays an important role in setting the price of electricity in many of the regions where NRG operates. Natural gas prices are driven by variables including demand from the industrial, residential, and electric sectors, productivity across natural gas supply basins, costs of natural gas production, changes in pipeline infrastructure, global LNG demand, exports of natural gas, and the financial and hedging profile of natural gas customers and producers. In 2022, the average natural gas price at Henry Hub was 73% higher than in 2021.

NRG may experience impacts to gross margins due to significant, rapid changes in current natural gas prices and the lag in its ability to make a corresponding adjustment to the retail rates it charges customers on term and month to month contracts. The Company hedges its load commitments in order to mitigate the impact of changes in commodity prices, and as a result, these gross margin impacts would be realized in future periods until it is able to make the corresponding adjustments to the retail customer rates.

The relative price of natural gas as compared to coal is the primary driver of coal demand. Coal commodity prices decreased in 2022 although supply chain disruptions are still affecting coal deliveries, as further discussed below in Global Supply Chain Disruptions.

Electricity Prices — The price of electricity is a key determinant of the profitability of the Company. Many variables such as the price of different fuels, weather, load growth and unit availability all coalesce to impact the final price for electricity and the Company's profitability. An increase in supply cost volatility in the competitive retail markets may result in smaller companies choosing to exit the market, which may result in further consolidation in the competitive retail space. The following table summarizes average on-peak power prices for each of the major markets in which NRG operates for the years ended December 31, 2022 and 2021. The average on-peak power prices decreased significantly in Texas due to Winter Storm Uri's impact on 2021 pricing. East and West average on-peak prices increased as a result of higher natural gas prices.

Region	Average On-Peak Power Price (\$/MWh)		
	Year Ended December 31,		2022 vs 2021
	2022	2021	Change %
Texas			
ERCOT - Houston ^(a)	\$ 90.62	\$ 192.17	(53)%
ERCOT - North ^(a)	78.34	189.05	(59)%
East			
NY J/NYC ^(b)	93.58	48.71	92 %
NEPOOL ^(b)	92.42	51.81	78 %
COMED (PJM) ^(b)	71.86	41.33	74 %
PJM West Hub ^(b)	83.48	45.67	83 %
West			
CAISO - SP15 ^(b)	87.67	53.53	64 %
MISO - Louisiana Hub ^(b)	71.12	43.05	65 %

(a) Average on-peak power prices based on real time settlement prices as published by the respective ISOs

(b) Average on-peak power prices based on day-ahead settlement prices as published by the respective ISOs

Increased Awareness of, and Action to Combat, Climate Change —Diverse groups of stakeholders, including investors, asset managers, financial institutions, non-government organizations, industry coalitions, individual companies, consumer groups and academic institutions, are increasingly engaged in efforts to limit global warming in the post-industrial era to 1.5 degrees Celsius. As a result, policymakers and regulators at regional, national, sub-national and local levels of government, both in the U.S. and other parts of the world, are increasingly focused on actions to combat climate change.

NRG actively monitors climate change related developments that could impact its business and regularly engages with a diverse set of stakeholders on these issues. Such engagement helps the Company identify and pursue potential opportunities both to decarbonize its business and better serve its customers. NRG is committed to providing transparent disclosures of its climate risks and opportunities to stakeholders. The Company was an early supporter of the Task Force on Climate-related Financial Disclosures ("TCFD") recommendations after they were issued in 2017, published a TCFD mapping disclosure in December 2020 and issued a stand-alone TCFD report in December 2021.

Lower Carbon Infrastructure Development — Policy mechanisms at the state and federal level, including production and investment tax credits, cash grants, loan guarantees, accelerated depreciation tax benefits, RPS, and carbon trading plans, have supported and continue to support the development of renewable generation, demand-side and smart grid, and other lower carbon infrastructure technologies. The U.S. Inflation Reduction Act, signed into law in August 2022, is intended to further support the deployment of lower carbon energy technologies. As costs associated with the development of lower carbon infrastructure, such as wind and solar generating facilities, continue to evolve and impact development of lower carbon infrastructure in the markets where the Company participates, it may impact the ability of the Company's generating facilities to participate in those markets. According to ERCOT, 41% of 2022 energy consumption in the ERCOT market was generated from carbon emission-free resources, with wind power contributing 25%. In addition, as subsidies and incentives contribute to increases in renewable power sources, customer awareness and preferences are shifting toward sustainable solutions. Increased demand for sustainable energy products from both residential and commercial customers creates opportunities for diversified product offerings in competitive retail markets.

Digitization and Customization — The electric industry is experiencing major technology changes in the way power is distributed and consumed by end-use customers. The electric grid is shifting from a centralized analog system, where power is generated from limited sources and flows in one direction, to a decentralized multidirectional system, where power can be generated from a number of distributed resources and stored or dispatched on an as-needed basis. In addition, customers are seeking new ways to engage with their power providers. Technologies like smart thermostats, smart appliances and electric vehicles are giving individuals more choice and control over their electricity usage.

Weather — Weather conditions in the regions of the U.S. in which NRG conducts business influence the Company's financial results. Weather conditions can affect the supply and demand for electricity and fuels and may also impact the availability of the Company's generating assets. Changes in energy supply and demand may impact the price of these energy commodities in both the spot and forward markets, which may affect the Company's results in any given period. Typically, demand for and the price of electricity is higher in the summer and the winter seasons, when temperatures are more extreme. The demand for and price of natural gas is also generally higher in the winter. However, all regions of the U.S. typically do not experience extreme weather conditions at the same time, thus NRG's operations are typically not exposed to the effects of extreme weather in all parts of its business at once.

Global Supply Chain Disruptions — There are currently global supply chain disruptions impacting natural gas, coal, solar and other fuels and materials necessary for the production and sale of electricity to the Company's retail customers. These supply chain disruptions are due in part to a number of factors outside the Company's control including geopolitical conflicts, public policy of the federal government, the COVID-19 pandemic, labor shortages and extreme weather events in the U.S. These factors are impacting the dispatch of generation facilities, as well as the costs to serve retail customers. The Company expects that supply chain disruptions will continue throughout the remainder of 2023. NRG is working closely with its suppliers and customers to minimize any potential adverse impacts of these events. The Company will continue to actively monitor all direct and indirect potential impacts of the supply chain disruptions, and will seek to mitigate and minimize their impact on business.

Other Factors — A number of other factors significantly influence the level and volatility of prices for energy commodities and related derivative products for NRG's business. These factors include:

- seasonal, daily and hourly changes in demand;
- extreme peak demands;
- performance of renewable generation;
- available supply resources;
- transportation and transmission availability and reliability within and between regions;
- location of NRG's generating facilities relative to the location of its load-serving opportunities;
- procedures used to maintain the integrity of the physical electricity system during extreme conditions; and
- changes in the nature and extent of federal and state regulations.

These factors can affect energy commodity and derivative prices in different ways and to different degrees. These effects may vary throughout the country as a result of regional differences in:

- weather conditions;
- market liquidity;
- capability and reliability of the physical electricity and gas systems;
- local transportation systems; and
- the nature and extent of electricity deregulation.

Environmental Matters, Regulatory Matters and Legal Proceedings — Details of environmental matters are presented in Item 15 — Note 25, *Environmental Matters*, to the Consolidated Financial Statements and Item 1 — Business, *Environmental Matters*. Details of regulatory matters are presented in Item 15 — Note 24, *Regulatory Matters*, to the Consolidated Financial Statements and Item 1 — Business, *Regulatory Matters*. Details of legal proceedings are presented in Item 15 — Note 23, *Commitments and Contingencies*, to the Consolidated Financial Statements. Some of this information relates to costs that may be material to the Company's financial results.

Significant Events

The following significant events occurred during 2022 and through the filing date, as further described within this Management's Discussion and Analysis and the Consolidated Financial Statements:

Vivint Acquisition

On December 6, 2022, NRG and Vivint Smart Home, Inc. announced the entry into a definitive agreement under which the Company will acquire Vivint in an all-cash transaction. The Company will pay \$12 per share, or approximately \$2.8 billion in cash, and expects to fund the acquisition using proceeds from newly issued debt and preferred equity, drawing on its Revolving Credit Facility and Receivables Securitization Facilities, and through cash on hand. Additionally, in the first quarter of 2023, NRG increased its Revolving Credit Facility by \$600 million to meet the additional liquidity requirements related to the acquisition. Close of the acquisition is targeted for the first quarter of 2023 and is subject to customary closing conditions. See Item 15 — Note 4, *Acquisitions and Dispositions*, to the Consolidated Financial Statements for further discussion.

Astoria

On January 6, 2023, NRG closed on the sale of land and related assets from the Astoria site, within the East region of operations, for initial proceeds of \$212 million subject to transaction fees of \$3 million and certain indemnifications. As part of the transaction, NRG entered into an agreement to lease the land back for the purpose of operating the Astoria gas turbines through the planned April 30, 2023 retirement date. The operating lease agreement is expected to end six months after the facility's actual retirement date. See Item 15 — Note 4, *Acquisitions and Dispositions*, to the Consolidated Financial Statements for further discussion.

Sale of Watson

On June 1, 2022, the Company closed on the sale of its 49% ownership in the Watson natural gas generating facility for \$59 million. NRG recognized a gain on the sale of \$46 million.

Retirement of Joliet

During the second quarter of 2022, the results of the PJM Base Residual Auction for the 2023/2024 delivery year were released leading the Company to revise its long-term view of certain facilities and announce the planned retirement of the Joliet generating facility on June 1, 2023. Impairment losses of \$20 million and \$130 million were recorded on the PJM generating assets and Midwest Generation goodwill, respectively.

W.A. Parish Extended Outage

In May 2022, W.A. Parish Unit 8 came offline as a result of damage to the steam turbine/generator. Based on work completed to date, NRG is targeting to return the unit to service by the end of the second quarter of 2023. The Company is working with its insurers related to claims surrounding the outage and has received partial settlements in the fourth quarter of 2022.

Limestone Unit 1 Return to Service

In early July 2021, Limestone Unit 1 came offline as a result of damage to the duct work associated with the FGD system. The extended forced outage ended in April of 2022 and the unit has returned to service.

ERCOT Securitization Proceeds

During February 2021, Texas experienced unprecedented cold temperatures for a prolonged duration as a result of Winter Storm Uri, resulting in a power emergency, blackouts, and an estimated all-time peak demand of 77 GW (without load shed). In 2021, the Texas Legislature passed HB 4492 for ERCOT to mitigate exceptionally high price adders and ancillary service costs incurred by LSEs during Winter Storm Uri. HB 4492 authorized ERCOT to obtain \$2.1 billion of financing to distribute to LSEs that were charged and paid to ERCOT those highly priced ancillary service and ORDPA during Winter Storm Uri. The Company accounted for the proceeds as a reduction to cost of operations within its Consolidated Statements of Operations in the 2021 annual period for which the proceeds were intended to compensate. During the year ended December 31, 2021, Winter Storm Uri's pre-tax financial impact to the Company was a loss of \$380 million, which reflects the recovery of \$689 million of cost of operations as a result of the proceeds. The Company received the proceeds of \$689 million from ERCOT in June 2022.

Share Repurchases

In December 2021, the Company's board of directors authorized the Company to repurchase \$1.0 billion of its common stock, of which \$44 million was repurchased in 2021. During the year ended December 31, 2022, the Company repurchased \$601 million of shares at an average price of \$40.50 per share, including \$6 million of equivalent shares purchased in lieu of tax withholdings on equity compensation issuances. The remaining \$355 million repurchases under the \$1.0 billion authorization are expected to be repurchased in 2023, subject to the availability of excess cash and full visibility of the achievement of the Company's 2023 targeted credit metrics. . See Item 15 - Note 16, *Capital Structure*, to the Consolidated Financial Statements for additional discussion.

Renewable Power Purchase Agreements

The Company's strategy is to procure mid to long-term renewable generation through power purchase agreements. As of December 31, 2022, NRG has entered into Renewable PPAs totaling approximately 2.4 GW, of which approximately 45% are operational. The average tenor of these agreements is twelve years. The Company expects to continue evaluating and executing similar agreements that support the needs of the business. The total GW entered into through Renewable PPAs may be impacted by contract terminations when they occur.

Dividend Increase

In the first quarter of 2022, NRG increased the annual dividend to \$1.40 from \$1.30 per share. In 2023, NRG further increased the annual dividend to \$1.51 per share, representing an 8% increase from 2022. The Company expects to target an annual dividend growth rate of 7-9% per share in subsequent years.

COVID-19

While the pandemic presented risks, as further described in Part II, Item 1A — Risk Factors of this Form 10-K, to the Company's business, there was not a material adverse impact on the Company's results of operations for the years ended December 31, 2022, 2021 and 2020.

Consolidated Results of Operations for the years ended December 31, 2022 and 2021

The following table provides selected financial information for the Company:

(In millions, except otherwise noted)	Year Ended December 31,		Change
	2022	2021 ^(a)	
Revenues			
Retail revenue	\$ 29,722	\$ 23,561	\$ 6,161
Energy revenue ^(b)	1,250	1,215	35
Capacity revenue ^(b)	272	775	(503)
Mark-to-market for economic hedging activities	(83)	(164)	81
Contract amortization	(39)	(30)	(9)
Other revenues ^{(b)(c)}	421	1,632	(1,211)
Total revenues	31,543	26,989	4,554
Operating Costs and Expenses			
Cost of fuel	1,919	1,840	(79)
Purchased energy and other cost of sales ^(d)	24,984	19,770	(5,214)
Mark-to-market for economic hedging activities	(1,331)	(2,880)	(1,549)
Contract and emissions credit amortization ^(d)	111	43	(68)
Operations and maintenance	1,352	1,370	18
Other cost of operations	411	339	(72)
Cost of operations (excluding depreciation and amortization shown below)	27,446	20,482	(6,964)
Depreciation and amortization	634	785	151
Impairment losses	206	544	338
Selling, general and administrative costs	1,228	1,293	65
Provision for credit losses	11	698	687
Acquisition-related transaction and integration costs	52	93	41
Total operating costs and expenses	29,577	23,895	(5,682)
Gain on sale of assets	52	247	(195)
Operating Income	2,018	3,341	(1,323)
Other Income/(Expense)			
Equity in earnings of unconsolidated affiliates	6	17	(11)
Other income, net	56	63	(7)
Loss on debt extinguishment, net	—	(77)	77
Interest expense	(417)	(485)	68
Total other expenses	(355)	(482)	127
Income Before Income Taxes	1,663	2,859	(1,196)
Income tax expense	442	672	(230)
Net Income	\$ 1,221	\$ 2,187	\$ (966)
Business Metrics			
Average natural gas price — Henry Hub (\$/MMBtu)	\$ 6.64	\$ 3.84	73 %

(a) Includes the impact of Winter Storm Uri

(b) Includes realized gains and losses from financially settled transactions

(c) Includes trading gains and losses and ancillary revenues

(d) Includes amortization of SO₂ and NO_x credits and excludes amortization of RGGI credits

Gross Margin

The Company calculates gross margin in order to evaluate operating performance as revenues less cost of fuel, purchased energy and other costs of sales, mark-to-market for economic hedging activities, contract and emission credit amortization and depreciation and amortization.

Economic Gross Margin

In addition to gross margin, the Company evaluates its operating performance using the measure of economic gross margin, which is not a GAAP measure and may not be comparable to other companies' presentations or deemed more useful than the GAAP information provided elsewhere in this report. Economic gross margin should be viewed as a supplement to and not a substitute for the Company's presentation of gross margin, which is the most directly comparable GAAP measure. Economic gross margin is not intended to represent gross margin. The Company believes that economic gross margin is useful to investors as it is a key operational measure reviewed by the Company's chief operating decision maker. Economic gross margin is defined as the sum of retail revenue, energy revenue, capacity revenue and other revenue, less cost of fuels, purchased energy and other cost of sales. Economic gross margin does not include mark-to-market gains or losses on economic hedging activities, contract amortization, emission credit amortization, depreciation and amortization, operations and maintenance, or other costs of operations.

The tables below present the composition and reconciliation of gross margin and economic gross margin for the years ended December 31, 2022 and 2021:

(\$ in millions, except otherwise noted)	Year Ended December 31, 2022				
	Texas	East	West/ Services/ Other	Corporate/ Eliminations	Total
Retail revenue	\$ 9,617	\$ 15,856	\$ 4,250	\$ (1)	\$ 29,722
Energy revenue	111	641	466	32	1,250
Capacity revenue	—	232	40	—	272
Mark-to-market for economic hedging activities	2	(30)	(56)	1	(83)
Contract amortization	—	(40)	1	—	(39)
Other revenue ^(a)	327	104	5	(15)	421
Total revenue	10,057	16,763	4,706	17	31,543
Cost of fuel	(1,213)	(376)	(330)	—	(1,919)
Purchased energy and other costs of sales ^{(b)(c)(d)}	(6,379)	(14,782)	(3,804)	(19)	(24,984)
Mark-to-market for economic hedging activities	611	218	503	(1)	1,331
Contract and emission credit amortization	—	(91)	(20)	—	(111)
Depreciation and amortization	(310)	(208)	(85)	(31)	(634)
Gross margin	\$ 2,766	\$ 1,524	\$ 970	\$ (34)	\$ 5,226
Less: Mark-to-market for economic hedging activities, net	613	188	447	—	1,248
Less: Contract and emission credit amortization, net	—	(131)	(19)	—	(150)
Less: Depreciation and amortization	(310)	(208)	(85)	(31)	(634)
Economic gross margin	\$ 2,463	\$ 1,675	\$ 627	\$ (3)	\$ 4,762

(a) Includes trading gains and losses and ancillary revenues

(b) Includes capacity and emissions credits

(c) Includes \$3,043 million, \$120 million and \$1,134 million of TDSP expense in Texas, East, and West/Services/Other respectively

(d) Excludes depreciation and amortization shown separately

Business Metrics	Texas	East	West/ Services/ Other	Corporate/ Eliminations	Total
Home electricity sales volume (GWh)	43,155	13,269	2,250	—	58,674
Business electricity sales volume (GWh)	38,447	47,724	10,231	—	96,402
Home natural gas retail sales volumes (MDth)	—	53,051	92,035	—	145,086
Business natural gas retail sales volumes (MDth)	—	1,618,946	154,074	—	1,773,020
Average retail Home customer count (in thousands) ^(a)	2,961	1,783	799	—	5,543
Ending retail Home customer count (in thousands) ^(a)	2,859	1,761	786	—	5,406
GWh sold	37,275	10,832	6,676	—	54,783
GWh generated ^(b)	37,275	7,282	6,676	—	51,233

(a) Home customer count includes recurring residential customers, services customers and municipal aggregations. The whole home warranty business was sold in January 2022

(b) Includes owned and leased generation, excludes tolled generation and equity investments

Year Ended December 31, 2021

(\$ in millions, except otherwise noted)	Texas	East	West/ Services/ Other ^(a)	Corporate/ Eliminations	Total
Retail revenue	\$ 8,404	\$ 11,862	\$ 3,296	\$ (1)	\$ 23,561
Energy revenue	329	508	371	7	1,215
Capacity revenue	—	718	57	—	775
Mark-to-market for economic hedging activities	(3)	(88)	(86)	13	(164)
Contract amortization	—	(26)	(4)	—	(30)
Other revenue ^(a)	1,565	51	25	(9)	1,632
Total revenue	10,295	13,025	3,659	10	26,989
Cost of fuel	(1,424)	(196)	(220)	—	(1,840)
Purchased energy and other costs of sales ^{(b)(c)(d)}	(6,107)	(10,774)	(2,887)	(2)	(19,770)
Mark-to-market for economic hedging activities	988	1,803	102	(13)	2,880
Contract and emission credit amortization	2	(28)	(17)	—	(43)
Depreciation and amortization	(336)	(333)	(88)	(28)	(785)
Gross margin	\$ 3,418	\$ 3,497	\$ 549	\$ (33)	\$ 7,431
Less: Mark-to-market for economic hedging activities, net	985	1,715	16	—	2,716
Less: Contract and emission credit amortization	2	(54)	(21)	—	(73)
Less: Depreciation and amortization	(336)	(333)	(88)	(28)	(785)
Economic gross margin	\$ 2,767	\$ 2,169	\$ 642	\$ (5)	\$ 5,573

(a) Includes trading gains and losses and ancillary revenues

(b) Includes capacity and emissions credits

(c) Includes \$2,648 million, \$183 million and \$1,033 million of TDSP expense in Texas, East, and West/Services/Other respectively

(d) Excludes depreciation and amortization shown separately

Business Metrics	Texas	East	West/ Services/ Other	Corporate/ Eliminations	Total
Home electricity sales volume (GWh)	42,397	14,108	2,252	—	58,757
Business electricity sales volume (GWh)	34,367	53,204	10,625	—	98,196
Home natural gas retail sales volumes (MDth)	—	50,417	97,272	—	147,689
Business natural gas retail sales volumes (MDth)	—	1,620,036	109,021	—	1,729,057
Average retail Home customer count (in thousands) ^{(a)(b)}	3,040	1,844	977	—	5,861
Ending retail Home customer count (in thousands) ^{(a)(b)}	3,010	1,766	946	—	5,722
GWh sold	36,920	11,452	8,503	—	56,875
GWh generated ^{(c)(d)}	36,920	7,494	7,949	—	52,363

(a) Home customer count includes recurring residential customers and municipal aggregations

(b) Includes 135 thousand whole home warranty customers in West/Services/Other. The whole home warranty business was sold in January 2022

(c) Includes owned and leased generation, excludes tolled generation and equity investments

(d) Includes 1,054 GWh and 2,445 GWh in East and West/Services/Other, respectively, that was sold to Generation Bridge in December 2021

The table below represents the weather metrics for 2022 and 2021:

Weather Metrics	Year ended December 31,			Quarter ended December 31,			Quarter ended September 30,			Quarter ended June 30,			Quarter ended March 31,		
	Texas	East	West/ Services /Other ^(a)	Texas	East	West/ Services /Other ^(a)	Texas	East	West/ Services /Other ^(a)	Texas	East	West/ Services /Other ^(a)	Texas	East	West/ Services /Other ^(a)
2022															
CDDs ^(b)	3,417	1,340	2,133	277	72	160	1,789	874	1,268	1,283	352	674	68	42	31
HDDs ^(b)	1,935	4,627	2,232	734	1,683	884	—	54	3	24	486	194	1,177	2,404	1,151
2021															
CDDs	2,960	1,275	1,877	386	91	185	1,589	784	1,134	899	362	521	86	38	37
HDDs	1,562	4,306	2,060	360	1,377	662	—	38	5	82	541	192	1,120	2,350	1,201
10-year average															
CDDs	3,031	1,305	1,920	290	91	162	1,659	819	1,159	970	356	549	112	39	50
HDDs	1,668	4,569	2,022	661	1,648	766	6	53	11	66	492	183	935	2,376	1,062

(a) The West/Services/Other weather metrics are comprised of the average of the CDD and HDD regional results for the West - California and West - South Central regions

(b) National Oceanic and Atmospheric Administration-Climate Prediction Center - A Cooling Degree Day ("CDD"), represents the number of degrees that the mean temperature for a particular day is above 65 degrees Fahrenheit in each region. A Heating Degree Day ("HDD"), represents the number of degrees that the mean temperature for a particular day is below 65 degrees Fahrenheit in each region. The CDDs/HDDs for a period of time are calculated by adding the CDDs/HDDs for each day during the period

Gross margin and economic gross margin

Gross margin decreased \$2.2 billion and economic gross margin decreased \$811 million, both of which include intercompany sales, during the year ended December 31, 2022, compared to the same period in 2021. The detail by segment is as follows:

Texas

	(In millions)
Lower gross margin due to the impact of Winter Storm Uri in 2021, primarily driven by hedging optimization, partially offset by the negative impact of an increase in unhedgeable ancillary and operating reserve demand curve ^(a) , net of securitization proceeds of \$689 million	\$ (88)
The following explanations exclude the impact of Winter Storm Uri:	
Lower gross margin due to the net effect of:	
• a 40%, or \$1 billion increase in overall average costs to serve the retail load, driven by increases in power, ancillary, and fuel costs, an extended outage at W.A. Parish Unit 8 and the more conservative winter hedge profile in the first quarter of 2022, partially offset by the favorable impact of the early settlement of a solar PPA and partial settlements of business interruption insurance claims related to W.A. Parish and Limestone extended outages; and	
• increased net revenue rates of \$9.50 per MWh, or \$611 million primarily driven by changes in customer term, product and mix	(427)
Higher gross margin due to an increase in load due to weather of 5.3 million MWhs, or \$185 million and an increase in load of 220k MWhs, or \$58 million, primarily driven by changes in customer mix	243
Lower gross margin from market optimization activities	(40)
Other	8
Decrease in economic gross margin	\$ (304)
Decrease in mark-to-market for economic hedging primarily due to net unrealized gains/losses on open positions related to economic hedges	(372)
Increase in contract and emission credit amortization	(2)
Decrease in depreciation and amortization	26
Decrease in gross margin	\$ (652)

(a) For further discussion of ERCOT's securitization activity see *Regional Regulatory Developments* section under Regulatory Matters in Item 1 - Business

East

	<u>(In millions)</u>
Lower gross margin due to the impact of Winter Storm Uri in 2021, primarily driven by natural gas optimization during volatile pricing that occurred during the weather event	\$ (146)
The following explanations exclude the impact of Winter Storm Uri:	
Lower gross margin due to the sale of fossil generating assets to Generation Bridge in December 2021	(211)
Lower gross margin due to a decrease in generation and capacity as a result of Midwest Generation asset retirements in the second quarter of 2022	(91)
Lower gross margin due to a 32% decrease in PJM capacity prices and a 45% decrease in New York capacity prices coupled with net Capacity Performance penalties resulting from Winter Storm Elliott in December 2022	(109)
Lower demand response gross margin primarily due to a decrease in early settlements of capacity obligations in 2022 compared to 2021	(94)
Lower electric gross margin from decreased load of 6.7 TWh due to attrition and change in customer mix	(71)
Lower electric gross margin due to higher supply costs of \$15.25 per MWh, driven primarily by increases in power prices, totaling \$931 million, partially offset by higher net revenue rates as a result of changes in customer term, product and mix of \$14.50 per MWh, or \$888 million	(43)
Higher gross margin primarily at Midwest Generation due to a 31% increase in average realized pricing and an increase in generation volumes due to dark spread expansion, partially offset by increased supply costs	33
Higher gross margin from the sales of NO _x emission credits	19
Higher natural gas gross margin including the impact of transportation and storage contract optimization, resulting in higher net revenue rates from changes in customer term, product and mix of \$2.25 per Dth, or \$3.8 billion, partially offset by higher supply costs of \$2.15 per Dth, or \$3.6 billion	219
Decrease in economic gross margin	<u>\$ (494)</u>
Decrease in mark-to-market for economic hedging primarily due to net unrealized gains/losses on open positions related to economic hedges	(1,527)
Increase in contract amortization	(77)
Decrease in depreciation and amortization	125
Decrease in gross margin	<u><u>\$ (1,973)</u></u>

West/Services/Other

	(In millions)
Lower gross margin due to the impact of Winter Storm Uri in 2021, primarily driven by natural gas optimization during volatile pricing that occurred during the weather event	\$ (13)
The following explanations exclude the impact of Winter Storm Uri:	
Lower gross margin due to the sale of fossil generating assets to Generation Bridge in December 2021	(86)
Lower gross margin due to the sale of the whole home warranty business in the first quarter of 2022	(21)
Higher gross margin at Cottonwood due to a 84% increase in average realized power prices as well as an anticipated Capacity Performance bonus payment from PJM as a result of Winter Storm Elliott, partially offset by increased commodity costs	95
Higher gross margin primarily due to increased revenue at Airtron	25
Higher electric gross margin due to higher revenue rates of \$26.50 per MWh, totaling \$331 million, partially offset by higher supply costs of \$26.00 per MWh, or \$322 million from changes in customer term, product and mix	8
Lower natural gas gross margin due to higher supply costs of \$1.65 per Dth, totaling \$403 million, partially offset by higher net revenue rates of \$1.40 per Dth, or \$346 million and an increase in load due to changes in customer mix of \$33 million	(24)
Other	1
Decrease in economic gross margin	\$ (15)
Increase in mark-to-market for economic hedges primarily due to net unrealized gains/losses on open positions related to economic hedges	431
Decrease in contract amortization	2
Decrease in depreciation and amortization	3
Increase in gross margin	\$ 421

Mark-to-market for Economic Hedging Activities

Mark-to-market for economic hedging activities includes asset-backed hedges that have not been designated as cash flow hedges. Total net mark-to-market results decreased by \$1.5 billion during the year ended December 31, 2022, compared to the same period in 2021.

The breakdown of gains and losses included in revenues and operating costs and expenses by segment was as follows:

(In millions)	Year Ended December 31, 2022				
	Texas	East	West/ Services/ Other	Eliminations	Total
Mark-to-market results in revenues					
Reversal of previously recognized unrealized losses/ (gains) on settled positions related to economic hedges	\$ 2	\$ (5)	\$ 40	\$ (8)	\$ 29
Reversal of acquired (gain) positions related to economic hedges	—	(3)	—	—	(3)
Net unrealized (losses) on open positions related to economic hedges	—	(22)	(96)	9	(109)
Total mark-to-market gains/(losses) in revenues	\$ 2	\$ (30)	\$ (56)	\$ 1	\$ (83)
Mark-to-market results in operating costs and expenses					
Reversal of previously recognized unrealized (gains) on settled positions related to economic hedges	\$ (366)	\$ (738)	\$ (165)	\$ 8	\$ (1,261)
Reversal of acquired loss/(gain) positions related to economic hedges	29	(5)	(19)	—	5
Net unrealized gains on open positions related to economic hedges	948	961	687	(9)	2,587
Total mark-to-market gains in operating costs and expenses	\$ 611	\$ 218	\$ 503	\$ (1)	\$ 1,331

(In millions)	Year Ended December 31, 2021				
	Texas	East	West/ Services/ Other	Eliminations	Total
Mark-to-market results in revenues					
Reversal of previously recognized unrealized (gains) on settled positions related to economic hedges	\$ —	\$ (34)	\$ (4)	\$ (2)	\$ (40)
Reversal of acquired (gain) positions related to economic hedges	—	(6)	—	—	(6)
Net unrealized (losses) on open positions related to economic hedges	(3)	(48)	(82)	15	(118)
Total mark-to-market (losses) in revenues	\$ (3)	\$ (88)	\$ (86)	\$ 13	\$ (164)
Mark-to-market results in operating costs and expenses					
Reversal of previously recognized unrealized (gains) on settled positions related to economic hedges	\$ (3)	\$ —	\$ —	\$ 2	\$ (1)
Reversal of acquired loss/(gain) positions related to economic hedges	42	235	(15)	—	262
Net unrealized gains on open positions related to economic hedges	949	1,568	117	(15)	2,619
Total mark-to-market gains in operating costs and expenses	\$ 988	\$ 1,803	\$ 102	\$ (13)	\$ 2,880

Mark-to-market results consist of unrealized gains and losses on contracts that are yet to be settled. The settlement of these transactions is reflected in the same revenue or cost caption as the items being hedged.

The reversals of acquired gain or loss positions were valued based upon the forward prices on the acquisition date.

For the year ended December 31, 2022, the \$83 million loss in revenues from economic hedge positions was driven by a decrease in the value of open positions as a result of increases in power prices across all segments, partially offset by the reversal of previously recognized unrealized losses on contracts that settled during the period. The \$1.3 billion gain in operating costs and expenses from economic hedge positions was driven primarily by an increase in the value of open positions as a result of increases in natural gas and power prices across all segments partially offset by the reversal of previously recognized unrealized gains on contracts that settled during the period.

For the year ended December 31, 2021, the \$164 million loss in revenues from economic hedge positions was driven primarily by a decrease in the value of open positions as a result of increases in East and West/Services/Other power prices, as well as the reversal of previously recognized unrealized gains on contracts that settled during the period. The \$2.9 billion gain in operating costs and expenses from economic hedge positions was driven primarily by an increase in the value of open positions as a result of increases in natural gas and power prices across all segments as well as the reversal of acquired contracts that settled during the year.

In accordance with ASC 815, the following table represents the results of the Company's financial and physical trading of energy commodities for the years ended December 31, 2022 and 2021. The realized and unrealized financial and physical trading results are included in revenue. The Company's trading activities are subject to limits within the Company's Risk Management Policy.

(In millions)	Year ended December 31,	
	2022	2021
Trading gains/(losses)		
Realized	\$ 6	\$ 124
Unrealized	(4)	(32)
Total trading gains	\$ 2	\$ 92

Operations and Maintenance Expenses

Operations and maintenance expenses are comprised of the following:

(In millions)	Texas	East	West/ Services/ Other	Corporate	Eliminations	Total
Year Ended December 31, 2022	\$ 749	\$ 391	\$ 214	\$ 1	\$ (3)	\$ 1,352
Year Ended December 31, 2021	703	452	218	2	(5)	1,370

Operations and maintenance expenses decreased by \$18 million for the year ended December 31, 2022, compared to the same period in 2021, due to the following:

	(In millions)
Decrease due to the sale of fossil generating assets to Generation Bridge in December 2021	\$ (90)
Decrease due to current year settled property insurance claims for extended outages at W.A. Parish and Limestone, primarily offset by the cost of restoration efforts at W.A. Parish in 2022	(35)
Decrease due to Midwest Generation asset retirements in the second quarter of 2022 as well as spare parts inventory reserves in 2021	(20)
Decrease driven by current year scrap proceeds associated with the demolition of the Encina site	(4)
Decrease driven by higher maintenance in 2021 resulting from the impacts of Winter Storm Uri	(2)
Increase due to scope of outages at the Texas coal and gas facilities (excluding W.A. Parish included above) in 2022, partially offset by a prior year planned outage at STP	69
Increase in variable operation and maintenance expense at the PJM coal facilities associated with increased generation during 2022	39
Increase in estimates of environmental remediation costs at deactivated sites in the East and West/Services/Other	25
Increase driven by higher retail operations costs primarily to support growth at Airtron	6
Other	(6)
Decrease in operations and maintenance expense	<u>\$ (18)</u>

Other Cost of Operations

Other Cost of operations are comprised of the following:

(In millions)	Texas	East	West/Services/ Other	Total
Year Ended December 31, 2022	\$ 246	\$ 149	\$ 16	\$ 411
Year Ended December 31, 2021	194	129	16	339

Other cost of operations increased by \$72 million for the year ended December 31, 2022, compared to the same period in 2021, due to the following:

	(In millions)
Decrease due to the sale of fossil generating assets to Generation Bridge in December 2021	\$ (30)
Increase in retail gross receipt taxes due to higher revenues	51
Increase due to changes in current year ARO cost estimates, primarily at Jewett Mine	28
Increase due to higher property insurance premiums	18
Other	5
Increase in other cost of operations	<u>\$ 72</u>

Depreciation and Amortization

Depreciation and amortization expenses are comprised of the following:

(In millions)	Texas	East	West/Services/ Other	Corporate	Total
Year Ended December 31, 2022	\$ 310	\$ 208	\$ 85	\$ 31	\$ 634
Year Ended December 31, 2021	336	333	88	28	785

Depreciation and amortization expense decreased by \$151 million for the year ended December 31, 2022 compared to the same period in 2021, primarily due to lower depreciation as a result of asset impairments, sales, and retirements, as well as lower amortization as a result of the expected roll off of acquired intangibles.

Impairment Losses

During the year ended December 31, 2022, the Company recorded impairment losses of \$206 million, of which \$150 million were related to the decline in PJM capacity prices and the near-term retirement date of the Joliet facility, \$43 million related to the purchase and sale agreement for the sale of the land and related assets at the Astoria generating site and the planned withdrawal and cancellation of its proposed Astoria redevelopment project, and an additional \$13 million in the East segment.

During the year ended December 31, 2021, the Company recorded impairment losses of \$544 million, of which \$306 million was recorded in the second quarter related to the decline in capacity prices and the planned retirement of a significant portion of the PJM coal fleet, \$213 million in the fourth quarter as a result of changes in the long-term outlook of the Joliet facility prompted by market conditions and an assessment of various alternatives for the long-term operational landscape of the facility including the impact of the CEJA in Illinois, and \$25 million related to various other power plants.

Refer to Item 15 — Note 11, *Asset Impairments*, to the Consolidated Financial Statements for further discussion.

Selling, General and Administrative Costs

Selling, general and administrative costs are comprised of the following:

(In millions)	Texas	East	West/Services/ Other	Corporate	Total
Year Ended December 31, 2022	\$ 559	\$ 428	\$ 202	\$ 39	\$ 1,228
Year Ended December 31, 2021	574	472	198	49	1,293

Selling, general and administrative costs decreased by \$65 million for the year ended December 31, 2022 compared to the same period in 2021, due to the following:

	(In millions)
Decrease due to Winter Storm Uri, including charitable giving, legal and other costs of \$20 million in 2021, ERCOT default charges of \$9 million in 2021, and the reversal of the ERCOT default charges of \$9 million in 2022	\$ (38)
Decrease in personnel costs	(30)
Decrease in transition service agreement costs related to the Direct Energy acquisition	(21)
Decrease in marketing and media expenses	(17)
Increase in broker fee expenses, partially offset by lower commissions expenses	22
Increase due to higher consulting expenses including spending related to Company's growth initiatives	13
Other	6
Decrease in selling, general and administrative costs	<u>\$ (65)</u>

Provision for Credit Losses

Provision for credit losses are comprised of the following:

(In millions)	Texas	East	West/Services/ Other	Total
Year Ended December 31, 2022	\$ (40)	\$ 28	\$ 23	\$ 11
Year Ended December 31, 2021	678	8	12	698

Provision for credit losses decreased by \$687 million for the year ended December 31, 2022, compared to the same period in 2021, due to the following:

	(In millions)
Decrease due to Winter Storm Uri, including :	
Decrease of \$403 million related to bilateral financial hedging risk in 2021 as well as \$70 million of loss mitigation in 2022	
Decrease of \$126 million related to counterparty credit risk in 2021 as well as \$12 million of loss mitigation in 2022	
Decrease of \$67 million related to ERCOT default shortfall payments in 2021 as well as \$44 million of loss mitigation in 2022	\$ (722)
Increase due to higher revenues and deteriorated customer payment behavior	35
Decrease in provision for credit losses	<u>\$ (687)</u>

Acquisition-Related Transaction and Integration Costs

Acquisition-related transaction and integration costs were \$52 million for the year ended December 31, 2022, which included \$34 million of integration costs, primarily related to Direct Energy, and \$18 million of acquisitions costs, primarily related to the planned acquisition of Vivint. Acquisition-related transaction and integration costs of \$93 million were incurred during the year ended December 31, 2021, related to Direct Energy, of which \$25 million were acquisition-related transaction costs and \$68 million were integration costs, primarily related to employee costs, software costs and consulting services.

Gain on Sale of Assets

The gain on sale of assets of \$52 million and \$247 million recorded for the years ended December 31, 2022 and 2021, respectively, include:

(In millions)	As of December 31,	
	2022	2021
Sale of 4,850 MW of fossil generating assets to Generation Bridge in December of 2021	\$ (3)	\$ 210
Sale of the Company's 49% ownership in the Watson natural gas generating facility	46	—
Sale of the Company's 50% ownership in Petra Nova	22	—
Sale of a deactivated site in November 2021	—	20
Sale of Agua Caliente in February 2021	—	17
Other asset sales	(13)	—
Gain on sale of assets	<u>\$ 52</u>	<u>\$ 247</u>

Loss on Debt Extinguishment

A loss on debt extinguishment of \$77 million was recorded for the year ended December 31, 2021, driven by the redemption of senior notes as further discussed in Item 15 — Note 13, *Long-term Debt and Finance Leases*, to the Consolidated Financial Statements.

Interest Expense

Interest expense decreased by \$68 million for the year ended December 31, 2022, compared to the same period in 2021, primarily due to debt reduction and the refinancing of debt to lower interest rates in the second half of 2021.

Income Tax Expense

For the year ended December 31, 2022, NRG recorded income tax expense of \$442 million on pre-tax income of \$1.7 billion. For the same period in 2021, NRG recorded income tax expense of \$672 million on pre-tax income of \$2.9 billion. The effective tax rate was 26.6% and 23.5% for the years ended December 31, 2022 and 2021, respectively.

For the year ended December 31, 2022, NRG's overall effective tax rate was higher than the federal statutory tax rate of 21% primarily due to state tax expense, partially offset by the recognition of carbon capture tax credits.

(In millions, except effective income tax rate)	Year Ended December 31,	
	2022	2021
Income before income taxes	\$ 1,663	\$ 2,859
Tax at federal statutory tax rate	349	600
Foreign rate differential	7	(3)
State taxes	69	111
Deferred impact of state tax rate changes	14	(10)
Changes in valuation allowance	(3)	(29)
Permanent differences	17	8
Return to provision adjustments	—	5
Carbon capture tax credits	(19)	—
Recognition of uncertain tax benefits	8	(10)
Income tax expense	\$ 442	\$ 672
Effective income tax rate	26.6 %	23.5 %

The effective income tax rate may vary from period to period depending on, among other factors, the geographic and business mix of earnings and losses and changes in valuation allowances in accordance with ASC 740, *Income Taxes* ("ASC 740"). These factors and others, including the Company's history of pre-tax earnings and losses, are taken into account in assessing the ability to realize deferred tax assets.

Liquidity and Capital Resources

Liquidity Position

As of December 31, 2022 and 2021, NRG's liquidity, excluding collateral funds deposited by counterparties, was approximately \$2.8 billion and \$2.7 billion, respectively, comprised of the following:

(In millions)	As of December 31,	
	2022	2021
Cash and cash equivalents:	\$ 430	\$ 250
Restricted cash - operating	5	4
Restricted cash - reserves ^(a)	35	11
Total	470	265
Total availability under Revolving Credit Facility and collective collateral facilities ^(b)	2,324	2,421
Total liquidity, excluding collateral funds deposited by counterparties	\$ 2,794	\$ 2,686

(a) Includes reserves primarily for debt service, performance obligations and capital expenditures

(b) Total capacity of Revolving Credit Facility and collective collateral facilities was \$6.4 billion and \$5.9 billion as of December 31, 2022 and December 31, 2021, respectively

As of December 31, 2022, total liquidity, excluding collateral funds deposited by counterparties, increased by \$108 million. Changes in cash and cash equivalent balances are further discussed under the heading *Cash Flow Discussion*. Cash and cash equivalents at December 31, 2022, were predominantly held in money market funds invested in treasury securities, treasury repurchase agreements or government agency debt.

Management believes that the Company's liquidity position and cash flows from operations will be adequate to finance operating and maintenance capital expenditures, to fund dividends to NRG's common stockholders, and to fund other liquidity commitments. Management continues to regularly monitor the Company's ability to finance the needs of its operating, financing and investing activity within the dictates of prudent balance sheet management.

Credit Ratings

On December 6, 2022, following the Vivint acquisition announcement, Standard & Poor's placed NRG's issuer credit of BB+ on CreditWatch with negative implications. Concurrently, Fitch assigned NRG a first-time issuer Default Rating of BB+ with a stable outlook. There was no change to Moody's rating during the year ended December 31, 2022.

The following table summarizes the Company's current credit ratings:

	S&P	Moody's	Fitch
NRG Energy, Inc.	BB+ Negative	Ba1 Stable	BB+ Stable
3.75% Senior Secured Notes, due 2024	BBB-	Baa3	BBB-
2.00% Senior Secured Notes, due 2025	BBB-	Baa3	BBB-
2.45% Senior Secured Notes, due 2027	BBB-	Baa3	BBB-
6.625% Senior Notes, due 2027	BB+	Ba2	BB+
5.75% Senior Notes, due 2028	BB+	Ba2	BB+
3.375% Senior Notes, due 2029	BB+	Ba2	BB+
4.45% Senior Secured Notes, due 2029	BBB-	Baa3	BBB-
5.25% Senior Notes, due 2029	BB+	Ba2	BB+
3.625% Senior Notes, due 2031	BB+	Ba2	BB+
3.875% Senior Notes, due 2032	BB+	Ba2	BB+
Revolving Credit Facility, due 2024	BBB-	Baa3	BBB-

Liquidity

The principal sources of liquidity for NRG's operating and capital expenditures are expected to be derived from cash on hand, cash flows from operations and financing arrangements. As described in Item 15 — Note 13, *Long-term Debt and Finance Leases*, to the Consolidated Financial Statements, the Company's financing arrangements consist mainly of the Senior Notes, Convertible Senior Notes, Senior Secured First Lien Notes, Revolving Credit Facility, and tax-exempt bonds.

The Company's requirements for liquidity and capital resources, other than for operating its facilities, can generally be categorized by the following: (i) market operations activities; (ii) debt service obligations, as described more fully in Item 15 — Note 13, *Long-term Debt and Finance Leases*, to the Consolidated Financial Statements; (iii) capital expenditures, including maintenance, repowering, development, and environmental; and (iv) allocations in connection with acquisition opportunities, debt repayments, share repurchases and dividend payments to stockholders, as described in Item 15 — Note 16, *Capital Structure*, to the Consolidated Financial Statements.

The Company remains committed to maintaining a strong balance sheet and continues to work to achieve investment grade credit metrics over time primarily through debt reduction and the realization of growth initiatives.

ERCOT Securitization Proceeds

During February 2021, Texas experienced unprecedented cold temperatures for a prolonged duration as a result of Winter Storm Uri, resulting in a power emergency, blackouts, and an estimated all-time peak demand of 77 GW (without load shed). In 2021, the Texas Legislature passed HB 4492 for ERCOT to mitigate exceptionally high price adders and ancillary service costs incurred by LSEs during Winter Storm Uri. HB 4492 authorized ERCOT to obtain \$2.1 billion of financing to distribute to LSEs that were charged and paid to ERCOT those highly priced ancillary service and ORDPA during Winter Storm Uri. The Company accounted for the proceeds as a reduction to cost of operations within its Consolidated Statements of Operations in the 2021 annual period for which the proceeds were intended to compensate. During the year ended December 31, 2021, Winter Storm Uri's pre-tax financial impact to the Company was a loss of \$380 million, which reflects the recovery of \$689 million of cost of operations as a result of the proceeds. The Company received the proceeds of \$689 million from ERCOT in June 2022.

Winter Storm Uri Credit Loss Recoveries

During Winter Storm Uri, in February 2021, the Company experienced nonperformance by a counterparty in one of its bilateral financial hedging transactions, resulting in exposure of \$403 million. During December 2022, the Company received \$70 million as part of the Company's loss mitigation efforts in settlement of this exposure.

Brazos Electric Cooperative Bankruptcy

As further discussed in Item 1 — Business, *Regulatory Matters*, the Company received \$29 million as a result of Brazos' chapter 11 plan and the related ERCOT settlement.

Revolving Credit Facility

On February 14, 2023, the Company amended its Revolving Credit Facility to: (i) increase the existing revolving commitments thereunder by \$600 million, (ii) extend the maturity date of a portion of the revolving commitments thereunder to February 14, 2028, (iii) transition the benchmark rate applicable to revolving loans from LIBOR to SOFR and (iv) make certain other amendments to the terms of the Revolving Credit Facility for purposes of, among other things, providing additional flexibility. See Note 13, *Long-term Debt and Finance Leases* for further discussion.

Receivables Securitization Facilities

On February 9, 2022, the Company entered into amendments to its existing Repurchase Facility to, among other things, (i) increase the size of the facility from \$75 million to \$150 million and (ii) replace LIBOR with term SOFR as the benchmark for the pricing rate. On July 26, 2022, the Company renewed its existing Repurchase Facility to extend the maturity date to July 26, 2023. The Repurchase Facility has no commitment fee and borrowings will be drawn at SOFR + 1.30%. As of December 31, 2022, there were no outstanding borrowings.

On July 26, 2022, NRG Receivables LLC, a wholly-owned indirect subsidiary of the Company, entered into an amendment to its Receivables Facility dated September 22, 2020, with a group of conduit lenders and banks and Royal Bank of Canada, as Administrative Agent to, among other things, (i) extend the scheduled termination date by one year, (ii) increase the aggregate commitments from \$800 million to \$1.0 billion, (iii) increase the letter of credit sublimit to equal the aggregate commitments, (iv) replace LIBOR with Term SOFR as the benchmark for borrowings and (v) add new originators. The weighted average interest rate related to usage under the Receivables Facility as of December 31, 2022 was 0.844%. As of December 31, 2022, there were no outstanding borrowings and there were \$721 million in letters of credit issued under the Receivables Facility.

Bilateral Letter of Credit Facilities

On April 29, 2022, May 27, 2022 and October 13, 2022, the Company increased the size of the facilities by \$100 million, \$50 million and \$50 million, respectively, to provide additional liquidity, allowing for the issuance of up to \$675 million of letters of credit. As of December 31, 2022, \$668 million was issued under these facilities.

Vivint Acquisition

On December 6, 2022, NRG and Vivint announced the entry into a definitive agreement under which the Company will acquire Vivint in an all-cash transaction. The Company will pay \$12 per share, or approximately \$2.8 billion in cash, and expects to fund the acquisition using proceeds from newly issued debt and preferred equity, drawing on its Revolving Credit Facility and Receivables Securitization Facilities, and through cash on hand. Additionally, in the first quarter of 2023, NRG increased its Revolving Credit Facility by \$600 million to meet the additional liquidity requirements related to the acquisition. Close of the acquisition is targeted for the first quarter of 2023 and is subject to customary closing conditions. See Item 15 — Note 4, *Acquisitions and Dispositions*, to the Consolidated Financial Statements for further discussion.

Astoria

On January 6, 2023, the Company closed on the sale of land and related assets from the Astoria site, within the East region of operations, for initial proceeds of \$212 million subject to transactions fees of \$3 million and certain indemnifications. As part of the transaction, NRG entered into an agreement to lease the land back for the purpose of operating the Astoria gas turbines through the planned April 30, 2023, retirement date. The operating lease agreement is expected to end six months after the facility's actual retirement date. See Item 15 — Note 4, *Acquisitions and Dispositions*, to the Consolidated Financial Statements for further discussion.

Sale of Watson

On June 1, 2022, the Company closed on the sale of its 49% ownership in the Watson natural gas generating facility for \$59 million. NRG recognized a gain on the sale of \$46 million.

W.A. Parish Extended Outage

In May 2022, W.A. Parish Unit 8 came offline as a result of damage to certain components of the steam turbine/generator. Based on work completed to date, the Company is targeting to return the unit to service by the end of the second quarter of 2023. The Company is working with its insurers related to claims surrounding the outage and has received partial settlements in the fourth quarter of 2022.

CARES Act

On March 27, 2020, the U.S. government enacted the CARES Act, which provides, among other things: (i) the option to defer payments of certain 2019 employer payroll taxes incurred after the date of enactment; and (ii) allows NOLs from tax years 2018, 2019, and 2020 to be carried back five years. The total benefit to the Company due to the CARES Act was \$35 million. Of this amount, \$13 million related to certain 2019 employer payroll taxes was paid in 2022. All deferred employer payroll taxes have been repaid as of December 31, 2022.

Pension and Other postretirement benefit contributions

As of December 31, 2022, the Company's estimated pension minimum funding requirements for the next 5 years were \$171 million, of which \$83 million are required to be made within the next 12 months. As of December 31, 2022, the Company's estimated other postretirement benefits minimum funding requirements for the next 5 years were \$32 million, of which \$7 million are required to be made within the next 12 months. These amounts represent estimates based on assumptions that are subject to change. For further discussion, see Item 15 — Note 15, *Benefit Plans and Other Postretirement Benefits*, to the Consolidated Financial Statements.

Debt Service Obligations

Principal payments on debt and finance leases as of December 31, 2022, are due in the following periods:

(In millions)

Description	2023	2024	2025	2026	2027	Thereafter	Total
Recourse Debt:							
Senior Notes, due 2027	\$ —	\$ —	\$ —	\$ —	\$ 375	\$ —	\$ 375
Senior Notes, due 2028	—	—	—	—	—	821	821
Senior Notes, due 2029	—	—	—	—	—	733	733
Senior Notes, due 2029	—	—	—	—	—	500	500
Senior Notes, due 2031	—	—	—	—	—	1,030	1,030
Senior Notes, due 2032	—	—	—	—	—	1,100	1,100
Convertible Senior Notes, due 2048	—	—	—	—	—	575	575
Senior Secured First Lien Notes, due 2024	—	600	—	—	—	—	600
Senior Secured First Lien Notes, due 2025	—	—	500	—	—	—	500
Senior Secured First Lien Notes, due 2027	—	—	—	—	900	—	900
Senior Secured First Lien Notes, due 2029	—	—	—	—	—	500	500
Tax-exempt bonds	59	—	247	—	—	160	466
Subtotal Recourse Debt	59	600	747	—	1,275	5,419	8,100
Finance Leases:							
Finance leases	4	4	2	1	—	—	11
Total Debt and Finance Leases	\$ 63	\$ 604	\$ 749	\$ 1	\$1,275	\$ 5,419	\$8,111
Interest Payments	\$ 390	\$ 370	\$ 358	\$ 355	\$ 298	\$ 878	\$2,649

For further discussion, see Item 15 — Note 13, *Long-term Debt and Finance Leases*.

Market Operations

The Company's market operations activities require a significant amount of liquidity and capital resources. These liquidity requirements are primarily driven by: (i) margin and collateral posted with counterparties; (ii) margin and collateral required to participate in physical markets and commodity exchanges; (iii) timing of disbursements and receipts (e.g. buying fuel before receiving energy revenues); and (iv) initial collateral for large structured transactions. As of December 31, 2022, market operations had total cash collateral outstanding of \$260 million and \$4.0 billion outstanding in letters of credit to third parties primarily to support its market activities. As of December 31, 2022, total funds deposited by counterparties were \$1.7 billion in cash and \$888 million of letters of credit.

The Company has entered into long-term contractual arrangements to procure certain fuel and transportation services for the Company's generation assets. As of December 31, 2022, the Company had minimum payment obligations under such outstanding agreements of \$452 million, with \$110 million payable within the next 12 months. Additionally, the Company has long-term contractual commitments related to electricity and natural gas products, including power purchases, gas

transportation and storage of various quantities and durations. As of December 31, 2022, the Company had minimum purchased energy commitments under long-term contracts of \$4.3 billion, with \$908 million payable within the next 12 months, and an additional \$1.5 billion of short-term purchase energy commitments. For further discussion, see Item 15 — Note 23, *Commitments and Contingencies*.

Future liquidity requirements may change based on the Company's hedging activities and structures, fuel purchases, and future market conditions, including forward prices for energy and fuel and market volatility. In addition, liquidity requirements are dependent on the Company's credit ratings and general perception of its creditworthiness.

First Lien Structure

NRG has granted first liens to certain counterparties on a substantial portion of the Company's assets, subject to various exclusions including NRG's assets that have project-level financing and the assets of certain non-guarantor subsidiaries, to reduce the amount of cash collateral and letters of credit that it would otherwise be required to post from time to time to support its obligations under out-of-the-money hedge agreements for forward sales of power or MWh equivalents. The first lien program does not limit the volume that can be hedged or the value of underlying out-of-the-money positions. The first lien program also does not require NRG to post collateral above any threshold amount of exposure. The first lien structure is not subject to unwind or termination upon a ratings downgrade of a counterparty and has no stated maturity date.

The Company's first lien counterparties may have a claim on its assets to the extent market prices exceed the hedged prices. As of December 31, 2022, all hedges under the first liens were out-of-the-money on a counterparty aggregate basis.

The following table summarizes the amount of MW hedged against the Company's coal and nuclear assets and as a percentage relative to the Company's coal and nuclear capacity under the first lien structure as of December 31, 2022:

Equivalent Net Sales Secured by First Lien Structure ^(a)	2023
In MW	608
As a percentage of total net coal and nuclear capacity ^(b)	17%

(a) Equivalent Net Sales include natural gas swaps converted using a weighted average heat rate by region

(b) Net coal and nuclear capacity, inclusive of expected outages, represents 80% of the Company's total coal and nuclear assets eligible under the first lien, which excludes coal assets acquired in the Midwest Generation acquisition

Capital Expenditures

The following table summarizes the Company's capital expenditures for maintenance, environmental and growth investments for the year ended December 31, 2022:

(In millions)	Maintenance	Environmental	Growth Investments ^(a)	Total
Texas	\$ (205)	\$ (1)	\$ (67)	\$ (273)
East	(3)	—	(4)	(7)
West/Services/Other	(23)	—	(14)	(37)
Corporate	(4)	—	(46)	(50)
Total cash capital expenditures for 2022	(235)	(1)	(131)	(367)
Investments	—	—	(118)	(118)
Total capital expenditures and investments	\$ (235)	\$ (1)	\$ (249)	\$ (485)

(a) Includes other investments, acquisitions and integration projects

Growth investments for the year ended December 31, 2022, include expenditures for small book acquisitions, service acquisitions, integration operating expenses, as well as the Encina site improvements classified as ARO payments. NRG has completed its demolition activities at the site and has begun marketing the site.

Environmental Capital Expenditures Estimate

NRG estimates that environmental capital expenditures from 2023 through 2027 required to comply with environmental laws will be approximately \$42 million. The largest component is the cost of complying with ELG at the Company's coal units in Texas.

The table below summarizes the status of NRG's coal fleet with respect to air quality controls. NRG uses an integrated approach to fuels, controls and emissions markets to meet environmental requirements.

Units	State	SO ₂		NO _x		Mercury		Particulate	
		Control Equipment	Install Date	Control Equipment	Install Date	Control Equipment	Install Date	Control Equipment	Install Date
Indian River 4	DE	CDS	2011	LNBOFA/SCR	1999/2011	ACI/CDS/FF	2008/2011	ESP/FF	1980/2011
Limestone 1-2	TX	FGD	1985-86	LNBOFA	2002/2003	ACI	2015	ESP	1985-1986
Powerton 5	IL	DSI	2016	OFA/SNCR	2003/2012	ACI	2009	ESP/upgrade	1973/2016
Powerton 6	IL	DSI	2014	OFA/SNCR	2002/2012	ACI	2009	ESP/upgrade	1976/2014
W.A. Parish 5, 6, 7	TX	FF co-benefit	1988	SCR	2004	ACI	2015	FF	1988
W.A. Parish 8	TX	FGD	1982	SCR	2004	ACI	2015	FF	1988

ACI - Activated Carbon Injection
CDS - Circulating Dry Scrubber
DSI - Dry Sorbent Injection with Trona
ESP - Electrostatic Precipitator
FGD - Flue Gas Desulfurization (wet)

FF - Fabric Filter
LNBOFA - Low NO_x Burner with Overfire Air
OFA - Overfire Air
SCR - Selective Catalytic Reduction
SNCR - Selective Non-Catalytic Reduction

The following table summarizes the estimated environmental capital expenditures by year:

(In millions)	Total
2023	\$ 17
2024	15
2025	10
Total	\$ 42

Asset Sales Target

NRG is targeting additional asset sales with projected proceeds, net of any required deleveraging, of \$500 million during 2023.

Share Repurchases

In December 2021, the Company's board of directors authorized the Company to repurchase \$1.0 billion of its common stock, of which \$44 million was repurchased in 2021. During the year ended December 31, 2022, the Company repurchased \$601 million of shares at an average price of \$40.50 per share, including \$6 million of equivalent shares purchased in lieu of tax withholdings on equity compensation issuances. The remaining \$355 million repurchases under the \$1.0 billion authorization are expected to be repurchased in 2023, subject to the availability of excess cash and full visibility of the achievement of the Company's 2023 targeted credit metrics. See Item 15 - Note 16, *Capital Structure*, to the Consolidated Financial Statements for additional discussion.

Dividend Increase

In the first quarter of 2022, NRG increased the annual dividend to \$1.40 from \$1.30 per share. The Company returned \$334 million of capital to shareholders in the year ended 2022 through a \$1.40 dividend per common share. In 2023, NRG further increased the annual dividend to \$1.51 per share, representing an 8% increase from 2022. The Company expects to target an annual dividend growth rate of 7-9% per share in subsequent years.

On January 20, 2023, NRG declared a quarterly dividend on the Company's common stock of \$0.3775 per share, or \$1.51 per share on an annualized basis, payable on February 15, 2023, to stockholders of record as of February 1, 2023. The Company's common stock dividends are subject to available capital, market conditions, and compliance with associated laws and regulations.

Additional Material Cash Requirements Not Discussed Above

Operating leases — The Company leases generating facilities, land, office and equipment, railcars, fleet vehicles and storefront space at retail stores. As of December 31, 2022, the Company had lease payment obligations of \$311 million, of which \$97 million is payable within the next 12 months. For further discussion, see Item 15 — Note 10, *Leases*.

Other liabilities — Other liabilities includes water right agreements, service and maintenance agreements, stadium naming rights, stadium sponsorships, long-term service agreements and other contractual obligations. As of December 31,

2022, the Company had total of \$266 million under such commitments, of which \$66 million are payable within the next 12 months.

Contingent obligations for guarantees — NRG and its subsidiaries enter into various contracts that include indemnifications and guarantee provisions as a routine part of the Company's business activities. For further discussion, see Item 15 — Note 27, Guarantees.

Obligations Arising Out of a Variable Interest in an Unconsolidated Entity

Variable interest in Equity investments — NRG's investment in Ivanpah is a variable interest entity for which NRG is not the primary beneficiary. See also Item 15 — Note 17, *Investments Accounted for by the Equity Method and Variable Interest Entities*, to the Consolidated Financial Statements for additional discussion. NRG's pro-rata share of non-recourse debt was approximately \$478 million as of December 31, 2022. This indebtedness may restrict the ability of these subsidiaries to issue dividends or distributions to NRG.

Cash Flow Discussion

2022 compared to 2021

The following table reflects the changes in cash flows for the comparative years:

(In millions)	Year ended December 31,		Change
	2022	2021	
Cash provided by operating activities	\$ 360	\$ 493	\$ (133)
Cash used by investing activities	(332)	(3,039)	2,707
Cash provided/(used) by financing activities	1,043	(272)	1,315

Cash provided by operating activities

Changes to cash (used)/provided by operating activities were driven by:

	(In millions)
Decrease in operating income adjusted for other non-cash items	\$ (1,161)
Increase due to receipt of uplift securitization proceeds from ERCOT in 2022	689
Increase in working capital primarily attributable to the impact of higher market prices on accounts payable, partially offset by a decrease working capital related to higher priced natural gas inventory and accounts receivable	300
Changes in cash collateral in support of risk management activities due to change in commodity prices	99
Other changes in working capital primarily driven by lower personnel costs	(60)
	<u>\$ (133)</u>

Cash used by investing activities

Changes to cash provided/(used) by investing activities were driven by:

	(In millions)
Increase as a result of less cash paid for acquisitions of assets primarily for Direct Energy in 2021	\$ 3,497
Decrease in proceeds from sale of assets primarily due to the prior year's sales of the fossil generating assets and Agua Caliente	(721)
Increase in capital expenditures	(98)
Increase due to fewer purchases of investments in nuclear decommissioning trust fund securities, net of sales	35
Decrease in sales of emissions allowances	(6)
	<u>\$ 2,707</u>

Cash provided/(used) by financing activities

Changes in cash provided/(used) by financing activities were driven by:

	(In millions)
Increase primarily due to prior year repayments of long-term debt	\$ 1,856
Decrease in proceeds from issuance of long-term debt	(1,100)
Increase in net receipts from settlement of acquired derivatives	1,057
Increase in payments for share repurchase activity	(558)
Increase due to payments of debt extinguishment costs and deferred issuance costs in 2021	74
Increase in payments of dividends to common stockholders	(13)
Other	(1)
	<u>\$ 1,315</u>

NOLs, Deferred Tax Assets and Uncertain Tax Position Implications

For the year ended December 31, 2022, the Company had domestic pre-tax book income of \$1.4 billion and foreign pre-tax book income of \$227 million. For the year ended December 31, 2022, the Company utilized U.S. federal NOLs of \$206 million due to current year taxable income, and tax credits of \$8 million. As of December 31, 2022, the Company has cumulative U.S. federal NOL carryforwards of \$8.2 billion, which do not have an expiration date, and cumulative state NOL carryforwards of \$5.3 billion for financial statement purposes. NRG also has cumulative foreign NOL carryforwards of \$382 million, most of which have no expiration date. In addition to the above NOLs, NRG has a \$270 million indefinite carryforward for interest deductions, as well as \$393 million of tax credits to be utilized in future years. As a result of the Company's tax position, including the utilization of federal and state NOLs, and based on current forecasts, the Company anticipates income tax payments, due to federal, state and foreign jurisdictions, of up to \$59 million in 2023.

The Company has \$22 million of tax effected uncertain federal and state tax benefits for which the Company has recorded a non-current tax liability of \$24 million (including accrued interest) until such final resolution with the related taxing authority.

The Company is no longer subject to U.S. federal income tax examinations for years prior to 2019. With few exceptions, state and Canadian income tax examinations are no longer open for years before 2014.

Guarantor Financial Information

As of December 31, 2022, the Company's outstanding registered senior notes consisted of \$375 million of the 2027 Senior Notes and \$821 million of the 2028 Senior Notes, as shown in Note 13, *Long-term Debt and Finance Leases*. These Senior Notes are guaranteed by certain of NRG's current and future 100% owned domestic subsidiaries, or guarantor subsidiaries (the "Guarantors"). See Exhibit 22.1 for a listing of the Guarantors. These guarantees are both joint and several.

NRG conducts much of its business through and derives much of its income from its subsidiaries. Therefore, the Company's ability to make required payments with respect to its indebtedness and other obligations depends on the financial results and condition of its subsidiaries and NRG's ability to receive funds from its subsidiaries. There are no restrictions on the ability of any of the Guarantors to transfer funds to NRG. Other subsidiaries of the Company do not guarantee the registered debt securities of either NRG Energy, Inc. or the Guarantors (such subsidiaries are referred to as the "Non-Guarantors"). The Non-Guarantors include all of NRG's foreign subsidiaries and certain domestic subsidiaries.

The tables below present summarized financial information of NRG Energy, Inc. and the Guarantors in accordance with Rule 3-10 under the SEC's Regulation S-X. The financial information may not necessarily be indicative of results of operations or financial position of NRG Energy, Inc. and the Guarantors in accordance with U.S. GAAP.

The following table presents the summarized statement of operations:

(In millions)	For the Year Ended December 31, 2022
Revenues ^(a)	\$ 27,682
Operating income ^(b)	1,954
Total other expense	(322)
Income from continuing operations before income taxes	1,632
Net Income	1,247

(a) Intercompany transactions with Non-Guarantors include revenue of \$24 million during the year ended December 31, 2022

(b) Intercompany transactions with Non-Guarantors including cost of operations of \$(375) million and selling, general and administrative of \$204 million during the year ended December 31, 2022

The following table presents the summarized balance sheet information:

(In millions)	December 31, 2022
Current assets ^(a)	\$ 12,707
Property, plant and equipment, net	1,389
Non-current assets	13,132
Current liabilities ^(b)	12,170
Non-current liabilities	11,860

(a) Includes intercompany receivables due from Non-Guarantors of \$30 million as of December 31, 2022

(b) Includes intercompany payables due to Non-Guarantors of \$96 million as of December 31, 2022

Fair Value of Derivative Instruments

NRG may enter into power purchase and sales contracts, fuel purchase contracts and other energy-related financial instruments to mitigate variability in earnings due to fluctuations in spot market prices and to hedge fuel requirements at power plants or retail load obligations. In addition, in order to mitigate foreign exchange rate risk primarily associated with the purchase of USD denominated natural gas for the Company's Canadian business, NRG enters into foreign exchange contract agreements.

NRG's trading activities are subject to limits in accordance with the Company's Risk Management Policy. These contracts are recognized on the balance sheet at fair value and changes in the fair value of these derivative financial instruments are recognized in earnings.

The tables below disclose the activities that include both exchange and non-exchange traded contracts accounted for at fair value in accordance with ASC 820, *Fair Value Measurements and Disclosures* ("ASC 820"). Specifically, these tables disaggregate realized and unrealized changes in fair value; disaggregate estimated fair values at December 31, 2022, based on their level within the fair value hierarchy defined in ASC 820; and indicate the maturities of contracts at December 31, 2022. For a full discussion of the Company's valuation methodology of its contracts, see *Derivative Fair Value Measurements* in Item 15 — Note 5, *Fair Value of Financial Instruments*, to the Consolidated Financial Statements.

Derivative Activity Gains/(Losses)	(In millions)
Fair value of contracts as of December 31, 2021	\$ 2,341
Contracts realized or otherwise settled during the period	(1,225)
Changes in fair value	2,437
Fair value of contracts as of December 31, 2022	<u>\$ 3,553</u>

(In millions)	Fair Value of Contracts as of December 31, 2022				
	Maturity				
	1 Year or Less	Greater Than 1 Year to 3 Years	Greater Than 3 Years to 5 Years	Greater Than 5 Years	Total Fair Value
Fair value hierarchy Gains					
Level 1	\$ 219	\$ 427	\$ 22	\$ 17	\$ 685
Level 2	1,354	794	186	29	2,363
Level 3	118	74	88	225	505
Total	<u>\$ 1,691</u>	<u>\$ 1,295</u>	<u>\$ 296</u>	<u>\$ 271</u>	<u>\$ 3,553</u>

The Company has elected to disclose derivative assets and liabilities on a trade-by-trade basis and does not offset amounts at the counterparty master agreement level. Also, collateral received or posted on the Company's derivative assets or liabilities are recorded on a separate line item on the balance sheet. Consequently, the magnitude of the changes in individual current and non-current derivative assets or liabilities is higher than the underlying credit and market risk of the Company's portfolio. As discussed in Item 7A — *Quantitative and Qualitative Disclosures About Market Risk, Commodity Price Risk*, NRG measures the sensitivity of the Company's portfolio to potential changes in market prices using VaR, a statistical model which attempts to predict risk of loss based on market price and volatility. NRG's risk management policy places a limit on one-day holding period VaR, which limits the Company's net open position. As the Company's trade-by-trade derivative accounting results in a gross-up of the Company's derivative assets and liabilities, the net derivative assets and liability position is a better indicator of NRG's hedging activity. As of December 31, 2022, NRG's net derivative asset was \$3.6 billion, an increase to total fair value of \$1.2 billion as compared to December 31, 2021. This increase was primarily driven by gains in fair value, partially offset by roll-off of trades that settled during the period.

Based on a sensitivity analysis using simplified assumptions, the impact of a \$0.50 per MMBtu increase in natural gas prices across the term of the derivative contracts would result in an increase of approximately \$1.4 billion in the net value of derivatives as of December 31, 2022.

The impact of a \$0.50 per MMBtu decrease in natural gas prices across the term of the derivative contracts would result in a decrease of approximately \$1.4 billion in the net value of derivatives as of December 31, 2022.

Critical Accounting Estimates

The Company's discussion and analysis of the financial condition and results of operations are based upon the Consolidated Financial Statements, which have been prepared in accordance with GAAP. The preparation of these financial statements and related disclosures in compliance with GAAP requires the application of appropriate technical accounting rules and guidance as well as the use of estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosures of contingent assets and liabilities. The application of appropriate technical accounting rules and guidance involves judgments regarding future events, including the likelihood of success of particular projects, legal and regulatory challenges, and the fair value of certain assets and liabilities. These judgments, in and of themselves, could materially affect the financial statements and disclosures based on varying assumptions, which may be appropriate to use. In addition, the financial and operating environment may also have a significant effect, not only on the operation of the business, but on the results reported through the application of accounting measures used in preparing the financial statements and related disclosures, even if the accounting guidance has not changed.

NRG evaluates these estimates, on an ongoing basis, utilizing historic experience, consultation with experts and other methods the Company considers reasonable. In any event, actual results may differ substantially from the Company's estimates. Any effects on the Company's business, financial position or results of operations resulting from revisions to these estimates are recorded in the period in which the information that gives rise to the revision becomes known.

The Company identifies its most critical accounting estimates as those that are the most pervasive and important to the portrayal of the Company's financial position and results of operations, and require the most difficult, subjective, and/or complex judgments by management about matters that are inherently uncertain.

Such accounting estimates include:

Accounting Estimate	Judgments/Uncertainties Affecting Application
Derivative Instruments	Assumptions used in valuation techniques Market maturity and economic conditions Contract interpretation Market conditions in the energy industry, especially the effects of price volatility on contractual commitments
Income Taxes and Valuation Allowance for Deferred Tax Assets	Interpret existing tax statute and regulations upon application to transactions Ability to utilize tax benefits through carry backs to prior periods and carry forwards to future periods
Evaluation of Assets for Impairment	Regulatory and political environments and requirements Estimated useful lives of assets Environmental obligations and operational limitations Estimates of future cash flows Estimates of fair value Judgment about impairment triggering events
Goodwill and Other Intangible Assets	Estimated useful lives for finite-lived intangible assets Judgment about impairment triggering events Estimates of reporting unit's fair value Fair value estimate of intangible assets acquired in business combinations
Business Combinations	Fair value of assets acquired and liabilities assumed in business combinations Estimated future cash flow Estimated useful lives of assets
Contingencies	Estimated financial impact of event(s) Judgment about likelihood of event(s) occurring Regulatory and political environments and requirements

Derivative Instruments

The Company follows the guidance of ASC 815, *Derivatives and Hedging* "(ASC 815)", to account for derivative instruments. ASC 815 requires the Company to mark-to-market all derivative instruments on the balance sheet and recognize fair value change in earnings, unless they qualify for the NPNS exception. ASC 815 applies to NRG's energy related commodity contracts, interest rate swaps and foreign exchange contracts.

For purposes of measuring the fair value of derivative instruments, the Company uses quoted exchange prices and broker quotes. When external prices are not available, NRG uses internal models to determine the fair value. These internal models include assumptions of the future prices of energy commodities based on the specific market in which the energy commodity is being purchased or sold, using externally available forward market pricing curves for all periods possible under the pricing model. These estimations are considered to be critical accounting estimates.

In order to mitigate foreign exchange risk primarily associated with the purchase of USD denominated natural gas for the Company's Canadian business, the Company enters into foreign exchange contract agreements.

Certain derivative instruments that meet the criteria for derivative accounting treatment also qualify for a scope exception to derivative accounting, as they are considered to be NPNS. The availability of this exception is based upon the assumption that the Company has the ability and it is probable to deliver or take delivery of the underlying item. These assumptions are based on expected load requirements, internal forecasts of sales and generation and historical physical delivery on contracts. Derivatives that are considered to be NPNS are exempt from derivative accounting treatment and are accounted for under accrual accounting. If it is determined that a transaction designated as NPNS no longer meets the scope exception due to changes in estimates, the related contract would be recorded on the balance sheet at fair value combined with the immediate recognition through earnings.

Income Taxes and Valuation Allowance for Deferred Tax Assets

As of December 31, 2022, NRG's deferred tax assets were primarily the result of U.S. federal and state NOLs, the difference between book and tax basis in property, plant, and equipment, and tax credit carryforwards. The realization of deferred tax assets is dependent upon the Company's ability to generate sufficient future taxable income during the periods in which those temporary differences become deductible, prior to the expiration of the tax attributes. The evaluation of deferred tax assets requires judgment in assessing the likely future tax consequences of events that have been recognized in the Company's financial statements or tax returns and forecasting future profitability by tax jurisdiction.

The Company evaluates its deferred tax assets quarterly on a jurisdictional basis to determine whether adjustments to the valuation allowance are appropriate considering changes in facts or circumstances. As of each reporting date, management considers new evidence, both positive and negative, when determining the future realization of the Company's deferred tax assets. Given the Company's current level of pre-tax earnings and forecasted future pre-tax earnings, the Company expects to generate income before taxes in the U.S. in future periods at a level that would fully utilize its U.S. federal NOL carryforwards and the majority of its state NOL carryforwards prior to their expiration.

The Company continues to maintain a valuation allowance of \$224 million as of December 31, 2022 against deferred tax assets consisting of state net operating losses and foreign NOL carryforwards in jurisdictions where the Company does not currently believe that the realization of deferred tax assets is more likely than not. As of December 31, 2021, the Company's valuation allowance balance was \$248 million.

Considerable judgment is required to determine the tax treatment of a particular item that involves interpretations of complex tax laws. The Company is subject to examination by taxing authorities for income tax returns filed in the U.S. federal jurisdiction and various state and foreign jurisdictions, including operations located in Australia and Canada. The Company continues to be under audit for multiple years by taxing authorities in various jurisdictions.

The Company is no longer subject to U.S. federal income tax examinations for years prior to 2019. With few exceptions, state and Canadian income tax examinations are no longer open for years before 2014.

NRG does not intend, nor currently foresee a need, to repatriate funds held at its international operations into the U.S. These funds are deemed to be indefinitely reinvested in its foreign operations and the Company has not changed its assertion with respect to distributions of funds that would require the accrual of U.S. income tax.

Evaluation of Assets for Impairment

In accordance with ASC 360, *Property, Plant, and Equipment* ("ASC 360"), the Company evaluates property, plant and equipment and certain intangible assets for impairment whenever indicators of impairment exist. Examples of such indicators or events include:

- Significant decrease in the market price of a long-lived asset;
- Significant adverse change in the manner an asset is being used or its physical condition;
- Adverse business climate;
- Accumulation of costs significantly in excess of the amounts originally expected for the construction or acquisition of an asset;
- Current period loss combined with a history of losses or the projection of future losses; and
- Change in the Company's intent about an asset from an intent to hold to a greater than 50% likelihood that an asset will be sold, or disposed of before the end of its previously estimated useful life.

Recoverability of assets to be held and used is measured by a comparison of the carrying amount of the assets to the future net cash flows expected to be generated by the asset, through considering project specific assumptions for long-term power and natural gas prices, escalated future project operating costs and expected plant operations. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets by factoring in the different courses of action available to the Company. Generally, fair value will be determined using valuation techniques, such as the present value of expected future cash flows. NRG uses its best estimates in making these evaluations and considers various factors, including forward price curves for energy, fuel and operating costs. However, actual future market prices and project costs could vary from the assumptions used in the Company's estimates and the impact of such variations could be material.

For assets to be held and used, if the Company determines that the undiscounted cash flows from the asset are less than the carrying amount of the asset, NRG must estimate fair value to determine the amount of any impairment loss. Assets held-for-sale are reported at the lower of the carrying amount or fair value less the cost to sell. The estimation of fair value, whether in conjunction with an asset to be held and used or with an asset held-for-sale, and the evaluation of asset impairment are, by

their nature, subjective. The Company considers quoted market prices in active markets to the extent they are available. In the absence of such information, NRG may consider prices of similar assets, consult with brokers, or employ other valuation techniques. The Company will also discount the estimated future cash flows associated with the asset using a single interest rate representative of the risk involved with such an investment or asset. The use of these methods involves the same inherent uncertainty of future cash flows as previously discussed with respect to undiscounted cash flows. Actual future market prices and project costs could vary from those used in NRG's estimates and the impact of such variations could be material.

Annually, during the fourth quarter, the Company revises its views of power and fuel prices including the Company's fundamental view for long-term prices, forecasted generation and operating and capital expenditures, in connection with the preparation of its annual budget. Changes to the Company's views of long-term power and fuel prices impact the Company's projections of profitability, based on management's estimate of supply and demand within the sub-markets for its operations and the physical and economic characteristics of each of its businesses.

For further discussion, see Item 15 —Note 11, *Asset Impairments*.

Goodwill and Other Intangible Assets

At December 31, 2022, the Company reported goodwill of \$1.7 billion, consisting of \$1.2 billion from the acquisition of Direct Energy in 2021 and \$408 million for retail operations acquisitions, including Stream Energy, which was acquired in 2019.

The Company applies ASC 805, *Business Combinations* ("ASC 805"), and ASC 350, *Intangibles-Goodwill and Other* ("ASC 350") to account for its goodwill and intangible assets. Under these standards, the Company amortizes all finite-lived intangible assets over their respective estimated weighted-average useful lives, while goodwill has an indefinite life and is not amortized. Goodwill is tested for impairment at least annually, or more frequently whenever an event or change in circumstances occurs that would more likely than not reduce the fair value of a reporting unit below its carrying amount. The Company tests goodwill for impairment at the reporting unit level, which is identified by assessing whether the components of the Company's operating segments constitute businesses for which discrete financial information is available and whether segment management regularly reviews the operating results of those components. The Company performs the annual goodwill impairment assessment as of December 31 or when events or changes in circumstances indicate that the fair value of the reporting unit may be below the carrying amount. The Company first assesses qualitative factors to determine whether it is more likely than not that an impairment has occurred. In the absence of sufficient qualitative factors, the Company performs a quantitative assessment by determining the fair value of the reporting unit and comparing to its book value. If it is determined that the fair value of a reporting unit is below its carrying amount, the Company's goodwill will be impaired at that time.

Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the annual goodwill impairment test will prove to be accurate predictions of the future.

For further discussion, see *Evaluation of Assets for Impairment* caption above, and Item 15 —Note 11, *Asset Impairments*.

Business Combinations

NRG accounts for business acquisitions using the acquisition method of accounting prescribed under ASC 805. Under this method, the Company is required to record on its Consolidated Balance Sheets the estimated fair values of the acquired company's assets and liabilities assumed at the acquisition date. The excess of the consideration transferred over the fair value of the net identifiable assets acquired and liabilities assumed is recorded as goodwill. Determining fair values of assets acquired and liabilities assumed requires significant estimates and judgments. Fair value is determined based on the estimated price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The acquired assets and assumed liabilities that involved the most subjectivity in determining fair value consisted of the trade names, customer relationships and derivative contracts.

The fair value of trade names and customer relationships are measured using income-based valuation methodologies, which include certain assumptions such as forecasted future cash flows, customer attrition rates, royalty rates and discount rates. The trade names are amortized to depreciation and amortization, on a straight line basis. The customer relationships are amortized to depreciation and amortization, ratably based on discounted future cash flows.

In measuring the fair value of derivative contracts for Direct Energy, a significant portion of the fair value of the derivative portfolio was based on price quotes from brokers in active markets who regularly facilitate those transactions and the Company believes such price quotes are executable. The Company does not use third-party sources that derive price based on proprietary models or market surveys. The remainder of the assets and liabilities represents contracts for which external sources or observable market quotes are not available. These contracts were valued based on various valuation techniques including but not limited to internal models based on a fundamental analysis of the market and extrapolation of observable market data with similar characteristics. The fair value of each contract was discounted using a risk free interest rate. In addition, the Company

applied a credit reserve to reflect credit risk. NRG describes in detail its acquisitions in Item 15 — Note 4, *Acquisitions and Dispositions*, to the Consolidated Financial Statements

Contingencies

NRG records reserves for estimated losses from contingencies when information available indicates that a loss is probable and the amount of the loss, or range of loss, can be reasonably estimated. Gain contingencies are not recorded until management determines it is certain that the future event will become or does become a reality. Such determinations are subject to interpretations of current facts and circumstances, forecasts of future events, and estimates of the financial impacts of such events. NRG describes in detail its contingencies in Item 15 — Note 23, *Commitments and Contingencies*, to the Consolidated Financial Statements.

Recent Accounting Developments

See Item 15 — Note 2, *Summary of Significant Accounting Policies*, to the Consolidated Financial Statements for a discussion of recent accounting developments.

Item 7A — Quantitative and Qualitative Disclosures About Market Risk

NRG is exposed to several market risks in the Company's normal business activities. Market risk is the potential loss that may result from market changes associated with the Company's retail operations, merchant power generation, or with an existing or forecasted financial or commodity transactions. The types of market risks the Company is exposed to are commodity price risk, interest rate risk, liquidity risk, credit risk and currency exchange risk. In order to manage these risks, the Company uses various fixed-price forward purchase and sales contracts, futures and option contracts traded on NYMEX and other exchanges, and swaps and options traded in the over-the-counter financial markets to:

- Manage and hedge fixed-price purchase and sales commitments;
- Reduce exposure to the volatility of cash market prices, and
- Hedge fuel requirements for the Company's generating facilities.

Commodity Price Risk

Commodity price risks result from exposures to changes in spot prices, forward prices, volatilities, and correlations between various commodities, such as natural gas, electricity, coal, oil, and emissions credits. NRG manages the commodity price risk of the Company's load servicing obligations and merchant generation operations by entering into various derivative or non-derivative instruments to hedge the variability in future cash flows from forecasted sales and purchases of power and fuel. NRG measures the risk of the Company's portfolio using several analytical methods, including sensitivity tests, scenario tests, stress tests, position reports and VaR. NRG uses a Monte Carlo simulation based VaR model to estimate the potential loss in the fair value of its energy assets and liabilities, which includes generation assets, gas transportation and storage assets, load obligations and bilateral physical and financial transactions, based on historical and forward values for factors such as customer demand, weather, commodity availability and commodity prices. The Company's VaR model is based on a one-day holding period at a 95% confidence interval for the forward 36 months, not including the spot month. The VaR model is not a complete picture of all risks that may affect the Company's results. Certain events such as counterparty defaults, regulatory changes, and extreme weather and prices that deviate significantly from historically observed values are not reflected in the model.

The following table summarizes average, maximum and minimum VaR for NRG's commodity portfolio, calculated using the VaR model for the years ended December 31, 2022 and 2021:

(In millions)	2022	2021
VaR as of December 31,	\$ 74	\$ 30
For the year ended December 31,		
Average ^(a)	\$ 51	\$ 35
Maximum ^(a)	86	53
Minimum ^(a)	26	23

(a) Calculation is based on NRG generation assets and load obligations excluding the acquisition of Direct Energy assets and load obligations in the first quarter of 2021

The increase in the range of the daily VaR results was primarily due to increased commodity prices and market volatility during 2022 as compared to 2021. In order to provide additional information, the Company also uses VaR to estimate the potential loss of derivative financial instruments that are subject to mark-to-market accounting. These derivative instruments include transactions that were entered into for both asset management and trading purposes. The VaR for the derivative

financial instruments calculated using the diversified VaR model for the entire term of these instruments entered into for both asset management and trading was \$413 million as of December 31, 2022, primarily driven by asset-backed transactions.

Retail Customer Credit Risk

NRG is exposed to retail credit risk related to its Business and Home customers. Retail credit risk results in losses when a customer fails to pay for services rendered. The losses may result from both nonpayment of customer accounts receivable and the loss of in-the-money forward value. NRG manages retail credit risk through the use of established credit policies that include monitoring of the portfolio and the use of credit mitigation measures, such as deposits or prepayment arrangements.

As of December 31, 2022, the Company's retail customer credit exposure to Home and Business customers was diversified across many customers and various industries, as well as government entities. Current economic conditions may affect the Company's customers' ability to pay bills in a timely manner, which could increase customer delinquencies and may lead to an increase in credit losses. The Company's provision for credit losses resulting from credit risk was \$11 million, \$698 million and \$108 million for the years ending December 31, 2022, 2021 and 2020, respectively. During the year ended December 31, 2022, the provision for credit losses included the Company's loss mitigation efforts recognized as income of \$126 million related to Winter Storm Uri. During the year ended December 31, 2021, the provision for credit losses included \$596 million of expenses due to the impacts of Winter Storm Uri.

Liquidity Risk

Liquidity risk arises from the general funding needs of the Company's activities and the management of the Company's assets and liabilities. The Company is currently exposed to additional collateral posting if natural gas prices decline, primarily due to the long natural gas equivalent position at various exchanges used to hedge NRG's retail supply load obligations.

Based on a sensitivity analysis for power and gas positions under marginable contracts as of December 31, 2022, a \$0.50 per MMBtu decrease in natural gas prices across the term of the marginable contracts would cause an increase in margin collateral posted of approximately \$811 million and a 1.00 MMBtu/MWh decrease in heat rates for heat rate positions would result in an increase in margin collateral posted of approximately \$380 million. This analysis uses simplified assumptions and is calculated based on portfolio composition and margin-related contract provisions as of December 31, 2022.

Counterparty Credit Risk

Credit risk relates to the risk of loss resulting from non-performance or non-payment by counterparties pursuant to the terms of their contractual obligations. The Company monitors and manages credit risk through credit policies that include: (i) an established credit approval process; (ii) a daily monitoring of counterparties' credit limits; (iii) the use of credit mitigation measures such as margin, collateral, prepayment arrangements, or volumetric limits; (iv) the use of payment netting agreements; and (v) the use of master netting agreements that allow for the netting of positive and negative exposures of various contracts associated with a single counterparty. Risks surrounding counterparty performance and credit could ultimately impact the amount and timing of expected cash flows. The Company seeks to mitigate counterparty risk by having a diversified portfolio of counterparties. The Company also has credit protection within various agreements to call on additional collateral support if and when necessary. Cash margin is collected and held at the Company to cover the credit risk of the counterparty until positions settle.

As of December 31, 2022, counterparty credit exposure, excluding credit exposure from RTOs, ISOs, and registered commodity exchanges and certain long-term agreements, was \$2.7 billion, of which the Company held collateral (cash and letters of credit) against those positions of \$1.0 billion resulting in a net exposure of \$1.7 billion. NRG periodically receives collateral from counterparties in excess of their exposure. Collateral amounts shown include such excess while net exposure shown excludes excess collateral received. Approximately 80% of the Company's exposure before collateral is expected to roll off by the end of 2024. The following table highlights the net counterparty credit exposure by industry sector and by counterparty credit quality. Net counterparty credit exposure is defined as the aggregate net asset position for NRG with counterparties where netting is permitted under the enabling agreement and includes all cash flow, mark-to-market, NPNS, and non-derivative transactions. As of December 31, 2022, the aggregate credit exposure is shown net of collateral held, and includes amounts net of receivables or payables.

Category	Net Exposure ^{(a) (b)} (% of Total)
Utilities, energy merchants, marketers and other	62 %
Financial institutions	38
Total	100 %

Category	Net Exposure ^{(a) (b)} (% of Total)
Investment grade	65 %
Non-Investment grade/Non-Rated	35
Total	100 %

(a) Counterparty credit exposure excludes uranium and coal transportation contracts because of the unavailability of market prices

(b) The figures in the tables above exclude potential counterparty credit exposure related to RTOs, ISOs, registered commodity exchanges and certain long-term contracts

The Company has no exposure to wholesale counterparties in excess of 10% of the total net exposure discussed above as of December 31, 2022. Changes in hedge positions and market prices will affect credit exposure and counterparty concentration.

During Winter Storm Uri, in February 2021, the Company experienced nonperformance by a counterparty in one of its bilateral financial hedging transactions, resulting in exposure of \$403 million. During December 2022, the Company received \$70 million as part of the Company's loss mitigation efforts related to this exposure.

RTOs and ISOs

The Company participates in the organized markets of CAISO, ERCOT, ISO-NE, MISO, NYISO and PJM, known as RTOs or ISOs. Trading in these markets is approved by FERC, or in the case of ERCOT, approved by the PUCT and include credit policies that, under certain circumstances, require that losses arising from the default of one member on spot market transactions be shared by the remaining participants. As a result, the counterparty credit risk to these markets is limited to NRG's applicable share of the overall market and are excluded from the above exposures.

Exchange Traded Transactions

The Company enters into commodity transactions on registered exchanges, notably ICE, NYMEX and Nodal. These clearinghouses act as the counterparty and transactions are subject to extensive collateral and margining requirements. As a result, these commodity transactions have limited counterparty credit risk.

Long-Term Contracts

Counterparty credit exposure described above excludes credit risk exposure under certain long-term contracts, primarily solar under Renewable PPAs. As external sources or observable market quotes are not available to estimate such exposure, the Company values these contracts based on various techniques including, but not limited to, internal models based on a fundamental analysis of the market and extrapolation of observable market data with similar characteristics. Based on these valuation techniques, as of December 31, 2022, aggregate credit risk exposure managed by NRG to these counterparties was approximately \$1.1 billion for the next five years.

Interest Rate Risk

As of December 31, 2022, the Company's debt fair value was \$7.0 billion and carrying value was \$8.1 billion. NRG estimates that a 1% decrease in market interest rates would have increased the fair value of the Company's long-term debt by \$480 million.

Credit Risk Related Contingent Features

Certain of the Company's hedging and trading agreements contain provisions that entitle the counterparty to demand that the Company post additional collateral if the counterparty determines that there has been deterioration in the Company's credit quality, generally termed "adequate assurance" under the agreements, or require the Company to post additional collateral if there were a downgrade in the Company's credit rating. The collateral potentially required for contracts with adequate assurance clauses that are in a net liability position as of December 31, 2022, was \$1.5 billion. The Company is also a party to certain marginable agreements under which it has a net liability position, but the counterparty has not called for the collateral due, which was approximately \$195 million as of December 31, 2022. In the event of a downgrade in the Company's credit rating and if called for by the counterparty, \$30 million of additional collateral would be required for all contracts with credit rating contingent features as of December 31, 2022.

Currency Exchange Risk

NRG is subject to transactional exchange rate risk from transactions with customers in countries outside of the U.S., primarily within Canada, as well as from intercompany transactions between affiliates. Transactional exchange rate risk arises from the purchase and sale of goods and services in currencies other than the Company's functional currency or the functional currency of an applicable subsidiary. NRG hedges a portion of its forecasted currency transactions with foreign exchange forward contracts. As of December 31, 2022, NRG is exposed to changes in foreign currency primarily associated with the purchase of U.S. dollar denominated natural gas for its Canadian business and entered into foreign exchange contracts with notional amount of \$569 million.

The Company is subject to translation exchange rate risk related to the translation of the financial statements of its foreign operations into U.S. dollars. Costs incurred and sales recorded by subsidiaries operating outside of the U.S. are translated into U.S. dollars using exchange rates effective during the respective period. As a result, the Company is exposed to movements in the exchange rates of various currencies against the U.S. dollar, primarily the Canadian and Australian dollars. A hypothetical 10% appreciation in major currencies relative to the U.S. dollar as of December 31, 2022, would have resulted in an increase of \$17 million to net income within the Consolidated Statement of Operations.

Item 8 — Financial Statements and Supplementary Data

The financial statements and schedules are included in Part IV, Item 15 of this Form 10-K.

Item 9 — Changes in and Disagreements With Accountants on Accounting and Financial Disclosure

None.

Item 9A — Controls and Procedures

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures and Internal Control Over Financial Reporting

Under the supervision and with the participation of NRG's management, including its principal executive officer, principal financial officer and principal accounting officer, NRG conducted an evaluation of the effectiveness of the design and operation of its disclosure controls and procedures, as such term is defined in Rules 13a-15(e) or 15d-15(e) of the Exchange Act. Based on this evaluation, the Company's principal executive officer, principal financial officer and principal accounting officer concluded that the disclosure controls and procedures were effective as of the end of the period covered by this Annual Report on Form 10-K. Management's report on the Company's internal control over financial reporting and the report of the Company's independent registered public accounting firm are incorporated under the caption "Management's Report on Internal Control over Financial Reporting" and under the caption "Report of Independent Registered Public Accounting Firm" in this Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Changes in Internal Control over Financial Reporting

There were no changes in NRG's internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that occurred in the fourth quarter of 2022 that materially affected, or are reasonably likely to materially affect, NRG's internal control over financial reporting.

Inherent Limitations over Internal Controls

NRG's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with GAAP. The 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 Company's assets;
2. Provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with GAAP, and that the Company's receipts and expenditures are being made only in accordance with authorizations of its management and directors; 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 consolidated financial statements.

Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations, including the possibility of human error and circumvention by collusion or overriding of controls. Accordingly, even an effective internal control system may not prevent or detect material misstatements on a timely basis. 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.

Management's Report on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of the Company's management, including its principal executive officer, principal financial officer and principal accounting officer, the Company conducted an evaluation of the effectiveness of its internal control over financial reporting based on the framework in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the Company's evaluation under the framework in *Internal Control — Integrated Framework (2013)*, the Company's management concluded that its internal control over financial reporting was effective as of December 31, 2022.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2022 has been audited by KPMG LLP, the Company's independent registered public accounting firm, as stated in its report which is included in this Annual Report on Form 10-K.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
NRG Energy, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited NRG Energy, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2022, 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, 2022, 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 balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes and financial statement schedule II (collectively, the consolidated financial statements), and our report dated February 23, 2023 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 LLP

Philadelphia, Pennsylvania
February 23, 2023

Item 9B — Other Information

None.

Item 9C — Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10 — Directors, Executive Officers and Corporate Governance

Directors and Executive Officers

Information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2023 Annual Meeting of Stockholders.

Code of Ethics

NRG has adopted a code of ethics entitled "NRG Code of Conduct" that applies to directors, officers and employees, including the chief executive officer and senior financial officers of NRG. It may be accessed through the "Governance" section of the Company's website at www.nrg.com. NRG also elects to disclose the information required by Form 8-K, Item 5.05, "Amendments to the Registrant's Code of Ethics, or Waiver of a Provision of the Code of Ethics," through the Company's website, and such information will remain available on this website for at least a 12-month period. A copy of the "NRG Code of Conduct" is available in print to any stockholder who requests it.

Other information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2023 Annual Meeting of Stockholders.

Item 11 — Executive Compensation

Information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2023 Annual Meeting of Stockholders.

Item 12 — Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Securities Authorized for Issuance under Equity Compensation Plans

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	(b) Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
Equity compensation plans approved by security holders	2,865,336 (1) \$	—	10,673,145 (2)

(1) Consists of shares issuable under the NRG LTIP and the ESPP. The NRG LTIP became effective upon the Company's emergence from bankruptcy. On April 27, 2017, the NRG LTIP was amended and restated to increase the number of shares available for issuance to 25,000,000. The ESPP, as amended and restated, was approved by the Company's stockholders on April 27, 2017, and became effective April 28, 2017. As of December 31, 2022, there were 2,493,374 shares reserved from the Company's treasury shares for the ESPP.

(2) Consists of 8,179,771 shares of common stock under NRG's LTIP and 2,493,374 shares of treasury stock reserved for issuance under the ESPP.

NRG LTIP currently provides for grants of restricted stock units, relative performance stock units, deferred stock units and dividend equivalent rights. NRG's directors, officers and employees, as well as other individuals performing services for, or to whom an offer of employment has been extended by the Company, are eligible to receive grants under the NRG LTIP. The purpose of the NRG LTIP is to promote the Company's long-term growth and profitability by providing these individuals with incentives to maximize stockholder value and otherwise contribute to the Company's success and to enable the Company to attract, retain and reward the best available persons for positions of responsibility. The Compensation Committee of the Board of Directors administers the NRG LTIP.

Other information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2023 Annual Meeting of Stockholders.

Item 13 — Certain Relationships and Related Transactions, and Director Independence

Information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2023 Annual Meeting of Stockholders.

Item 14 — Principal Accounting Fees and Services

Information required by this Item is incorporated by reference to the similarly named section of NRG's Definitive Proxy Statement for its 2023 Annual Meeting of Stockholders.

PART IV

Item 15 — Exhibits, Financial Statement Schedules

(a)(1) Financial Statements

The following consolidated financial statements of NRG Energy, Inc. and related notes thereto, together with the reports thereon of KPMG LLP, Philadelphia, PA, Auditor Firm ID: 185, are included herein:

Consolidated Statements of Operations — Years ended December 31, 2022, 2021, and 2020

Consolidated Statements of Comprehensive Income — Years ended December 31, 2022, 2021, and 2020

Consolidated Balance Sheets — As of December 31, 2022 and 2021

Consolidated Statements of Cash Flows — Years ended December 31, 2022, 2021, and 2020

Consolidated Statements of Stockholders' Equity — Years ended December 31, 2022, 2021, and 2020

Notes to Consolidated Financial Statements

(a)(2) Financial Statement Schedule

The following Consolidated Financial Statement Schedule of NRG Energy, Inc. is filed as part of Item 15 of this report and should be read in conjunction with the Consolidated Financial Statements.

Schedule II — Valuation and Qualifying Accounts

All other schedules for which provision is made in the applicable accounting regulation of the Securities and Exchange Commission are not required under the related instructions or are inapplicable, and therefore, have been omitted.

(a)(3) Exhibits: See Exhibit Index submitted as a separate section of this report.

(b) Exhibits

See Exhibit Index submitted as a separate section of this report.

(c) Not applicable

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
NRG Energy, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of NRG Energy, Inc. and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes and financial statement schedule II (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, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

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, 2022, 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 February 23, 2023 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

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 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 Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates 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 a critical audit matter 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Evaluation of the sufficiency of audit evidence over revenues

As discussed in Note 3 to the consolidated financial statements, the Company had \$31.543 billion of revenues. Revenue is derived from various revenue streams in different geographic markets and the Company's processes and related information technology (IT) systems used to record revenue differ for each of these revenue streams.

We identified the evaluation of the sufficiency of audit evidence over revenues as a critical audit matter which required a high degree of auditor judgment due to the number of revenue streams and IT systems involved in the revenue recognition process. This included determining the revenue streams over which procedures were to be performed and evaluating the nature and extent of evidence obtained over the individual revenue streams as well as revenue in the aggregate. It also included the involvement of IT professionals with specialized skills and knowledge to assist in the performance of certain procedures.

The following are the primary procedures we performed to address this critical audit matter. We, with the assistance of IT professionals, applied auditor judgment to determine the revenue streams over which procedures were performed as well as the nature and extent of such procedures. For each revenue stream over which procedures were performed, we

evaluated the design and tested the operating effectiveness of certain internal controls over the Company's revenue recognition processes; involved IT professionals, who assisted in testing certain IT applications used by the Company in its revenue recognition processes; and assessed recorded revenue for a selection of transactions by comparing the amounts recognized to underlying documentation, including contracts with customers. In addition, we evaluated the sufficiency of audit evidence obtained over revenues by assessing the results of procedures performed, including the appropriateness of such evidence.

/s/ KPMG LLP

We have served as the Company's auditor since 2004.

Philadelphia, Pennsylvania
February 23, 2023

NRG ENERGY, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

(In millions, except per share amounts)	For the Year Ended December 31,		
	2022	2021	2020
Revenues			
Total revenues	\$ 31,543	\$ 26,989	\$ 9,093
Operating Costs and Expenses			
Cost of operations (excluding depreciation and amortization shown below)	27,446	20,482	6,540
Depreciation and amortization	634	785	435
Impairment losses	206	544	75
Selling, general and administrative costs	1,228	1,293	810
Provision for credit losses	11	698	108
Acquisition-related transaction and integration costs	52	93	23
Total operating costs and expenses	29,577	23,895	7,991
Gain on sale of assets	52	247	3
Operating Income	2,018	3,341	1,105
Other Income/(Expense)			
Equity in earnings of unconsolidated affiliates	6	17	17
Impairment losses on investments	—	—	(18)
Other income, net	56	63	67
Loss on debt extinguishment	—	(77)	(9)
Interest expense	(417)	(485)	(401)
Total other expense	(355)	(482)	(344)
Income Before Income Taxes	1,663	2,859	761
Income tax expense	442	672	251
Net Income	\$ 1,221	\$ 2,187	\$ 510
Income Per Share			
Weighted average number of common shares outstanding — basic	236	245	245
Income per Weighted Average Common Share — Basic	\$ 5.17	\$ 8.93	\$ 2.08
Weighted average number of common shares outstanding — diluted	236	245	246
Income per Weighted Average Common Share — Diluted	\$ 5.17	\$ 8.93	\$ 2.07

See notes to Consolidated Financial Statements

NRG ENERGY, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In millions)	For the Year Ended December 31,		
	2022	2021	2020
Net Income	\$ 1,221	\$ 2,187	\$ 510
Other Comprehensive (Loss)/Income, net of tax			
Foreign currency translation adjustments	(35)	(5)	8
Defined benefit plans	(16)	85	(22)
Other comprehensive (loss)/income	(51)	80	(14)
Comprehensive Income	\$ 1,170	\$ 2,267	\$ 496

See notes to Consolidated Financial Statements

NRG ENERGY, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(In millions)	As of December 31,	
	2022	2021
ASSETS		
Current Assets		
Cash and cash equivalents	\$ 430	\$ 250
Funds deposited by counterparties	1,708	845
Restricted cash	40	15
Accounts receivable, net	4,773	3,245
Uplift securitization proceeds receivable from ERCOT	—	689
Inventory	751	498
Derivative instruments	7,886	4,613
Cash collateral paid in support of energy risk management activities	260	291
Prepayments and other current assets	383	395
Total current assets	16,231	10,841
Property, plant and equipment, net	1,692	1,688
Other Assets		
Equity investments in affiliates	133	157
Operating lease right-of-use assets, net	225	271
Goodwill	1,650	1,795
Intangible assets, net	2,132	2,511
Nuclear decommissioning trust fund	838	1,008
Derivative instruments	4,108	2,527
Deferred income taxes	1,881	2,155
Other non-current assets	256	229
Total other assets	11,223	10,653
Total Assets	\$ 29,146	\$ 23,182

NRG ENERGY, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS (Continued)

(In millions, except share data)	As of December 31,	
	2022	2021
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Current portion of long-term debt and finance leases	\$ 63	\$ 4
Current portion of operating lease liabilities	83	81
Accounts payable	3,643	2,274
Derivative instruments	6,195	3,387
Cash collateral received in support of energy risk management activities	1,708	845
Accrued expenses and other current liabilities	1,290	1,324
Total current liabilities	12,982	7,915
Other Liabilities		
Long-term debt and finance leases	7,976	7,966
Non-current operating lease liabilities	180	236
Nuclear decommissioning reserve	340	321
Nuclear decommissioning trust liability	477	666
Derivative instruments	2,246	1,412
Deferred income taxes	134	73
Other non-current liabilities	983	993
Total other liabilities	12,336	11,667
Total Liabilities	25,318	19,582
Commitments and Contingencies		
Stockholders' Equity		
Common stock; \$0.01 par value; 500,000,000 shares authorized; 423,897,001 and 423,547,174 shares issued; and 229,561,030 and 243,753,899 shares outstanding at December 31, 2022 and 2021, respectively	4	4
Additional paid-in capital	8,457	8,531
Retained earnings	1,408	464
Treasury stock, at cost; 194,335,971 and 179,793,275 shares at December 31, 2022 and 2021, respectively	(5,864)	(5,273)
Accumulated other comprehensive loss	(177)	(126)
Total Stockholders' Equity	3,828	3,600
Total Liabilities and Stockholders' Equity	\$ 29,146	\$ 23,182

See notes to Consolidated Financial Statements

NRG ENERGY, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(In millions)	For the Year Ended December 31,		
	2022	2021	2020
Cash Flows from Operating Activities			
Net income	\$ 1,221	\$ 2,187	\$ 510
Adjustments to reconcile net income to net cash provided by operating activities:			
Distributions from and equity in earnings of unconsolidated affiliates	7	20	45
Depreciation and amortization	634	785	435
Accretion of asset retirement obligations	55	30	45
Provision for credit losses	11	698	108
Amortization of nuclear fuel	54	51	54
Amortization of financing costs and debt discounts	23	39	48
Loss on debt extinguishment	—	77	9
Amortization of in-the-money contracts and emission allowances	158	106	70
Amortization of unearned equity compensation	28	21	22
Net gain on sale of assets and disposal of assets	(102)	(261)	(23)
Impairment losses	206	544	93
Changes in derivative instruments	(3,221)	(3,626)	137
Changes in deferred income taxes and liability for uncertain tax benefits	382	604	228
Changes in collateral deposits in support of risk management activities	896	797	127
Changes in nuclear decommissioning trust liability	9	40	51
Oil lower of cost or market adjustment	—	—	29
Uplift securitization proceeds received/(receivable) from ERCOT	689	(689)	—
Cash (used)/provided by changes in other working capital, net of acquisition and disposition effects:			
Accounts receivable - trade	(1,560)	(1,232)	—
Inventory	(252)	(61)	27
Prepayments and other current assets	17	31	4
Accounts payable	1,295	476	(56)
Accrued expenses and other current liabilities	(29)	(55)	(42)
Other assets and liabilities	(161)	(89)	(84)
Cash provided by operating activities	\$ 360	\$ 493	\$ 1,837
Cash Flows from Investing Activities			
Payments for acquisitions of assets, businesses and leases	\$ (62)	\$ (3,559)	\$ (284)
Capital expenditures	(367)	(269)	(230)
Net purchases of emissions allowances	(6)	—	(10)
Investments in nuclear decommissioning trust fund securities	(454)	(751)	(492)
Proceeds from sales of nuclear decommissioning trust fund securities	448	710	439
Proceeds from sale of assets, net of cash disposed and fees	109	830	81
Changes in investments in unconsolidated affiliates	—	—	2
Cash used by investing activities	\$ (332)	\$ (3,039)	\$ (494)

(In millions)	For the Year Ended December 31,		
	2022	2021	2020
Cash Flows from Financing Activities			
Net receipts/(payments) from settlement of acquired derivatives that include financing elements	\$ 1,995	\$ 938	\$ (7)
Payments for share repurchase activity	(606)	(48)	(229)
Payments of dividends to common stockholders	(332)	(319)	(295)
Proceeds from issuance of long-term debt	—	1,100	3,234
Payments for short and long-term debt	(5)	(1,861)	(335)
Payments for debt extinguishment costs	—	(65)	(5)
Payments of debt issuance costs	(9)	(18)	(75)
Repayments of Revolving Credit Facility	—	—	(83)
Proceeds from issuance of common stock	—	1	1
Purchase of and distributions to noncontrolling interests from subsidiaries	—	—	(2)
Cash provided/(used) by financing activities	\$ 1,043	\$ (272)	\$ 2,204
Effect of exchange rate changes on cash and cash equivalents	(3)	(2)	(2)
Net Increase/(Decrease) in Cash and Cash Equivalents, Funds Deposited by Counterparties and Restricted Cash	1,068	(2,820)	3,545
Cash and Cash Equivalents, Funds Deposited by Counterparties and Restricted Cash at Beginning of Period	1,110	3,930	385
Cash and Cash Equivalents, Funds Deposited by Counterparties and Restricted Cash at End of Period	\$ 2,178	\$ 1,110	\$ 3,930

For further discussion of supplemental cash flow information see Note 26, *Cash Flow Information*

See notes to Consolidated Financial Statements

NRG ENERGY, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(In millions)	Common Stock	Additional Paid-In Capital	Retained Earnings/ (Accumulated Deficit)	Treasury Stock	Accumulated Other Comprehensive Loss	Total Stock- holders' Equity
Balance at December 31, 2019	\$ 4	\$ 8,501	\$ (1,616)	\$ (5,039)	\$ (192)	\$ 1,658
Net income			510			510
Other comprehensive loss					(14)	(14)
Repurchase of partners' equity interest in VIE		18				18
Shares reissuance for ESPP				4		4
Share repurchases				(197)		(197)
Equity-based awards activity, net ^(a)		(3)				(3)
Issuance of common stock		1				1
Common stock dividends and dividend equivalents declared ^(b)			(297)			(297)
Balance at December 31, 2020	\$ 4	\$ 8,517	\$ (1,403)	\$ (5,232)	\$ (206)	\$ 1,680
Net income			2,187			2,187
Other comprehensive income					80	80
Shares reissuance for ESPP		1		3		4
Share repurchases				(44)		(44)
Equity-based awards activity, net ^(a)		12				12
Issuance of common stock		1				1
Common stock dividends and dividend equivalents declared ^(b)			(320)			(320)
Balance at December 31, 2021	\$ 4	\$ 8,531	\$ 464	\$ (5,273)	\$ (126)	\$ 3,600
Net income			1,221			1,221
Other comprehensive loss					(51)	(51)
Shares reissuance for ESPP		2		4		6
Share repurchases				(595)		(595)
Equity-based awards activity, net ^(a)		24				24
Common stock dividends and dividend equivalents declared ^(b)			(334)			(334)
Adoption of ASU 2020-06		(100)	57			(43)
Balance at December 31, 2022	<u>\$ 4</u>	<u>\$ 8,457</u>	<u>\$ 1,408</u>	<u>\$ (5,864)</u>	<u>\$ (177)</u>	<u>\$ 3,828</u>

(a) Includes \$(6) million, \$(9) million and \$(27) million of equivalent shares purchased in lieu of tax withholding on equity compensation issuances for the years ended December 31, 2022, 2021 and 2020, respectively

(b) Dividends per common share were \$1.40, \$1.30 and \$1.20 for each of the years ended December 31, 2022, 2021 and 2020, respectively

See notes to Consolidated Financial Statements

NRG ENERGY, INC. AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1 — *Nature of Business*

General

NRG Energy, Inc., or NRG or the Company, is a consumer services company built on dynamic retail brands. NRG brings the power of energy to customers by producing and selling energy and related products and services, nation-wide in the U.S. and Canada in a manner that delivers value to all of NRG's stakeholders. NRG sells power, natural gas, home and power services, and develops innovative, sustainable solutions, predominately under the brand names NRG, Reliant, Direct Energy, Green Mountain Energy, Stream, and XOOM Energy. The Company has a customer base that includes approximately 5.4 million Home customers as well as commercial, industrial, and wholesale customers, supported by approximately 16 GW of generation.

On December 6, 2022, NRG and Vivint Smart Home, Inc. announced the entry into a definitive agreement under which the Company will acquire Vivint, a smart home platform company, in an all-cash transaction. The acquisition will accelerate the realization of NRG's consumer-focused growth strategy and create a leading essential home services platform fueled by market-leading brands, unparalleled insights, proprietary technologies and complementary sales channels. Close of the acquisition is targeted for the first quarter of 2023 and is subject to customary closing conditions.

The Company manages its operations based on the combined results of the retail and wholesale generation businesses with a geographical focus.

The Company's business is segmented as follows:

- Texas, which includes all activity related to customer, plant and market operations in Texas;
- East, which includes all activity related to customer, plant and market operations in the East;
- West/Services/Other, which includes the following assets and activities: (i) all activity related to customer, plant and market operations in the West and Canada, (ii) the Services businesses (iii) activity related to the Cottonwood facility, (iv) the remaining renewables activity, including the Company's equity method investment in Ivanpah Master Holdings, LLC, and (v) activity related to the Company's equity method investment for the Gladstone power plant in Australia; and
- Corporate activities.

Note 2 — *Summary of Significant Accounting Policies*

Basis of Presentation and Principles of Consolidation

The Company's consolidated financial statements have been prepared in accordance with U.S. GAAP. The ASC, established by the FASB, is the source of authoritative U.S. GAAP to be applied by nongovernmental entities. In addition, the rules and interpretative releases of the SEC under authority of federal securities laws are also sources of authoritative U.S. GAAP for SEC registrants.

The consolidated financial statements include NRG's accounts and operations and those of its subsidiaries in which the Company has a controlling interest. All significant intercompany transactions and balances have been eliminated in consolidation. The usual condition for a controlling financial interest is ownership of a majority of the voting interests of an entity. However, a controlling financial interest may also exist through arrangements that do not involve controlling voting interests. As such, NRG applies the guidance of ASC 810, *Consolidations*, or ASC 810, to determine when an entity that is insufficiently capitalized or not controlled through its voting interests, referred to as a VIE, should be consolidated.

Winter Storm Uri Uplift Securitization Proceeds

The Texas Legislature passed HB 4492 in May 2021 for ERCOT to mitigate exceptionally high price adders and ancillary service costs incurred by LSEs during Winter Storm Uri. HB 4492 authorized ERCOT to obtain \$2.1 billion of financing to distribute to LSEs that were charged and paid to ERCOT those highly priced ancillary service and ORDPA during Winter Storm Uri.

In December 2021, ERCOT filed with the PUCT a calculation of each LSE's share of proceeds based on the settlement methodology. The Company accounted for the proceeds by analogy to the contribution model within ASC 958-605, *Not-for-Profit Entities- Revenue Recognition* and the grant model within IAS 20, *Accounting for Government Grants and Disclosure of Government Assistance*, as a reduction to expenses in the consolidated statements of operations in the 2021 annual period for which the proceeds were intended to compensate. The Company received proceeds of \$689 million from ERCOT in June 2022.

Credit Losses

In accordance with ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, or ASU No. 2016-13, retail trade receivables are reported on the balance sheet net of the allowance for credit losses. The Company accrues an allowance for current expected credit losses based on (i) estimates of uncollectible revenues by analyzing accounts receivable aging and current and reasonable forecasts of expected economic factors including, but not limited to, unemployment rates and weather-related events, (ii) historical collections and delinquencies, and (iii) counterparty credit ratings for commercial and industrial customers. The Company writes off customer contract receivable balances against the allowance for credit losses when it is determined a receivable is uncollectible.

The following table represents the activity in the allowance for credit losses for the years ended December 31, 2022, 2021, and 2020:

(In millions)	Year Ended December 31,		
	2022	2021	2020
Beginning balance	\$ 683	\$ 67	\$ 43
Acquired balance from Direct Energy	—	112	—
Provision for credit losses ^(a)	11	698	108
Write-offs	(593)	(224)	(101)
Recoveries collected	32	30	17
Ending balance^(a)	\$ 133	\$ 683	\$ 67

(a) Includes bilateral finance hedging risk of \$(70) million and \$403 million accounted for under ASC 815 for the years ended December 31, 2022 and December 31, 2021, respectively

During the year ended December 31, 2022, the provision for credit losses included the Company's loss mitigation efforts recognized as income of \$126 million related to Winter Storm Uri. During the year ended December 31, 2021, the provision for credit losses included \$596 million of expense due to the impacts of Winter Storm Uri. The increase in write-offs for the periods ended December 31, 2022 and 2021 were primarily due to the resolution of credit losses that occurred during Winter Storm Uri.

Cash and Cash Equivalents

Cash and cash equivalents include highly liquid investments with an original maturity of three months or less at the time of purchase.

Funds Deposited by Counterparties

Funds deposited by counterparties consist of cash held by the Company as a result of collateral posting obligations from its counterparties. Though some amounts are segregated into separate accounts, not all funds are contractually restricted. Based on the Company's intention, these funds are not available for the payment of general corporate obligations; however, they are available for liquidity management. Depending on market fluctuations and the settlement of the underlying contracts, the Company will refund this collateral to the hedge counterparties pursuant to the terms and conditions of the underlying trades. Since collateral requirements fluctuate daily and the Company cannot predict if any collateral will be held for more than twelve months, the funds deposited by counterparties are classified as a current asset on the Company's balance sheet, with an offsetting liability for this cash collateral received within current liabilities.

Restricted Cash

The following table provides a reconciliation of cash and cash equivalents, restricted cash and funds deposited by counterparties reported within the consolidated balance sheets that sum to the total of the same such amounts shown in the statements of cash flows.

(In millions)	Year Ended December 31,		
	2022	2021	2020
Cash and cash equivalents	\$ 430	\$ 250	\$ 3,905
Funds deposited by counterparties	1,708	845	19
Restricted cash	40	15	6
Cash and cash equivalents, funds deposited by counterparties and restricted cash shown in the statements of cash flows	\$ 2,178	\$ 1,110	\$ 3,930

Restricted cash consists primarily of funds held to satisfy the requirements of certain financing agreements and funds held within the Company's projects that are restricted in their use.

Inventory

Inventory is valued at the lower of weighted average cost or market, and consists principally of natural gas, fuel oil, coal, spare parts, and finished goods. The Company removes natural gas inventory as goods are delivered to customers and as they are used in the production of electricity or steam. The Company removes fuel oil and coal inventories as they are used in the production of electricity. Spare parts inventory is valued at weighted average cost. The Company removes these inventories when they are used for repairs, maintenance or capital projects. The Company expects to recover the natural gas, fuel oil, coal and spare parts costs in the ordinary course of business. Inventory is valued at the lower of cost or net realizable value with cost being determined on a first in first out basis for finished goods and weighted average cost method for all other inventories. The Company removes these inventories as they are sold to customers. Sales of inventory are classified as an operating activity in the consolidated statements of cash flows.

Property, Plant and Equipment

Property, plant and equipment are stated at cost or, in the case of business acquisitions, fair value; however, impairment adjustments are recorded whenever events or changes in circumstances indicate that their carrying values may not be recoverable. NRG also classifies nuclear fuel related to the Company's 44% ownership interest in STP as part of the Company's property, plant, and equipment. Significant additions or improvements extending asset lives are capitalized as incurred, while repairs and maintenance that do not improve or extend the life of the respective asset are charged to expense as incurred. Depreciation, other than nuclear fuel, is computed using the straight-line method, while nuclear fuel is amortized based on units of production over the estimated useful lives. Certain assets and their related accumulated depreciation amounts are adjusted for asset retirements and disposals with the resulting gain or loss included in cost of operations in the consolidated statements of operations.

Business Interruption Insurance

The Company carries insurance policies to cover insurable risks including, but not limited to, business interruption. As a result of damage at the Limestone 1 and W.A. Parish 8 units, the Company recorded business interruption insurance settlements of \$81 million during the year ended December 31, 2022. Business interruption insurance is recorded to cost of operations in the consolidated statements of operations and cash provided by operating activities in the consolidated statement of cash flows.

Asset Impairments

Long-lived assets that are held and used are reviewed for impairment whenever events or changes in circumstances indicate carrying values may not be recoverable. Such reviews are performed in accordance with ASC 360. An impairment loss is indicated if the total future estimated undiscounted cash flows expected from an asset are less than its carrying value. An impairment charge is measured by the difference between an asset's carrying amount and fair value with the difference recorded in operating costs and expenses in the consolidated statements of operations. Fair values are determined by a variety of valuation methods, including third-party appraisals, sales prices of similar assets and present value techniques.

Investments accounted for by the equity method are reviewed for impairment in accordance with ASC 323, *Investments-Equity Method and Joint Ventures*, or ASC 323, which requires that a loss in value of an investment that is an other-than-temporary decline should be recognized. The Company identifies and measures losses in the value of equity method investments based upon a comparison of fair value to carrying value. For further discussion of these matters, refer to Note 11, *Asset Impairments*.

Debt Issuance Costs

Debt issuance costs are capitalized and amortized as interest expense on a basis that approximates the effective interest method over the term of the related debt. Debt issuance costs are presented as a direct deduction from the carrying amount of the related debt, or as an asset if the issuance costs relate to revolving debt agreements or certain other financing arrangements.

Intangible Assets

Intangible assets represent contractual rights held by the Company. The Company recognizes specifically identifiable intangible assets including emission allowances, customer and supply contracts, customer relationships, marketing partnerships, trade names and fuel contracts when specific rights and contracts are acquired. These intangible assets are amortized based on expected volumes, expected delivery, expected discounted future net cash flows, straight line or units of production basis. As of December 31, 2022 and 2021, the Company had accumulated amortization related to its intangible assets of \$2.1 billion and \$1.6 billion, respectively.

Emission allowances held-for-sale, which are included in other non-current assets on the Company's consolidated balance sheet, are not amortized; they are carried at the lower of cost or fair value and reviewed for impairment in accordance with ASC 360.

Goodwill

In accordance with ASC 350, *Intangibles-Goodwill and Other*, or ASC 350, the Company recognizes goodwill for the excess cost of an acquired entity over the net value assigned to assets acquired and liabilities assumed. NRG performs goodwill impairment tests annually, during the fourth quarter, and when events or changes in circumstances indicate that the carrying value may not be recoverable.

The Company first assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. The more-likely-than-not threshold is defined as having a likelihood of more than 50 percent. If it is not more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, there is no goodwill impairment.

In the absence of sufficient qualitative factors indicating that it is more-likely-than-not that no impairment occurred, the Company performs a quantitative assessment by determining the fair value of the reporting unit and comparing the fair value to its book value. If the fair value of the reporting unit exceeds its book value, goodwill of the reporting unit is not considered impaired. If the book value exceeds fair value, the Company recognizes an impairment loss equal to the difference between book value and fair value.

For further discussion of goodwill impairment losses recognized refer to Note 11, *Asset Impairments*.

Income Taxes

The Company accounts for income taxes using the liability method in accordance with ASC 740, *Income Taxes*, or ASC 740, which requires that the Company use the asset and liability method of accounting for deferred income taxes and provide deferred income taxes for all significant temporary differences.

The Company has two categories of income tax expense or benefit — current and deferred, as follows:

- Current income tax expense or benefit consists solely of current taxes payable less applicable tax credits, and
- Deferred income tax expense or benefit is the change in the net deferred income tax asset or liability, excluding amounts charged or credited to accumulated other comprehensive income

The Company reports some of its revenues and expenses differently for financial statement purposes than for income tax return purposes, resulting in temporary and permanent differences between the Company's financial statements and income tax returns. The tax effects of such temporary differences are recorded as either deferred income tax assets or deferred income tax liabilities in the Company's consolidated balance sheets. The Company measures its deferred income tax assets and deferred income tax liabilities using income tax rates that are expected to be in effect when the deferred tax is realized.

The Company accounts for uncertain tax positions in accordance with ASC 740, which applies to all tax positions related to income taxes. Under ASC 740, tax benefits are recognized when it is more-likely-than-not that a tax position will be sustained upon examination by the authorities. The benefit recognized from a position is the amount of benefit that has surpassed the more-likely-than-not threshold, as it is more than 50% likely to be realized upon settlement. The Company recognizes interest and penalties accrued related to uncertain tax benefits as a component of income tax expense.

In accordance with ASC 740 and as discussed further in Note 20, *Income Taxes*, changes to existing net deferred tax assets or valuation allowances or changes to uncertain tax benefits, are recorded to income tax (benefit)/expense.

Contract and Emission Credit Amortization

Assets and liabilities recognized through acquisitions related to the purchase and sale of energy and energy-related products in future periods for which the fair value has been determined to be significantly less or more than market are amortized to revenues or cost of operations over the term of each underlying contract based on actual generation and/or contracted volumes.

Emission credits represent the right to emit a specified amount of certain pollutants, including sulfur dioxide, nitrogen oxides and carbon dioxide, over a compliance period. Emission credits held for use are amortized to cost of operations based on the weighted average cost of the allowances held.

Gross Receipts and Sales Taxes

In connection with its retail sales, the Company records gross receipts taxes on a gross basis in revenues and cost of operations in its consolidated statements of operations. During the years ended December 31, 2022, 2021, and 2020, the Company's revenues and cost of operations included gross receipts taxes of \$218 million, \$184 million, and \$107 million, respectively. Additionally, the Company records sales taxes collected from its taxable retail customers and remitted to the various governmental entities on a net basis; thus, there is no impact on the Company's consolidated statement of operations.

Cost of Operations

Cost of operations includes cost of fuel, purchased energy and other costs of sales, mark-to-market for economic hedging activities, contract and emission credit amortization, operations and maintenance, and other cost of operations.

Cost of Fuel, Purchased Energy and Other Cost of Sales

Cost of fuel is primarily the costs associated with procurement, transportation and storage of natural gas, nuclear fuel, oil and coal to operate the generation portfolio, which is expensed as the fuel is consumed. Purchased energy primarily relates to purchases to supply the Company's customer base, which includes spot market purchases, as well as contracts of various quantities and durations, including Renewable PPAs with third-party developers, which are accounted for as NPNS (see further discussion in Derivative Instruments below). Other cost of sales primarily consists of TDSP expenses.

The cost of fuel is based on actual and estimated fuel usage for the applicable reporting period. The cost to deliver energy and related services to customers is based on actual and estimated supply volumes for the applicable reporting period. A portion of the cost of energy, \$202 million, \$189 million, and \$98 million as of December 31, 2022, 2021, and 2020, respectively, was accrued and consisted of estimated transmission and distribution charges not yet billed by the transmission and distribution utilities.

In estimating supply volumes, the Company considers the effects of historical customer volumes, weather factors and usage by customer class. Transmission and distribution delivery fees are estimated using the same method used for electricity sales and services to retail customers. In addition, ISO fees are estimated based on historical trends, estimated supply volumes and initial ERCOT ISO settlements. Volume estimates are then multiplied by the supply rate and recorded as cost of operations in the applicable reporting period.

Derivative Instruments

The Company accounts for derivative instruments under ASC 815, which requires the Company to record all derivatives on the balance sheet at fair value and changes in fair value in earnings, unless they qualify for the NPNS exception. The Company's primary derivative instruments are power and natural gas purchase or sales contracts, fuels purchase contracts and other energy related commodities used to mitigate variability in earnings due to fluctuation in market prices. In addition, in order to mitigate foreign exchange risk associated with the purchase of USD denominated natural gas for the Company's Canadian business, NRG enters into foreign exchange contract agreements.

As of December 31, 2022 and 2021 the Company did not have derivative instruments that were designated as cash flow or fair value hedge.

Revenues and expenses on contracts that qualify for the NPNS exception are recognized when the underlying physical transaction is delivered. While these contracts are considered derivative instruments under ASC 815, they are not recorded at fair value, but on an accrual basis of accounting. If it is determined that a transaction designated as NPNS no longer meets the scope exception, the fair value of the related contract is recorded on the balance sheet and immediately recognized through earnings.

NRG's trading activities are subject to limits in accordance with the Company's Risk Management Policy. These contracts are recognized on the balance sheet at fair value and changes in the fair value of these derivative instruments are recognized in earnings.

Mark-to-Market for Economic Hedging Activities

NRG enters into derivative instruments to manage price and delivery risk, optimize physical and contractual assets in the portfolio and manage working capital requirements. The mark-to-market for economic hedging activities are recognized to revenues or cost of operations during the reporting period.

Operations and Maintenance and Other Cost of Operations

Operations and maintenance costs include major and other routine preventative (planned outage) and corrective (forced outage) maintenance activities to ensure the safe and reliable operation of the Company's generation portfolio in compliance with all local, state and federal requirements. Operations and maintenance costs are also costs associated with retaining and maintaining the Company's customer base, such as call center support, portfolio maintenance and data analytics. Other cost of operations primarily includes gross receipts taxes, insurance, property taxes and asset retirement obligation expense.

Foreign Currency Translation and Transaction Gains and Losses

The local currencies are generally the functional currency of NRG's foreign operations. Foreign currency denominated assets and liabilities are translated at end-of-period rates of exchange. Revenues, expenses, and cash flows are translated at the weighted-average rates of exchange for the period. The resulting currency translation adjustments are not included in the Company's consolidated statements of operations for the period, but are accumulated and reported as a separate component of

stockholders' equity until sale or complete or substantially complete liquidation of the net investment in the foreign entity takes place. Foreign currency transaction gains or losses are reported within other income/(expense) in the Company's consolidated statements of operations. For the years ended December 31, 2022, amounts recognized as foreign currency transaction losses were \$(7) million. For the years ended December 31, 2021 and 2020, amounts recognized as foreign currency transaction gains/(losses) were immaterial. The Company's cumulative translation adjustment balances as of December 31, 2022, 2021, and 2020 were \$55 million, \$(8) million, and \$(2) million, respectively.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of trust funds, accounts receivable, notes receivable, derivatives, and investments in debt securities. Trust funds are held in accounts managed by experienced investment advisors. Certain accounts receivable, notes receivable, and derivative instruments are concentrated within entities engaged in the energy industry. These industry concentrations may impact the Company's overall exposure to credit risk, either positively or negatively, in that the customers may be similarly affected by changes in economic, industry or other conditions. Receivables and other contractual arrangements are subject to collateral requirements under the terms of enabling agreements. However, the Company believes that the credit risk posed by industry concentration is offset by the diversification and creditworthiness of its customer base. See Note 5, *Fair Value of Financial Instruments*, for a further discussion of derivative concentrations.

Fair Value of Financial Instruments

The carrying amount of cash and cash equivalents, funds deposited by counterparties, receivables, accounts payable, and accrued liabilities approximate fair value because of the short-term maturity of these instruments. See Note 5, *Fair Value of Financial Instruments*, for a further discussion of fair value of financial instruments.

Asset Retirement Obligations

The Company accounts for AROs in accordance with ASC 410-20, *Asset Retirement Obligations*, or ASC 410-20. Retirement obligations associated with long-lived assets included within the scope of ASC 410-20 are those for which a legal obligation exists under enacted laws, statutes, and written or oral contracts, including obligations arising under the doctrine of promissory estoppel, and for which the timing and/or method of settlement may be conditional on a future event. ASC 410-20 requires an entity to recognize the fair value of a liability for an ARO in the period in which it is incurred and a reasonable estimate of fair value can be made.

Upon initial recognition of a liability for an ARO, the Company capitalizes the asset retirement cost by increasing the carrying amount of the related long-lived asset by the same amount. Over time, the liability is accreted to its future value, while the capitalized cost is depreciated over the useful life of the related asset. See Note 14, *Asset Retirement Obligations*, for a further discussion of AROs.

Pensions and Other Postretirement Benefits

The Company offers pension benefits through a defined benefit pension plan. In addition, the Company provides postretirement health and welfare benefits for certain groups of employees. The Company accounts for pension and other postretirement benefits in accordance with ASC 715, *Compensation — Retirement Benefits*, or ASC 715. The Company recognizes the funded status of the Company's defined benefit plans in the statement of financial position and records an offset for gains and losses as well as all prior service costs that have not been included as part of the Company's net periodic benefit cost to other comprehensive income. The determination of the Company's obligation and expenses for pension benefits is dependent on the selection of certain assumptions. These assumptions determined by management include the discount rate, the expected rate of return on plan assets and the rate of future compensation increases. The Company's actuarial consultants assist in determining assumptions for such items as retirement age. The assumptions used may differ materially from actual results, which may result in a significant impact to the amount of pension obligation or expense recorded by the Company.

The Company measures the fair value of its pension assets in accordance with ASC 820, *Fair Value Measurements and Disclosures*, or ASC 820.

Stock-Based Compensation

The Company accounts for its stock-based compensation in accordance with ASC 718, *Compensation — Stock Compensation*, or ASC 718. The fair value of the Company's performance stock units is estimated on the date of grant using a Monte Carlo valuation model. NRG uses the Company's common stock price on the date of grant as the fair value of the Company's deferred stock units. The fair value of the Company's restricted stock units is derived from the closing price of NRG's common stock at the grant date. Forfeiture rates are estimated based on an analysis of the Company's historical forfeitures, employment turnover, and expected future behavior. The Company recognizes compensation expense for both graded and cliff vesting awards on a straight-line basis over the requisite service period for the entire award.

Investments Accounted for by the Equity Method

The Company has investments in various domestic energy projects, as well as one Australian project. The equity method of accounting is applied to such investments in affiliates, which include joint ventures and partnerships, because the ownership structure prevents the Company from exercising a controlling influence over the operating and financial policies of the projects. Under this method, equity in pre-tax income or losses of domestic partnerships and, generally, in the net income or losses of its Australian project, are reflected as equity in earnings of unconsolidated affiliates. Distributions from equity method investments that represent earnings on the Company's investment are included within cash flows from operating activities and distributions from equity method investments that represent a return of the Company's investment are included within cash flows from investing activities.

Tax Equity Arrangements

The Company's redeemable noncontrolling interest in subsidiaries represented third-party interests in the net assets under certain tax equity arrangements, which were consolidated by the Company, that had been entered into to finance the cost of solar energy systems under operating leases. The amounts reported as redeemable noncontrolling interests represented the amounts the investors that were party to the tax equity arrangements would hypothetically receive at each balance sheet date under the liquidation provisions of the contractual agreements, assuming the net assets of the funding structures were liquidated at their recorded amounts. During the first quarter of 2020, the Company repurchased its partners' equity interest, which was the Company's last remaining tax equity arrangement.

Sale-Leaseback Arrangements

NRG is party to sale-leaseback arrangements that provide for the sale of certain assets to a third-party and simultaneously leases back the same asset to the Company. If the seller-lessee transfers control of the underlying assets to the buyer-lessor, the arrangement is accounted for under ASC 842-40, Sale-Leaseback Transactions. These arrangements are classified as operating leases on the Company's consolidated balance sheets. See Note 10, *Leases*, for further discussion.

Marketing and Advertising Costs

The Company expenses its marketing and advertising costs as incurred and includes them within selling, general and administrative expenses. The costs of tangible assets used in advertising campaigns are recorded as fixed assets or deferred advertising costs and amortized as advertising costs over the shorter of the useful life of the asset or the advertising campaign. The Company has several long-term sponsorship arrangements. Payments related to these arrangements are deferred and expensed over the term of the arrangement. Advertising expenses for the years ended December 31, 2022, 2021, and 2020 were \$82 million, \$109 million, and \$74 million, respectively.

Business Combinations

The Company accounts for its business combinations in accordance with ASC 805, *Business Combinations*, or ASC 805, which requires an acquirer to recognize and measure in its financial statements the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree at fair value at the acquisition date. The Company also recognizes and measures the goodwill acquired or a gain from a bargain purchase in the business combination. In addition, transaction costs are expensed as incurred.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

In recording transactions and balances resulting from business operations, the Company uses estimates based on the best information available. Estimates are used for such items as plant depreciable lives, tax provisions, uncollectible accounts, actuarially determined benefit costs, the valuation of energy commodity contracts, environmental liabilities, legal costs incurred in connection with recorded loss contingencies, and assets acquired and liabilities assumed in business combinations, among others. In addition, estimates are used to test long-lived assets and goodwill for impairment and to determine the fair value of impaired assets. As better information becomes available or actual amounts are determinable, the recorded estimates are revised. Consequently, operating results can be affected by revisions to prior accounting estimates.

Reclassifications

Certain prior period amounts have been reclassified for comparative purposes. The reclassifications did not affect results from operations, net assets or cash flows.

Recent Accounting Developments - Guidance Adopted in 2022

ASU 2020-06 — In August 2020, the FASB issued ASU No. 2020-06, *Debt - Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40)*, or ASU 2020-06. The guidance in ASU 2020-06 reduces the number of accounting models for convertible debt instruments and convertible preferred stock. In addition, ASU 2020-06 improves and amends the related earnings per share guidance. The Company adopted this standard on January 1, 2022 using the modified retrospective approach. As a result of the provisions of the amended guidance, the Company recorded a \$100 million decrease to additional paid-in capital, a \$57 million decrease to debt discount, a \$57 million increase to retained earnings, and a \$14 million decrease to long-term deferred tax liabilities. The adoption of ASU 2020-06 did not have a material impact on the Company's statements of operations, statements of cash flows or earnings per share amounts.

Recent Accounting Developments - Guidance Not Yet Adopted

ASU 2021-08 — In October 2021, the FASB issued ASU No. 2021-08, *Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers*, or ASU 2021-08. Under current GAAP, an acquirer generally recognizes assets acquired and liabilities assumed in a business combination, including contract assets and contract liabilities arising from revenue contracts with customers and other similar contracts that are accounted for in accordance with ASC 606, *Revenue from Contracts with Customers*, or ASC 606, at fair value on the acquisition date. ASU 2021-08 requires that an entity recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with ASC 606. At the acquisition date, an acquirer should account for the related revenue contracts in accordance with ASC 606 as if it had originated the contracts, which should generally result in an acquirer recognizing and measuring the acquired contract assets and contract liabilities consistent with how they were recognized and measured in the acquiree's financial statements. This update also provides certain practical expedients for acquirers when recognizing and measuring acquired contract assets and contract liabilities from revenue contracts in a business combination. The amendments in this update are effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years and should be applied prospectively to business combinations occurring on or after the effective date of the amendments. The Company will evaluate the impacts of the amendments for business combinations occurring after the effective date.

Note 3 — Revenue Recognition

The Company's policies with respect to its various revenue streams are detailed below. The Company generally applies the invoicing practical expedient to recognize revenue for the revenue streams detailed below, except in circumstances where the invoiced amount does not represent the value transferred to the customer.

Retail Revenue

Gross revenues for energy sales and services to retail customers are recognized as the Company transfers the promised goods and services to the customer. For the majority of its electricity and natural gas contracts, the Company's performance obligation with the customer is satisfied over time and performance obligations for its electricity and natural gas products are recognized as the customer takes possession of the product. The Company also allocates the contract consideration to distinct performance obligations in a contract for which the timing of the revenue recognized is different. Additionally, customer discounts and incentives reduce the contract consideration and are recognized over the term of the contract.

Energy sales and services that have been delivered but not billed by period end are estimated. Accrued unbilled revenues are based on estimates of customer usage since the date of the last meter reading provided by the independent system operators, utilities, or electric distribution companies. Volume estimates are based on daily forecasted volumes and estimated customer usage by class. Unbilled revenues are calculated by multiplying these volume estimates by the applicable rate by customer class. Estimated amounts are adjusted when actual usage is known and billed.

As contracts for retail electricity and natural gas can be for multi-year periods, the Company has performance obligations under these contracts that have not yet been satisfied. These performance obligations have transaction prices that are both fixed and variable, and that vary based on the contract duration, customer type, inception date and other contract-specific factors. For the fixed price contracts, the amount of any unsatisfied performance obligations will vary based on customer usage, which will depend on factors such as weather and customer activity and therefore it is not practicable to estimate such amounts.

Energy Revenue

Both physical and financial transactions consist of revenues billed to a third-party at either market or negotiated contract terms to optimize the financial performance of the Company's generating facilities. Electric energy revenue is recognized upon transmission to the customer over time, using the output method for measuring progress of satisfaction of performance obligations. Physical transactions, or the sale of generated electricity to meet supply and demand, are recorded on a gross basis in the Company's consolidated statements of operations. The Company applies the invoicing practical expedient in recognizing energy revenue. Under the practical expedient, revenue is recognized based on the invoiced amount which is equal to the value

to the customer of NRG's performance obligation completed to date. Financial transactions used to hedge the sale of electricity are recorded net within revenues in the consolidated statements of operations in accordance with ASC 815.

Ancillary revenues, included in Other revenue, are recognized over time as the obligation is fulfilled, using the output method for measuring progress of satisfaction of performance obligations.

Capacity Revenue

The Company's largest sources of capacity revenues are capacity auctions in PJM, ISO-NE and NYISO. Capacity revenues also include revenues billed to a third-party at either market or negotiated contract terms for making installed generation and demand response capacity available in order to satisfy system integrity and reliability requirements. Capacity revenues are recognized over time, using the output method for measuring progress of satisfaction of performance obligations. The Company applies the invoicing practical expedient in recognizing capacity revenue. Under the practical expedient, revenue is recognized based on the invoiced amount which is equal to the value to the customer of NRG's performance obligation completed to date.

Performance Obligations

As of December 31, 2022, estimated future fixed fee performance obligations are \$77 million, \$23 million, and \$2 million for fiscal years 2023, 2024, and 2025, respectively. These performance obligations are for cleared auction MWs in the PJM, NYISO and MISO capacity auctions and are subject to penalties for non-performance.

Disaggregated Revenue

The following tables represent the Company's disaggregation of revenue from contracts with customers for the years ended December 31, 2022, 2021, and 2020:

(In millions)	For the Year Ended December 31, 2022				
	Texas	East	West/Services/ Other	Corporate/ Eliminations	Total
Retail revenue					
Home ^(a)	\$ 6,388	\$ 2,088	\$ 2,286	\$ (1)	\$ 10,761
Business	3,229	13,768	1,964	—	18,961
Total retail revenue ^(b)	9,617	15,856	4,250	(1)	29,722
Energy revenue ^(b)	111	641	466	32	1,250
Capacity revenue ^(b)	—	232	40	—	272
Mark-to-market for economic hedging activities ^(c)	2	(30)	(56)	1	(83)
Contract amortization	—	(40)	1	—	(39)
Other revenue ^(b)	327	104	5	(15)	421
Total revenue	10,057	16,763	4,706	17	31,543
Less: Revenues accounted for under topics other than ASC 606 and ASC 815	—	(7)	41	1	35
Less: Realized and unrealized ASC 815 revenue	(2)	84	(93)	31	20
Total revenue from contracts with customers	\$ 10,059	\$ 16,686	\$ 4,758	\$ (15)	\$ 31,488

(a) Home includes Services

(b) The following amounts of retail, energy, capacity and other revenue relate to derivative instruments and are accounted for under ASC 815:

(In millions)	Texas	East	West/Services/ Other	Corporate/ Eliminations	Total
Retail revenue	\$ —	\$ 110	\$ —	\$ —	\$ 110
Energy revenue	—	(31)	(8)	31	(8)
Capacity revenue	—	33	—	—	33
Other revenue	(4)	2	(29)	(1)	(32)

(c) Revenue relates entirely to unrealized gains and losses on derivative instruments accounted for under ASC 815

For the Year Ended December 31, 2021

(In millions)	Texas	East	West/Services/ Other	Corporate/ Eliminations	Total
Retail revenue					
Home ^(a)	\$ 5,659	\$ 1,832	\$ 2,059	\$ (1)	\$ 9,549
Business	2,745	10,030	1,237	—	14,012
Total retail revenue	8,404	11,862	3,296	(1)	23,561
Energy revenue ^(c)	329	508	371	7	1,215
Capacity revenue ^(c)	—	718	57	—	775
Mark-to-market for economic hedging activities ^(d)	(3)	(88)	(86)	13	(164)
Contract amortization	—	(26)	(4)	—	(30)
Other revenue ^{(b)(c)}	1,565	51	25	(9)	1,632
Total revenue	10,295	13,025	3,659	10	26,989
Less: Revenues accounted for under topics other than ASC 606 and ASC 815	—	(25)	3	—	(22)
Less: Realized and unrealized ASC 815 revenue	130	184	(96)	16	234
Total revenue from contracts with customers	\$ 10,165	\$ 12,866	\$ 3,752	\$ (6)	\$ 26,777

(a) Home includes Services

(b) Other Revenue in Texas includes ancillary revenues of \$1.3 billion driven by high pricing during Winter Storm Uri

(c) The following amounts of energy, capacity and other revenue relate to derivative instruments and are accounted for under ASC 815:

(In millions)	Texas	East	West/Services/ Other	Corporate/ Eliminations	Total
Energy revenue	\$ —	\$ 131	\$ 2	\$ 3	\$ 136
Capacity revenue	—	149	—	—	149
Other revenue	133	(8)	(12)	—	113

(d) Revenue relates entirely to unrealized gains and losses on derivative instruments accounted for under ASC 815

For the Year Ended December 31, 2020

(In millions)	Texas	East	West/Services/ Other	Corporate/ Eliminations	Total
Retail revenue					
Home ^(a)	\$ 5,020	\$ 1,210	\$ 103	\$ (2)	\$ 6,331
Business	1,034	95	—	—	1,129
Total retail revenue	6,054	1,305	103	(2)	7,460
Energy revenue ^(b)	24	183	333	(1)	539
Capacity revenue ^(b)	—	620	61	(1)	680
Mark-to-market for economic hedging activities ^(c)	2	88	(3)	8	95
Contract amortization	—	—	—	—	—
Other revenue ^(b)	232	53	42	(8)	319
Total revenue	6,312	2,249	536	(4)	9,093
Less: Revenues accounted for under topics other than ASC 606 and ASC 815	—	1	17	—	18
Less: Realized and unrealized ASC 815 revenue	30	314	38	3	385
Total revenue from contracts with customers	\$ 6,282	\$ 1,934	\$ 481	\$ (7)	\$ 8,690

(a) Home includes Services

(b) The following amounts of energy, capacity and other revenue relate to derivative instruments and are accounted for under ASC 815:

(In millions)	Texas	East	West/Services/ Other	Corporate/ Eliminations	Total
Energy revenue	\$ —	\$ 67	\$ 43	\$ (5)	\$ 105
Capacity revenue	—	156	—	—	156
Other revenue	28	3	(2)	—	29

(c) Revenue relates entirely to unrealized gains and losses on derivative instruments accounted for under ASC 815

Contract Balances

The following table reflects the contract assets and liabilities included in the Company's balance sheet as of December 31, 2022 and 2021:

(In millions)	December 31, 2022	December 31, 2021
Deferred customer acquisition costs	\$ 126	\$ 133
Accounts receivable, net - Contracts with customers	4,704	3,057
Accounts receivable, net - Accounted for under topics other than ASC 606	64	182
Accounts receivable, net - Affiliate	5	6
Total accounts receivable, net	\$ 4,773	\$ 3,245
Unbilled revenues (included within Accounts receivable, net - Contracts with customers)	\$ 1,952	\$ 1,574
Deferred revenues ^(a)	\$ 186	\$ 227

(a) Deferred revenues from contracts with customers for the years ended December 31, 2022 and 2021 were approximately \$175 million and \$224 million, respectively

The revenue recognized from contracts with customers during the years ended December 31, 2022 and 2021 relating to the deferred revenue balance at the beginning of each period was \$184 million and \$23 million, respectively. The change in deferred revenue balances during the years ended December 31, 2022 and 2021 was primarily due to the usage of customer bill credits by certain C&I customers, which were as a result of power pricing during Winter Storm Uri.

The Company's customer acquisition costs consist of broker fees, commission payments and other costs that represent incremental costs of obtaining the contract with customers for which the Company expects to recover. The Company amortizes these amounts over the estimated life of the customer contract. As a practical expedient, the Company expenses the incremental costs of obtaining a contract if the amortization period of the asset would have been one year or less.

When the Company receives consideration from the customer that is in excess of the amount due, such consideration is reclassified to deferred revenue, which represents a contract liability. Generally, the Company will recognize revenue from contract liabilities in the next period as the Company satisfies its performance obligations.

Note 4 — Acquisitions and Dispositions

Acquisitions

2023 Anticipated Acquisition

Vivint Smart Home Acquisition

On December 6, 2022, the NRG and Vivint Smart Home, Inc. announced the entry into a definitive merger agreement under which the Company will acquire Vivint, a smart home platform company, in an all-cash transaction. The acquisition will accelerate the realization of NRG's consumer-focused growth strategy and create a leading essential home services platform fueled by market-leading brands, unparalleled insights, proprietary technologies and complementary sales channels. Close of the acquisition is targeted for the first quarter of 2023 and is subject to customary closing conditions. The Company will pay \$12 per share, or approximately \$2.8 billion in cash, and expects to fund the acquisition using proceeds from newly issued debt and preferred equity, drawing on its Revolving Credit Facility and Receivables Securitization Facilities, and through cash on hand. Additionally, in the first quarter of 2023, NRG increased its Revolving Credit Facility by \$600 million to meet the additional liquidity requirements related to the acquisition. For further discussion see Note 13, *Long-term Debt and Finance Leases*.

In connection with the merger agreement, NRG entered into a commitment letter for a senior secured 364-day bridge term loan facility in a principal amount not to exceed \$2.1 billion for the purposes of financing the Vivint acquisition, paying fees and expenses in connection with the acquisition, and certain other third-party payments in respect of arrangements of Vivint.

Acquisition costs of \$17 million for the year ended December 31, 2022 are included in acquisition-related transaction and integration costs in the Company's Consolidated Statement of operations.

2021 Acquisitions

Direct Energy Acquisition

On January 5, 2021, the Company acquired all of the issued and outstanding common shares of Direct Energy, which had been a North American subsidiary of Centrica. Direct Energy is a leading retail provider of electricity, natural gas, and home and business energy related products and services in North America, with operations in all 50 U.S. states and 8 Canadian provinces. The acquisition increased NRG's retail portfolio by over 3 million customers and strengthened its integrated model. It also broadened the Company's presence in the Northeast and into states and locales where it did not previously operate, supporting NRG's objective to diversify its business.

The Company paid an aggregate purchase price of \$3.625 billion in cash and total purchase price adjustment of \$99 million, resulting in an adjusted purchase price of \$3.724 billion.

Acquisition costs of \$25 million and \$17 million for the years ended December 31, 2021 and 2020, respectively, are included in acquisition-related transaction and integration costs in the Company's consolidated statement of operations.

The acquisition has been recorded as a business combination under ASC 805 with identifiable assets acquired and liabilities assumed recorded at their estimated fair values on the acquisition date. The purchase price was allocated as follows as of December 31, 2021:

	(In millions)
Current Assets	
Cash and cash equivalents	\$ 152
Funds deposited by counterparties	21
Restricted cash	9
Accounts receivable, net	1,802
Inventory	106
Derivative instruments	1,014
Cash collateral paid in support of energy risk management activities	233
Prepayments and other current assets	173
Total current assets	<u>3,510</u>

	(In millions)
Property, plant and equipment, net	151
Other Assets	
Goodwill ^(a)	1,250
Intangible assets, net:	
Customer relationships ^(b)	1,277
Customer and supply contracts ^(b)	610
Trade names ^(b)	310
Renewable energy credits	124
Total intangible assets, net	2,321
Derivative instruments	531
Other non-current assets	31
Total other assets	4,133
Total Assets	\$ 7,794
Current Liabilities	
Accounts payable	\$ 1,116
Derivative instruments	1,266
Cash collateral received in support of energy risk management activities	21
Accrued expenses and other current liabilities	670
Total current liabilities	3,073
Other Liabilities	
Derivative instruments	562
Deferred income taxes	320
Other non-current liabilities	115
Total other liabilities	997
Total Liabilities	\$ 4,070
Direct Energy Purchase Price	\$ 3,724

- (a) Goodwill arising from the acquisition was attributed to the value of the platform acquired and the synergies expected from combining the operations of Direct Energy with NRG's existing businesses. Goodwill was allocated to the Texas, East, and West/Services/Other segments of \$427 million, \$648 million and \$175 million, respectively. Goodwill deductible for tax purposes was \$322 million
- (b) As of January 5, 2021, the weighted average amortization period for total amortizable intangible assets was 12 years

2020 Acquisitions

Midwest Generation Lease Purchase

On September 29, 2020, Midwest Generation acquired all of the ownership interests in the Powerton facility and Units 7 and 8 of the Joliet facility, which were being leased through 2034 and 2030, respectively, for approximately \$260 million. The purchase was funded with cash-on-hand. Upon closing, lease expense related to these facilities, which totaled approximately \$14 million in 2019, and the operating lease liability of \$148 million were eliminated.

Dispositions

2023 Dispositions

Sale of Astoria

On January 6, 2023, the Company closed on the sale of land and related assets from the Astoria site, within the East region of operations, for initial proceeds of \$212 million, subject to transaction fees of \$3 million and certain indemnifications. As part of the transaction, NRG entered into an agreement to lease the land back for the purpose of operating the Astoria gas turbines through the planned April 30, 2023 retirement date. The operating lease agreement is expected to end six months after the facility's actual retirement date.

2022 Dispositions

Sale of Watson

On June 1, 2022, the Company closed on the sale of its 49% ownership in the Watson natural gas generating facility for \$59 million. The Company recorded a gain on the sale of \$46 million.

2021 Dispositions

Sale of 4,850 MW of Fossil generating assets

On December 1, 2021, the Company closed the previously announced sale of approximately 4,850 MWs of fossil generating assets from its East and West regions to Generation Bridge, an affiliate of ArcLight Capital Partners. Proceeds of \$760 million were reduced by working capital and other adjustments of \$140 million, resulting in net proceeds of \$620 million. The Company recorded a gain of \$207 million from the sale, which includes the \$39 million indemnification liability recorded as discussed below. As part of the transaction, NRG entered into a tolling agreement for the 866 MW Arthur Kill plant in New York City through April 2025.

As part of the agreement to sell the fossil generating assets, NRG has agreed to indemnify Generation Bridge for certain future environmental compliance costs up to \$39 million. The indemnity term will expire on December 1, 2028. The Company has recorded the liability within accrued expenses and other current liabilities and other non-current liabilities.

Sale of Agua Caliente

On February 3, 2021, the Company closed on the sale of its 35% ownership in the Agua Caliente solar project to Clearway Energy, Inc. for \$202 million. NRG recognized a gain on the sale of \$17 million, including cash disposed of \$7 million.

2020 Dispositions

Sale of Home Solar

In the third quarter of 2020, the Company concluded its Home Solar business was held for sale and recorded an impairment loss of \$29 million, as further discussed in Note 11, *Asset Impairments*. On November 13, 2020, the Company completed the sale of the Home Solar business for cash proceeds of \$66 million, resulting in a \$2 million loss on the sale. In connection with the sale, the Company extinguished debt of \$27 million and recognized a \$5 million loss on the extinguishment.

Note 5 — Fair Value of Financial Instruments

For cash and cash equivalents, funds deposited by counterparties, restricted cash, accounts and other receivables, accounts payable, restricted cash, and cash collateral paid and received in support of energy risk management activities, the carrying amount approximates fair value because of the short-term maturity of those instruments and are classified as Level 1 within the fair value hierarchy.

The estimated carrying value and fair value of the Company's long-term debt, including current portion, is as follows:

(In millions)	As of December 31,			
	2022		2021	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Convertible Senior Notes	\$ 575	\$ 576	\$ 518	\$ 677
Other long-term debt, including current portion	7,523	6,432	7,522	7,650
Total long-term debt, including current portion ^(a)	<u>\$ 8,098</u>	<u>\$ 7,008</u>	<u>\$ 8,040</u>	<u>\$ 8,327</u>

(a) Excludes deferred financing costs, which are recorded as a reduction to long-term debt on the Company's consolidated balance sheets

The fair value of the Company's long-term debt is based on quoted market prices and is classified as Level 2 within the fair value hierarchy.

Fair Value Accounting under ASC 820

ASC 820 establishes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three levels as follows:

- Level 1 — quoted prices (unadjusted) in active markets for identical assets or liabilities that the Company has the ability to access as of the measurement date. NRG's financial assets and liabilities utilizing Level 1 inputs include active exchange-traded securities, energy derivatives, and trust fund investments.
- Level 2 — inputs other than quoted prices included within Level 1 that are directly observable for the asset or liability or indirectly observable through corroboration with observable market data. NRG's financial assets and liabilities utilizing Level 2 inputs include fixed income securities, exchange-based derivatives, and over the counter derivatives such as swaps, options and forward contracts.
- Level 3 — unobservable inputs for the asset or liability only used when there is little, if any, market activity for the asset or liability at the measurement date. NRG's financial assets and liabilities utilizing Level 3 inputs include infrequently-traded, non-exchange-based derivatives and commingled investment funds, and are measured using present value pricing models.

In accordance with ASC 820, the Company determines the level in the fair value hierarchy within which each fair value measurement in its entirety falls, based on the lowest level input that is significant to the fair value measurement in its entirety.

Recurring Fair Value Measurements

Debt securities, equity securities, and trust fund investments, which are comprised of various U.S. debt and equity securities, and derivative assets and liabilities, are carried at fair market value.

The following tables present assets and liabilities measured and recorded at fair value on the Company's consolidated balance sheets on a recurring basis and their level within the fair value hierarchy:

(In millions)	As of December 31, 2022			
	Fair Value			
	Total	Level 1	Level 2	Level 3
Investments in securities (classified within other current and non-current assets)	\$ 19	\$ —	\$ 19	\$ —
Nuclear trust fund investments:				
Cash and cash equivalents	15	15	—	—
U.S. government and federal agency obligations	86	84	2	—
Federal agency mortgage-backed securities	101	—	101	—
Commercial mortgage-backed securities	35	—	35	—
Corporate debt securities	114	—	114	—
Equity securities	403	403	—	—
Foreign government fixed income securities	1	—	1	—
Other trust fund investments (classified within other non-current assets):				
U.S. government and federal agency obligations	1	1	—	—
Derivative assets:				
Foreign exchange contracts	18	—	18	—
Commodity contracts	11,976	1,929	8,796	1,251
Measured using net asset value practical expedient:				
Equity securities - nuclear trust fund investments	83			
Equity securities (classified within other non-current assets)	6			
Total assets	<u>\$ 12,858</u>	<u>\$ 2,432</u>	<u>\$ 9,086</u>	<u>\$ 1,251</u>
Derivative liabilities:				
Foreign exchange contracts	\$ 2	\$ —	\$ 2	\$ —
Commodity contracts	8,439	1,244	6,449	746
Total liabilities	<u>\$ 8,441</u>	<u>\$ 1,244</u>	<u>\$ 6,451</u>	<u>\$ 746</u>

(In millions)	As of December 31, 2021			
	Fair Value			
	Total	Level 1	Level 2	Level 3
Investments in securities (classified within other current or non-current assets)	\$ 32	\$ 15	\$ 17	\$ —
Nuclear trust fund investments:				
Cash and cash equivalents	33	33	—	—
U.S. government and federal agency obligations	112	111	1	—
Federal agency mortgage-backed securities	100	—	100	—
Commercial mortgage-backed securities	44	—	44	—
Corporate debt securities	122	—	122	—
Equity securities	494	494	—	—
Foreign government fixed income securities	4	—	4	—
Other trust fund investments (classified within other non-current assets):				
U.S. government and federal agency obligations	1	1	—	—
Derivative assets:				
Foreign exchange contracts	1	—	1	—
Commodity contracts	7,139	981	5,701	457
Measured using net asset value practical expedient:				
Equity securities - nuclear trust fund investments	99			
Equity securities (classified within other non-current assets)	7			
Total assets	\$ 8,188	\$ 1,635	\$ 5,990	\$ 457
Derivative liabilities:				
Foreign exchange contracts	\$ 1	\$ —	\$ 1	\$ —
Commodity contracts	4,798	626	4,008	164
Total liabilities	\$ 4,799	\$ 626	\$ 4,009	\$ 164

The following table reconciles, for the years ended December 31, 2022 and 2021, the beginning and ending balances for financial instruments that are recognized at fair value in the consolidated financial statements using significant unobservable inputs:

(In millions)	Fair Value Measurement Using Significant Unobservable Inputs (Level 3)	
	Derivatives ^(a)	
	For the Year Ended December 31,	
	2022	2021
Beginning balance	\$ 293	\$ (16)
Contracts added from Direct Energy acquisition	—	(15)
Total gains realized/unrealized included in earnings	53	145
Purchases	(110)	93
Transfers into Level 3 ^(b)	264	71
Transfers out of Level 3 ^(b)	5	15
Ending balance	\$ 505	\$ 293
Gains for the period included in earnings attributable to the change in unrealized gains or losses relating to assets or liabilities still held as of year-end	\$ 204	\$ 120

(a) Consists of derivatives assets and liabilities, net

(b) Transfers into/out of Level 3 are related to the availability of external broker quotes, and are valued as of the end of the reporting period. All transfers into/out of Level 3 are from/to Level 2

Realized and unrealized gains and losses included in earnings that are related to the energy derivatives are recorded in revenues and cost of operations.

Non-derivative fair value measurements

The trust fund investments are held primarily to satisfy NRG's nuclear decommissioning obligations. These trust fund investments hold debt and equity securities directly and equity securities indirectly through commingled funds. The fair values of equity securities held directly by the trust funds are based on quoted prices in active markets and are categorized in Level 1. In addition, U.S. government and federal agency obligations are categorized as Level 1 because they trade in a highly liquid and transparent market. The fair values of corporate debt securities are based on evaluated prices that reflect observable market information, such as actual trade information of similar securities, adjusted for observable differences and are categorized in Level 2. Certain equity securities, classified as commingled funds, are analogous to mutual funds, are maintained by investment companies, and hold certain investments in accordance with a stated set of fund objectives. The fair value of the equity securities classified as commingled funds are based on net asset values per fund share (the unit of account), derived from the quoted prices in active markets of the underlying equity securities. However, because the shares in the commingled funds are not publicly quoted and not traded in an active market, the commingled funds are measured using net asset value practical expedient. See also Note 7, *Nuclear Decommissioning Trust Fund*.

Derivative fair value measurements

A portion of the Company's contracts are exchange-traded contracts with readily available quoted market prices. A majority of NRG's contracts are non-exchange-traded contracts valued using prices provided by external sources, primarily price quotations available through brokers or over-the-counter and on-line exchanges. For the majority of NRG markets, the Company receives quotes from multiple sources. To the extent that NRG receives multiple quotes, the Company's prices reflect the average of the bid-ask mid-point prices obtained from all sources that NRG believes provide the most liquid market for the commodity. If the Company receives one quote, then the mid-point of the bid-ask spread for that quote is used. The terms for which such price information is available vary by commodity, region and product. A significant portion of the fair value of the Company's derivative portfolio is based on price quotes from brokers in active markets who regularly facilitate those transactions and the Company believes such price quotes are executable. The Company does not use third-party sources that derive price based on proprietary models or market surveys. The remainder of the assets and liabilities represents contracts for which external sources or observable market quotes are not available. These contracts are valued based on various valuation techniques including but not limited to internal models based on a fundamental analysis of the market and extrapolation of observable market data with similar characteristics. Contracts valued with prices provided by models and other valuation techniques make up 10% of derivative assets and 9% of derivative liabilities. The fair value of each contract is discounted using a risk free interest rate. In addition, the Company applies a credit reserve to reflect credit risk, which for foreign exchange contracts is calculated utilizing the bilateral method based on published default probabilities. For commodities, to the extent that NRG's net exposure under a specific master agreement is an asset, the Company uses the counterparty's default swap rate. If the exposure under a specific master agreement is a liability, the Company uses NRG's default swap rate. For foreign exchange contracts and commodities, the credit reserve is added to the discounted fair value to reflect the exit price that a market participant would be willing to receive to assume NRG's liabilities or that a market participant would be willing to pay for NRG's assets. As of December 31, 2022, the credit reserve resulted in a \$9 million decrease primarily within cost of operations. As of December 31, 2021, the credit reserve resulted in \$11 million decrease primarily within cost of operations.

The fair values in each category reflect the level of forward prices and volatility factors as of December 31, 2022 and may change as a result of changes in these factors. Management uses its best estimates to determine the fair value of commodity and derivative contracts NRG holds and sells. These estimates consider various factors including closing exchange and over-the-counter price quotations, time value, volatility factors and credit exposure. It is possible, however, that future market prices could vary from those used in recording assets and liabilities from energy marketing and trading activities and such variations could be material.

NRG's significant positions classified as Level 3 include physical and financial natural gas and power contracts executed in illiquid markets as well as financial transmission rights, or FTRs. The significant unobservable inputs used in developing fair value include illiquid natural gas and power location pricing, which is derived as a basis to liquid locations. The basis spread is based on observable market data when available or derived from historic prices and forward market prices from similar observable markets when not available. For FTRs, NRG uses the most recent auction prices to derive the fair value.

The following tables quantify the significant unobservable inputs used in developing the fair value of the Company's Level 3 positions as of December 31, 2022 and 2021:

Significant Unobservable Inputs							
December 31, 2022							
(In millions)	Fair Value		Valuation Technique	Significant Unobservable Input	Input/Range		
	Assets	Liabilities			Low	High	Weighted Average
Natural Gas Contracts	\$ 340	\$ 448	Discounted Cash Flow	Forward Market Price (per MMBtu)	\$ 2	\$ 48	\$ 6
Power Contracts	843	216	Discounted Cash Flow	Forward Market Price (per MWh)	3	431	48
FTRs	68	82	Discounted Cash Flow	Auction Prices (per MWh)	(32)	610	0
	<u>\$ 1,251</u>	<u>\$ 746</u>					

Significant Unobservable Inputs							
December 31, 2021							
(In millions)	Fair Value		Valuation Technique	Significant Unobservable Input	Input/Range		
	Assets	Liabilities			Low	High	Weighted Average
Natural Gas Contracts	\$ 16	\$ 1	Discounted Cash Flow	Forward Market Price (per MMBtu)	\$ 3	\$ 40	\$ 15
Power Contracts	392	121	Discounted Cash Flow	Forward Market Price (per MWh)	3	212	35
FTRs	49	42	Discounted Cash Flow	Auction Prices (per MWh)	(122)	43	0
	<u>\$ 457</u>	<u>\$ 164</u>					

The following table provides sensitivity of fair value measurements to increases/(decreases) in significant unobservable inputs as of December 31, 2022 and 2021:

Significant Unobservable Input	Position	Change In Input	Impact on Fair Value Measurement
Forward Market Price Natural Gas/ Power	Buy	Increase/(Decrease)	Higher/(Lower)
Forward Market Price Natural Gas/Power	Sell	Increase/(Decrease)	Lower/(Higher)
FTR Prices	Buy	Increase/(Decrease)	Higher/(Lower)
FTR Prices	Sell	Increase/(Decrease)	Lower/(Higher)

Under the guidance of ASC 815, entities may choose to offset cash collateral posted or received against the fair value of derivative positions executed with the same counterparties under the same master netting agreements. The Company has chosen not to offset positions as defined in ASC 815. As of December 31, 2022, the Company recorded \$260 million of cash collateral posted and \$1.7 billion of cash collateral received on its balance sheet.

Concentration of Credit Risk

In addition to the credit risk discussion as disclosed in Note 2, *Summary of Significant Accounting Policies*, the following item is a discussion of the concentration of credit risk for the Company's financial instruments. Credit risk relates to the risk of loss resulting from non-performance or non-payment by counterparties pursuant to the terms of their contractual obligations. The Company monitors and manages credit risk through credit policies that include: (i) an established credit approval process; (ii) a daily monitoring of counterparties' credit limits; (iii) the use of credit mitigation measures such as margin, collateral, prepayment arrangements, or volumetric limits; (iv) the use of payment netting agreements; and (v) the use of master netting agreements that allow for the netting of positive and negative exposures of various contracts associated with a single counterparty. Risks surrounding counterparty performance and credit could ultimately impact the amount and timing of expected cash flows. The Company seeks to mitigate counterparty risk by having a diversified portfolio of counterparties. The

Company also has credit protection within various agreements to call on additional collateral support if and when necessary. Cash margin is collected and held at the Company to cover the credit risk of the counterparty until positions settle.

Counterparty Credit Risk

As of December 31, 2022, counterparty credit exposure, excluding credit exposure from RTOs, ISOs, and registered commodity exchanges and certain long-term agreements, was \$2.7 billion and NRG held collateral (cash and letters of credit) against those positions of \$1.0 billion, resulting in a net exposure of \$1.7 billion. NRG periodically receives collateral from counterparties in excess of their exposure. Collateral amounts shown include such excess while net exposure shown excludes excess collateral received. Approximately 80% of the Company's exposure before collateral is expected to roll off by the end of 2024. Counterparty credit exposure is valued through observable market quotes and discounted at a risk free interest rate. The following tables highlight net counterparty credit exposure by industry sector and by counterparty credit quality. Net counterparty credit exposure is defined as the aggregate net asset position for NRG with counterparties where netting is permitted under the enabling agreement and includes all cash flow, mark-to-market and NPNS, and non-derivative transactions. The exposure is shown net of collateral held and includes amounts net of receivables or payables.

Category	Net Exposure ^{(a) (b)} (% of Total)
Utilities, energy merchants, marketers and other	62 %
Financial institutions	38
Total	100 %

Category	Net Exposure ^{(a) (b)} (% of Total)
Investment grade	65 %
Non-Investment grade/Non-Rated	35
Total	100 %

(a) Counterparty credit exposure excludes uranium and coal transportation contracts because of the unavailability of market prices

(b) The figures in the tables above exclude potential counterparty credit exposure related to RTOs, ISOs, registered commodity exchanges and certain long term contracts

The Company currently has no exposure to wholesale counterparties in excess of 10% of the total net exposure discussed above as of December 31, 2022. Changes in hedge positions and market prices will affect credit exposure and counterparty concentration.

During Winter Storm Uri, in February 2021, the Company experienced nonperformance by a counterparty in one of its bilateral financial hedging transactions, resulting in exposure of \$403 million. During December 2022, the Company received \$70 million as part of the Company's loss mitigation efforts related to this exposure.

RTOs and ISOs

The Company participates in the organized markets of CAISO, ERCOT, AESO, IESO, ISO-NE, MISO, NYISO and PJM, known as RTOs or ISOs. Trading in the majority of these markets is approved by FERC, whereas in the case of ERCOT, it is approved by the PUCT, and whereas in the case of AESO and IESO, both exist provincially with AESO primarily subject to Alberta Utilities Commission and the IESO to the Ontario Energy Board. These ISOs may include credit policies that, under certain circumstances, require that losses arising from the default of one member on spot market transactions be shared by the remaining participants. As a result, the counterparty credit risk to these markets is limited to NRG's share of the overall market and are excluded from the above exposures.

Exchange Traded Transactions

The Company enters into commodity transactions on registered exchanges, notably ICE, NYMEX and Nodal. These clearinghouses act as the counterparty and transactions are subject to extensive collateral and margining requirements. As a result, these commodity transactions have limited counterparty credit risk.

Long-Term Contracts

Counterparty credit exposure described above excludes credit risk exposure under certain long term contracts, primarily solar under Renewable PPAs. As external sources or observable market quotes are not always available to estimate such exposure, the Company values these contracts based on various techniques including, but not limited to, internal models based on a fundamental analysis of the market and extrapolation of observable market data with similar characteristics. Based on these valuation techniques, as of December 31, 2022, aggregate credit risk exposure managed by NRG to these counterparties was approximately \$1.1 billion for the next five years.

Retail Customer Credit Risk

The Company is exposed to retail credit risk through the Company's retail electricity and gas providers, which serve Home and Business customers. Retail credit risk results in losses when a customer fails to pay for services rendered. The losses may result from both nonpayment of customer accounts receivable and the loss of in-the-money forward value. The Company manages retail credit risk through the use of established credit policies that include monitoring of the portfolio and the use of credit mitigation measures such as deposits or prepayment arrangements.

As of December 31, 2022, the Company's retail customer credit exposure to Home and Business customers was diversified across many customers and various industries, as well as government entities. Current economic conditions may affect the Company's customers' ability to pay bills in a timely manner, which could increase customer delinquencies and may lead to an increase in credit losses. The Company's provision for credit losses was \$11 million, \$698 million, and \$108 million for the years ending December 31, 2022, 2021, and 2020, respectively. During the year ended December 31, 2022, the provision for credit losses included the Company's loss mitigation efforts recognized as income of \$126 million related to Winter Storm Uri. During the year ended December 31, 2021, the provision for credit losses included \$596 million of expenses due to the impacts of Winter Storm Uri.

Note 6 — Accounting for Derivative Instruments and Hedging Activities

ASC 815 requires the Company to recognize all derivative instruments on the balance sheet as either assets or liabilities and to measure them at fair value each reporting period unless they qualify for a NPNS exception. The Company may elect to designate certain derivatives as cash flow hedges, if certain conditions are met, and defer the change in fair value of the derivatives to accumulated OCI, until the hedged transactions occur and are recognized in earnings.

For derivatives that are not designated as cash flow hedges or do not qualify for hedge accounting treatment, the changes in the fair value will be immediately recognized in earnings. Certain derivative instruments may qualify for the NPNS exception and are therefore exempt from fair value accounting treatment. ASC 815 applies to NRG's energy related commodity contracts and foreign exchange contracts.

As the Company engages principally in the trading and marketing of its generation assets and retail operations, some of NRG's commercial activities qualify for NPNS accounting. Most of the retail load contracts either qualify for the NPNS exception or fail to meet the criteria for a derivative and the majority of the retail supply and fuels supply contracts are recorded under mark-to-market accounting. All of NRG's hedging and trading activities are subject to limits within the Company's Risk Management Policy.

Energy-Related Commodities

To manage the commodity price risk associated with the Company's competitive supply activities and the price risk associated with wholesale power sales from the Company's electric generation facilities and retail power and gas sales from NRG's retail operations, NRG enters into a variety of derivative and non-derivative hedging instruments, utilizing the following:

- Forward contracts, which commit NRG to purchase or sell energy commodities or fuels in the future;
- Futures contracts, which are exchange-traded standardized commitments to purchase or sell a commodity or financial instrument;
- Swap agreements, which require payments to or from counterparties based upon the differential between two prices for a predetermined contractual, or notional, quantity;
- Option contracts, which convey to the option holder the right but not the obligation to purchase or sell a commodity; and
- Weather derivative products used to mitigate a portion of lost revenue due to weather.

The objectives for entering into derivative contracts designated as hedges include:

- Fixing the price of a portion of anticipated power and gas purchases for the Company's retail sales;
- Fixing the price for a portion of anticipated future electricity sales that provides an acceptable return on the Company's electric generation operations; and
- Fixing the price of a portion of anticipated fuel purchases for the operation of the Company's power plants.

These contracts are recognized on the balance sheet at fair value and changes in the fair value of these derivative financial instruments are recognized in earnings.

As of December 31, 2022, NRG's derivative assets and liabilities consisted primarily of the following:

- Forward and financial contracts for the purchase/sale of electricity and related products economically hedging NRG's generation assets' forecasted output or NRG's retail load obligations through 2036;
- Forward and financial contracts for the purchase of fuel commodities relating to the forecasted usage of NRG's generation assets through 2024;
- Other energy derivatives instruments extending through 2029.

Also, as of December 31, 2022, NRG had other energy-related contracts that did not meet the definition of a derivative instrument or qualified for the NPNS exception and were therefore exempt from fair value accounting treatment as follows:

- Load-following forward electric sale contracts extending through 2036;
- Load-following forward natural gas purchase and sale contracts extending through 2032;
- Power tolling contracts through 2038;
- Coal purchase contracts through 2024;
- Power transmission contracts through 2028;
- Natural gas transportation contracts through 2034;
- Natural gas storage agreements through 2027; and
- Coal transportation contracts through 2029.

Foreign Exchange Contracts

In order to mitigate foreign exchange risk primarily associated with the purchase of USD denominated natural gas for the Company's Canadian business, NRG enters into foreign exchange contract agreements through 2026.

Volumetric Underlying Derivative Transactions

The following table summarizes the net notional volume buy/(sell) of NRG's open derivative transactions broken out by commodity, excluding those derivatives that qualified for the NPNS exception as of December 31, 2022 and 2021. Option contracts are reflected using delta volume. Delta volume equals the notional volume of an option adjusted for the probability that the option will be in-the-money at its expiration date.

(In millions)	Commodity	Units	Total Volume	
			December 31, 2022	December 31, 2021
	Emissions	Short Ton	1	1
	Renewables Energy Certificates	Certificates	15	13
	Coal	Short Ton	11	19
	Natural Gas	MMBtu	422	813
	Oil	Barrels	1	1
	Power	MWh	192	185
	Foreign Exchange	Dollars	569	279

Fair Value of Derivative Instruments

The following table summarizes the fair value within the derivative instrument valuation on the balance sheet:

(In millions)	Fair Value			
	Derivative Assets		Derivative Liabilities	
	December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Derivatives Not Designated as Cash Flow or Fair Value Hedges:				
Foreign exchange contracts - current	\$ 11	\$ —	\$ 1	\$ 1
Foreign exchange contracts - long-term	7	1	1	—
Commodity contracts- current	7,875	4,613	6,194	3,386
Commodity contracts- long-term	4,101	2,526	2,245	1,412
Total Derivatives Not Designated as Cash Flow or Fair Value Hedges	\$ 11,994	\$ 7,140	\$ 8,441	\$ 4,799

The Company has elected to present derivative assets and liabilities on the balance sheet on a trade-by-trade basis and does not offset amounts at the counterparty master agreement level. In addition, collateral received or paid on the Company's derivative assets or liabilities are recorded on a separate line item on the balance sheet. The following table summarizes the offsetting derivatives by counterparty master agreement level and collateral received or paid:

Gross Amounts Not Offset in the Statement of Financial Position				
(In millions)	Gross Amounts of Recognized Assets/ Liabilities	Derivative Instruments	Cash Collateral (Held)/Posted	Net Amount
As of December 31, 2022				
Foreign exchange contracts:				
Derivative assets	\$ 18	\$ (2)	\$ —	\$ 16
Derivative liabilities	(2)	2	—	—
Total foreign exchange contracts ...	\$ 16	\$ —	\$ —	\$ 16
Commodity contracts:				
Derivative assets	\$ 11,976	\$ (7,897)	\$ (1,659)	\$ 2,420
Derivative liabilities	(8,439)	7,897	20	(522)
Total commodity contracts	\$ 3,537	\$ —	\$ (1,639)	\$ 1,898
Total derivative instruments	\$ 3,553	\$ —	\$ (1,639)	\$ 1,914

Gross Amounts Not Offset in the Statement of Financial Position				
(In millions)	Gross Amounts of Recognized Assets/ Liabilities	Derivative Instruments	Cash Collateral (Held)/Posted	Net Amount
As of December 31, 2021				
Foreign exchange contracts:				
Derivative assets	\$ 1	\$ (1)	\$ —	\$ —
Derivative liabilities	(1)	1	—	—
Total foreign exchange contracts ...	\$ —	\$ —	\$ —	\$ —
Commodity contracts:				
Derivative assets	\$ 7,139	\$ (4,440)	\$ (831)	\$ 1,868
Derivative liabilities	(4,798)	4,440	17	(341)
Total commodity contracts	\$ 2,341	\$ —	\$ (814)	\$ 1,527
Total derivative instruments	\$ 2,341	\$ —	\$ (814)	\$ 1,527

Impact of Derivative Instruments on the Statement of Operations

Unrealized gains and losses associated with changes in the fair value of derivative instruments that are not accounted for as cash flow hedges are reflected in current period results of operations.

The following table summarizes the pre-tax effects of economic hedges that have not been designated as cash flow hedges or fair value hedges and trading activity on the Company's statement of operations. The effect of foreign exchange and commodity hedges is included within revenues and cost of operations.

(In millions)	Year Ended December 31,		
	2022	2021	2020
Unrealized mark-to-market results			
Reversal of previously recognized unrealized (gains) on settled positions related to economic hedges	\$ (1,232)	\$ (41)	\$ (55)
Reversal of acquired loss positions related to economic hedges	2	256	4
Net unrealized gains/(losses) on open positions related to economic hedges	2,478	2,501	(68)
Total unrealized mark-to-market gains/(losses) for economic hedging activities	1,248	2,716	(119)
Reversal of previously recognized unrealized losses/(gains) on settled positions related to trading activity	13	(18)	(20)
Reversal of acquired (gain) positions related to trading activity	—	(1)	—
Net unrealized (losses)/gains on open positions related to trading activity	(17)	(13)	15
Total unrealized mark-to-market (losses) for trading activity	(4)	(32)	(5)
Total unrealized gains/(losses)	\$ 1,244	\$ 2,684	\$ (124)

(In millions)	Year Ended December 31,		
	2022	2021	2020
Unrealized (losses)/gains included in operating - commodities	\$ (87)	\$ (196)	\$ 90
Unrealized gains/(losses) included in cost of operations - commodities	1,315	2,880	(214)
Unrealized gains included in cost of operations - foreign exchange	16	—	—
Total impact to statement of operations	\$ 1,244	\$ 2,684	\$ (124)

The reversals of acquired loss/(gain) positions were valued based upon the forward prices on the acquisition date. The roll-off amounts were offset by realized gains or losses at the settled prices and are reflected in revenue or cost of operations during the same period.

The gains from open economic hedge positions of \$2.5 billion for the years ended December 31, 2022 and 2021 were primarily the result of an increase in value of forward positions as a result of increases in natural gas and power prices.

The loss from open economic hedge positions of \$68 million for the year ended December 31, 2020 was primarily the result of a decrease in the value of forward positions as a result of decreases in ERCOT power prices and heat rate contraction, partially offset by an increase in value of forward positions as a result of decreases in New York capacity prices.

Credit Risk Related Contingent Features

Certain of the Company's hedging and trading agreements contain provisions that entitle the counterparty to demand that the Company post additional collateral if the counterparty determines that there has been deterioration in the Company's credit quality, generally termed "adequate assurance" under the agreements, or require the Company to post additional collateral if there were a downgrade in the Company's credit rating. The collateral potentially required for contracts with adequate assurance clauses that are in net liability positions as of December 31, 2022 was \$1.5 billion. The Company is also a party to certain marginable agreements under which it has a net liability position, but the counterparty has not called for the collateral due, which was approximately \$195 million as of December 31, 2022. In the event of a downgrade in the Company's credit rating and if called for by the counterparty, \$30 million of additional collateral would be required for all contracts with credit rating contingent features as of December 31, 2022.

See Note 5, *Fair Value of Financial Instruments*, for discussion regarding concentration of credit risk.

Note 7 — Nuclear Decommissioning Trust Fund

NRG's Nuclear Decommissioning Trust Fund assets, which are for the decommissioning of STP, are comprised of securities classified as available-for-sale and recorded at fair value based on actively quoted market prices. Although NRG is responsible for managing the decommissioning of its 44% interest in STP, the predecessor utilities that owned STP are authorized by the PUCT to collect decommissioning funds from their ratepayers to cover decommissioning costs on behalf of NRG. NRC requirements determine the decommissioning cost estimate, which is the minimum required level of funding. In the event that funds from the ratepayers that accumulate in the nuclear decommissioning trust are ultimately determined to be inadequate to decommission the STP facilities, the utilities will be required to collect through rates charged to rate payers all additional amounts, with no obligation from NRG, provided that NRG has complied with PUCT rules and regulations regarding decommissioning trusts. Following completion of the decommissioning, if surplus funds remain in the decommissioning trusts, any excess will be refunded to the respective ratepayers of the utilities.

NRG accounts for the Nuclear Decommissioning Trust Fund in accordance with ASC 980, *Regulated Operations*, or ASC 980, because the Company's nuclear decommissioning activities are subject to approval by the PUCT, with regulated rates that are designed to recover all decommissioning costs and that can be charged to and collected from the ratepayers per PUCT mandate. Since the Company is in compliance with PUCT rules and regulations regarding decommissioning trusts and the cost of decommissioning is the responsibility of the Texas ratepayers, not NRG, all realized and unrealized gains or losses (including other-than-temporary impairments) related to the Nuclear Decommissioning Trust Fund are recorded to the Nuclear Decommissioning Trust liability and are not included in net income or accumulated other comprehensive income, consistent with regulatory treatment.

The following table summarizes the aggregate fair values and unrealized gains and losses for the securities held in the trust funds, as well as information about the contractual maturities of those securities.

(In millions, except otherwise noted)	As of December 31, 2022				As of December 31, 2021			
	Fair Value	Unrealized Gains	Unrealized Losses	Weighted-average maturities (in years)	Fair Value	Unrealized Gains	Unrealized Losses	Weighted-average maturities (in years)
Cash and cash equivalents	\$ 15	\$ —	\$ —	—	\$ 33	\$ —	\$ —	—
U.S. government and federal agency obligations	86	—	5	11	112	5	1	10
Federal agency mortgage-backed securities	101	—	11	26	100	2	—	25
Commercial mortgage-backed securities	35	—	4	30	44	1	—	27
Corporate debt securities	114	—	13	12	122	7	1	14
Equity securities	486	346	3	—	593	456	—	—
Foreign government fixed income securities	1	—	—	17	4	—	—	13
Total	<u>\$ 838</u>	<u>\$ 346</u>	<u>\$ 36</u>		<u>\$1,008</u>	<u>\$ 471</u>	<u>\$ 2</u>	

The following table summarizes proceeds from sales of available-for-sale securities and the related realized gains and losses from these sales. The cost of securities sold is determined using the specific identification method.

(In millions)	Year Ended December 31,		
	2022	2021	2020
Realized gains	\$ 14	\$ 47	\$ 34
Realized losses	(25)	(9)	(13)
Proceeds from sale of securities	448	710	439

Note 8 — Inventory

Inventory consisted of:

(In millions)	As of December 31,	
	2022	2021
Fuel oil	\$ 8	\$ 8
Coal	114	83
Natural gas	385	206
Spare parts and finished goods	244	201
Total Inventory	<u>\$ 751</u>	<u>\$ 498</u>

Note 9 — Property, Plant and Equipment

The Company's major classes of property, plant, and equipment were as follows:

(In millions)	As of December 31,		Depreciable Lives
	2022	2021	
Facilities and equipment	\$ 1,727	\$ 1,742	1-40 years
Land and improvements	263	271	
Nuclear fuel	271	222	5 years
Hardware and office equipment and furnishings	712	637	2-10 years
Construction in progress	197	124	
Total property, plant, and equipment	3,170	2,996	
Accumulated depreciation	(1,478)	(1,308)	
Net property, plant, and equipment	<u>\$ 1,692</u>	<u>\$ 1,688</u>	

The Company recorded long-lived asset impairments during the years ended December 31, 2022 and 2021, as further described in Note 11, *Asset Impairments*. Depreciation expense of property, plant and equipment recorded during the years ended December 31, 2022, 2021 and 2020 was \$291 million, \$384 million and \$295 million, respectively.

Note 10 — Leases

The Company leases generating facilities, land, office and equipment, railcars, fleet vehicles and storefront space at retail stores. Operating leases with an initial term greater than twelve months are recognized as right-of-use assets and lease liabilities in the consolidated balance sheets. The Company made an accounting policy election, as permitted by ASC 842, for all asset classes not to recognize right-of-use assets and lease liabilities in the consolidated balance sheets for its short-term leases, which are leases that have a lease term of twelve months or less. For the initial measurement of lease liabilities, the discount rate that the Company uses is either the rate implicit in the lease, if known, or its incremental borrowing rate, which is the rate of interest that the Company would have to pay to borrow, on a collateralized basis, over a similar term an amount equal to the payments for the lease. The Company recognizes lease expense for all operating leases on a straight-line basis over the lease term. In the future, should another systematic basis become more representative of the pattern in which the lessee expects to consume the remaining economic benefit of the right-of-use asset, the Company will use that basis for lease expense.

The Company considers a contract to be or to contain a lease when both of the following conditions apply: 1) an asset is either explicitly or implicitly identified in the contract and 2) the contract conveys to the Company the right to control the use of the identified asset for a period of time. The Company has the right to control the use of the identified asset when the Company has both the right to obtain substantially all the economic benefits from the use of the identified asset and the right to direct how and for what purpose the identified asset is used throughout the period of use.

Lease payments are typically fixed and payable on a monthly, quarterly, semi-annual or annual basis. Lease payments under certain agreements may escalate over the lease term either by a fixed percentage or a fixed dollar amount. Certain leases may provide for variable lease payments in the form of payments based on unit availability, usage, a percentage of sales from the location under lease, or index-based (e.g., the U.S. Consumer Price Index) adjustments to lease payments. The Company has no leases which contain residual value guarantees provided by the Company as a lessee.

Lease Cost:

(In millions)	For the Year Ended December 31,		
	2022	2021	2020
Finance lease cost	\$ 4	\$ 4	\$ 3
Operating lease cost	85	91	100
Short-term lease cost	7	3	3
Variable lease cost	86	9	6
Sublease income	(2)	(2)	(17)
Total lease cost	\$ 180	\$ 105	\$ 95

Other information:

(In millions)	For the Year Ended December 31,		
	2022	2021	2020
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows from operating leases	\$ 183	\$ 102	\$ 101
Financing cash flows from finance leases	5	6	1
Right-of-use assets obtained in exchange for new finance lease liabilities	3	16	5
Right-of-use assets obtained in exchange for new operating lease liabilities	28	47	4

Lease Term and Discount Rate for leases:

	December 31, 2022	December 31, 2021
Finance leases:		
Weighted average remaining lease term (in years)	2.6	3.6
Weighted average discount rate	2.82 %	2.46 %
Operating leases:		
Weighted average remaining lease term (in years)	4.3	4.7
Weighted average discount rate	5.37 %	5.44 %

As of December 31, 2022, annual payments based on the maturities of NRG's operating leases are expected to be as follows:

	In millions
2023	\$ 97
2024	82
2025	56
2026	14
2027	10
Thereafter	52
Total undiscounted lease payments	\$ 311
Less: present value adjustment	(48)
Total discounted lease payments	\$ 263

Note 11 — Asset Impairments

2022 Impairment Losses

Astoria Redevelopment Impairment — During the third quarter of 2022, the Company entered into a purchase and sale agreement for the sale of the land and related assets at the Astoria generating site and the planned withdrawal and cancellation of its proposed Astoria redevelopment project. As a result, the Company impaired \$43 million of Astoria project spend in the East segment. For further discussion of the transaction, see Note 4, *Acquisitions and Dispositions*.

PJM Asset Impairments — During the second quarter of 2022, the results of the PJM Base Residual Auction for the 2023/2024 delivery year were released leading the Company to revise its long-term view of certain facilities and announce the planned retirement of the Joliet generating facility. The Company considered the near-term retirement date of Joliet and the decline in PJM capacity prices to be a trigger for impairment and performed impairment tests on the PJM generating assets and the goodwill associated with Midwest Generation. The Company measured the impairment losses on the PJM generating assets and Midwest Generation goodwill as the difference between the carrying amount and the fair value of the PJM generating assets and Midwest Generation reporting unit, respectively. Fair values were determined using an income approach in which the Company applied a discounted cash flow methodology to the long-term budgets for the plants and reporting unit. Significant inputs impacting the income approach include the Company's long-term view of capacity and fuel prices, projected generation, the physical and economic characteristics of each plant and the reporting unit as a whole, and the discount rate applied to the after-tax cash flow projections. Impairment losses of \$20 million and \$130 million were recorded in the East segment on the PJM generating assets and Midwest Generation goodwill, respectively.

Other Impairments — The Company additionally recorded impairment losses of \$13 million in the East segment.

2021 Impairment Losses

During the fourth quarter of 2021, the Company completed its annual budget and analyzed the corresponding impact on estimated cash flows associated with its long-lived assets. The fair value of the assets was determined using an income approach by applying a discounted cash flow methodology to the long-term budget for the facility. The income approach utilized estimates of after-tax cash flows, which were Level 3 fair value measurements, and included key inputs such as forecasted power prices, fuel costs, operating and maintenance costs, plant investment capital expenditures and discount rates.

Joliet — The Company recognized an impairment loss of \$213 million in the East segment as a result of changes in the long-term outlook of the Joliet facility prompted by market conditions and an assessment of various alternatives for the long-term operational landscape of the facility including the impact of the CEJA in Illinois, which concluded with the annual budget process.

Other Impairments — The Company additionally recorded impairment losses of \$16 million and \$9 million related to various power plants in the East and West/Service/Other segments, respectively.

The Company also recorded the following impairment in 2021 based on a specific triggering event that occurred using the same methodology previously discussed:

PJM Asset Impairments — During the second quarter of 2021, the results of the PJM Base Residual Auction for the 2022/2023 delivery year were released leading the Company to announce the near-term retirement of a significant portion of its PJM coal generating assets in June 2022. The Company considered the decline in PJM capacity prices and the near-term retirement dates of certain assets to be a trigger for impairment and performed impairment tests on the PJM generating assets and the goodwill associated with Midwest Generation. Impairment losses of \$271 million and \$35 million were recorded in the East segment on the PJM generating assets and Midwest Generation goodwill, respectively.

2020 Impairment Losses

During the fourth quarter of 2020, the Company completed its annual budget and revised its view of long-term power and fuel prices and the corresponding impact on estimated cash flows associated with its long-lived assets. The Cottonwood facility had estimated cash flows that were lower than its carrying amount and the assets were considered impaired. The fair value of the assets was determined using an income approach by applying a discounted cash flow methodology to the long-term budget for the facility. The income approach utilized estimates of after-tax cash flows, which were Level 3 fair value measurements, and included key inputs such as forecasted power prices, fuel costs, operating and maintenance costs, plant investment capital expenditures and discount rates.

The Cottonwood facility is being leased through 2025 and the Company recognized an impairment loss of \$32 million in 2020 in the West/Services/Other segment associated with the Company's long-term services agreement and related lease payments, as the carrying amounts of the assets from the contract were higher than the estimated operating cash flow though the remaining lease period.

The Company also recorded the following impairments in 2020 based on specific triggering events that occurred:

Home Solar — In the third quarter of 2020, the Company concluded its Home Solar business was held for sale and recorded an impairment loss of \$29 million in the West/Services/Other segment to adjust the carrying amount of the assets and liabilities to fair market value based on indicative sale prices.

Petra Nova Parish Holdings — During the first quarter of 2020, due to the decline in oil prices, NRG determined that the carrying amount of the Company's equity method investment exceeded the fair value of the investment and that the decline is considered to be other-than-temporary. In determining the fair value, the Company utilized an income approach to estimate future project cash flows. The Company recorded \$18 million impairment losses on investments in the Texas segment, which included the anticipated drawdown of the \$12 million letter of credit posted in September 2019 to cover certain project debt reserve requirements.

Other Impairments — For the year ended December 31, 2020, the Company recorded \$14 million of impairment losses related to intangible assets in the Texas segment.

Note 12 — Goodwill and Other Intangibles

Goodwill

The table below presents the changes of goodwill for the years ended December 31, 2022 and 2021 based on the Company's reportable segments.

(in millions)	Texas	East	West/Services/ Other	Total
Balance as of January 1, 2021	\$ 289	\$ 240	\$ 50	\$ 579
Goodwill resulted from the acquisition of Direct Energy	427	648	175	1,250
Impairment losses	—	(35)	—	(35)
Foreign currency translation	—	—	1	1
Balance as of December 31, 2021	\$ 716	\$ 853	\$ 226	\$ 1,795
Impairment losses	—	(130)	—	(130)
Asset sales	(6)	—	—	(6)
Foreign currency translation	—	—	(9)	(9)
Balance as of December 31, 2022	\$ 710	\$ 723	\$ 217	\$ 1,650

Intangible Assets

The Company's intangible assets as of December 31, 2022, primarily reflect intangible assets established with the acquisitions of various companies, including Direct Energy, Stream Energy, other retail acquisitions and Texas Genco. Intangible assets are comprised of the following:

- *Emission Allowances* — These intangibles primarily consist of SO₂ emission allowances, including those established with the 2006 acquisition of Texas Genco, RGGI emission credits and California carbon allowances. These emission allowances are held-for-use and are amortized to cost of operations based on units of production.
- *Customer and supply contracts* — These intangibles include the fair value at the acquisition date of in-market and out-of-market customer and supply contracts from the acquisition of Direct Energy and are amortized to revenue and cost of operations, respectively, based upon the fair market value, as of the acquisition date, for each delivery month. It also included energy supply contracts acquired with Stream Energy that represent the fair value at the acquisition date of in-market contracts for the purchase of energy to serve retail electric customers and are amortized based on the expected delivery under the respective contracts.
- *Customer relationships* — These intangibles represent the fair value at the acquisition date of acquired businesses' customer base from the acquisition of Direct Energy and other acquisitions. The customer relationships are amortized to depreciation and amortization expense based on the expected discounted future net cash flows by year.
- *Marketing partnerships* — These intangibles represent the fair value at the acquisition date of existing agreements with marketing vendors and loyalty and affinity partners for customer acquisition. The marketing partnerships are amortized to depreciation and amortization expense based on the expected discounted future net cash flows by year.
- *Trade names* — These intangibles are amortized to depreciation and amortization expense on a straight-line basis.
- *Other* — These intangibles primarily include renewable energy credits. RECs are retired, as required, for the applicable compliance period. They are expensed to cost of operations based on NRG's customer usage. It also includes in-market nuclear fuel contracts established from the Texas Genco acquisition in 2006 which are amortized to

cost of operations over expected volumes over the life of each contract, costs to extend the operating license for STP Units 1 and 2 and intellectual property related to Goal Zero, which are amortized to depreciation and amortization expense.

The following tables summarize the components of NRG's intangible assets:

(In millions)

Year Ended December 31, 2022	Emission Allowances	Customer and Supply Contracts	Customer Relationships	Marketing Partnerships	Trade Names	Other^(b)	Total
January 1, 2022	\$ 634	\$ 638	\$ 1,679	\$ 284	\$ 683	\$ 229	\$ 4,147
Purchases	26	—	—	—	—	404	430
Acquisition of businesses ^(a)	—	—	55	—	—	—	55
Usage/Sales/Retirements	(33)	—	—	—	—	(341)	(374)
Write-off of fully amortized balances	(14)	—	—	—	—	—	(14)
Other	11	(3)	(4)	—	(4)	—	—
December 31, 2022	624	635	1,730	284	679	292	4,244
Less accumulated amortization	(528)	(235)	(787)	(146)	(341)	(75)	(2,112)
Net carrying amount	\$ 96	\$ 400	\$ 943	\$ 138	\$ 338	\$ 217	\$ 2,132

(a) The weighted average life of acquired amortizable intangibles was six years for customer relationships

(b) RECs are not subject to amortization and had a carrying value of \$186 million

(In millions)

Year Ended December 31, 2021	Emission Allowances	Customer and Supply Contracts	Customer Relationships	Marketing Partnerships	Trade Names	Other^(b)	Total
January 1, 2021	\$ 672	\$ 28	\$ 527	\$ 285	\$ 373	\$ 140	\$ 2,025
Purchases	10	—	—	—	—	338	348
Acquisition of businesses ^(a)	—	610	1,308	—	310	124	2,352
Usage/Retirements	(1)	—	—	—	—	(364)	(365)
Write-off of fully amortized balances	(51)	—	(158)	—	—	(7)	(216)
Other	4	—	2	(1)	—	(2)	3
December 31, 2021	634	638	1,679	284	683	229	4,147
Less accumulated amortization	(536)	(94)	(518)	(123)	(294)	(71)	(1,636)
Net carrying amount	\$ 98	\$ 544	\$ 1,161	\$ 161	\$ 389	\$ 158	\$ 2,511

(a) The weighted average life of total acquired amortizable intangibles from the Direct Energy acquisition was 12 years

(b) RECs are not subject to amortization and had a carrying value of \$123 million

The following table presents NRG's amortization of intangible assets for each of the past three years:

(In millions)	Years Ended December 31,		
	2022	2021	2020
Emission allowances	\$ 6	\$ 24	\$ 28
Customer and supply contracts	141	66	12
Customer relationships	269	327	74
Marketing partnerships	23	24	24
Trade names	47	47	27
Other ^(a)	4	7	3
Total amortization	\$ 490	\$ 495	\$ 168

(a) For the years ended December 31, 2022, 2021 and 2020, other intangibles were amortized to depreciation and amortization expense for \$4 million, \$3 million and \$3 million, respectively

The following table presents estimated amortization of NRG's intangible assets as of December 31, 2022 for each of the next five years:

(In millions)

Year Ended December 31,	Emission Allowances	Customer and Supply Contracts	Customer Relationships	Marketing Partnerships	Trade Names	Other	Total
2023	\$ 18	\$ 119	\$ 226	\$ 23	\$ 46	\$ 4	\$ 436
2024	19	73	159	23	38	3	315
2025	18	50	118	22	31	4	243
2026	10	52	103	22	23	3	213
2027	10	30	74	22	23	3	162

Intangible assets held-for-sale — From time to time, management may authorize the transfer from the Company's emission bank of emission allowances held-for-use to intangible assets held-for-sale. Emission allowances held-for-sale are included in other non-current assets on the Company's consolidated balance sheet and are not amortized, but rather expensed as sold. As of December 31, 2022 and 2021, the value of emission allowances held-for-sale was \$8 million and \$15 million, respectively, within the Corporate segment. Once transferred to held-for-sale, these emission allowances are prohibited from moving back to held-for-use.

Note 14 — Asset Retirement Obligations

The Company's AROs are primarily related to the environmental obligations for nuclear decommissioning, mine reclamation, ash disposal, site closures, fuel storage facilities and future dismantlement of equipment on leased property. In addition, the Company has also identified conditional AROs for asbestos removal and disposal, which are specific to certain power generation operations.

See Note 7, *Nuclear Decommissioning Trust Fund*, for a further discussion of the Company's nuclear decommissioning obligations. Accretion for the nuclear decommissioning ARO and amortization of the related ARO asset are recorded to the Nuclear Decommissioning Trust Liability to the ratepayers and are not included in net income, consistent with treatment per ASC 980, *Regulated Operations*.

The following table represents the balance of ARO obligations as of December 31, 2022 and 2021, along with the additions, reductions and accretion related to the Company's ARO obligations for the year ended December 31, 2022:

(In millions)	Nuclear Decommission	Other ^(a)	Total
Balance as of December 31, 2021	\$ 321	\$ 399	\$ 720
Revisions in estimates for current obligations	—	38	38
Additions	—	1	1
Spending for current obligations	—	(33)	(33)
Accretion	19	19	38
Other	—	(6)	(6)
Balance as of December 31, 2022	\$ 340	\$ 418	\$ 758

(a) Total accretion expense related to asset retirement obligations included in the consolidated statement of cash flows includes accretion and revisions in estimates for asset retirement liabilities on non-operating plants

Note 13 — Long-term Debt and Finance Leases

Long-term debt and finance leases consisted of the following:

(In millions, except rates)	December 31, 2022	December 31, 2021	Interest rate %
Recourse debt:			
Senior Notes, due 2027	\$ 375	\$ 375	6.625
Senior Notes, due 2028	821	821	5.750
Senior Notes, due 2029	733	733	5.250
Senior Notes, due 2029	500	500	3.375
Senior Notes, due 2031	1,030	1,030	3.625
Senior Notes, due 2032	1,100	1,100	3.875
Convertible Senior Notes, due 2048 ^(a)	575	575	2.750
Senior Secured First Lien Notes, due 2024	600	600	3.750
Senior Secured First Lien Notes, due 2025	500	500	2.000
Senior Secured First Lien Notes, due 2027	900	900	2.450
Senior Secured First Lien Notes, due 2029	500	500	4.450
Tax-exempt bonds	466	466	1.250 - 4.750
Subtotal long-term debt (including current maturities)	8,100	8,100	
Finance leases	11	13	various
Subtotal long-term debt and finance leases (including current maturities)	8,111	8,113	
Less current maturities	(63)	(4)	
Less debt issuance costs	(70)	(83)	
Discounts	(2)	(60)	
Total long-term debt and finance leases	<u>\$ 7,976</u>	<u>\$ 7,966</u>	

(a) As of the ex-dividend date of January 31, 2023, the Convertible Senior Notes were convertible at a price of \$43.01, which is equivalent to a conversion rate of approximately 23.2527 shares of common stock per \$1,000 principal amount.

Debt includes the following discounts:

(In millions)	As of December 31,	
	2022	2021
Senior Secured First Lien Notes, due 2024, 2025, 2027 and 2029	\$ (2)	\$ (2)
Convertible Senior Notes, due 2048	—	(58)
Total discounts	<u>\$ (2)</u>	<u>\$ (60)</u>

Consolidated Annual Maturities

As of December 31, 2022, annual payments based on the maturities of NRG's debt and finance leases are expected to be as follows:

	(In millions)
2023	\$ 63
2024	604
2025	749
2026	1
2027	1,275
Thereafter	5,419
Total	<u>\$ 8,111</u>

Revolving Credit Facility

On February 14, 2023 (the “Revolving Credit Facility Amendment Effective Date”), the Company amended its Revolving Credit Facility to: (i) increase the existing revolving commitments thereunder by \$600 million (the “Incremental Commitment”), (ii) extend the maturity date of a portion of the revolving commitments thereunder to February 14, 2028, (iii) transition the benchmark rate applicable to revolving loans from LIBOR to SOFR and (iv) make certain other amendments to the terms of the Revolving Credit Facility for purposes of, among other things, providing additional flexibility.

After giving effect to the Incremental Commitment on the Revolving Credit Facility Amendment Effective Date, the Company will have a total of \$4.275 billion of revolving commitments under the Revolving Credit Facility. The full amount of the Incremental Commitment was made available from and after the Revolving Credit Facility Amendment Effective Date but will be reduced by \$500 million if the Vivint acquisition is not consummated. A portion of the non-extended revolving commitments will terminate on July 5, 2023, with the remaining portion terminating on May 28, 2024, in each case, unless otherwise extended.

The Revolving Credit Facility is guaranteed by NRG’s existing and future direct and indirect subsidiaries, with customary and agreed-upon exceptions, for, among other exceptions, unrestricted subsidiaries, foreign subsidiaries, project subsidiaries, immaterial subsidiaries, captive insurance subsidiaries and securitization vehicles. The Revolving Credit Facility is also secured by a first priority perfected security interest in a substantial portion of the property and assets owned by NRG and its subsidiaries that are guarantors under the Revolving Credit Facility, subject to certain exceptions that include, among other things, the capital stock of certain specified subsidiaries, including unrestricted subsidiaries and certain excluded subsidiaries, equity interests in excess of 66% of the total outstanding voting equity interests of certain foreign subsidiaries, equity interests the pledge of which is prohibited by applicable agreements binding on such subsidiaries and other assets that may be designated by NRG as excluded from the collateral that, when taken together with all other assets so designated since the Revolving Credit Facility Amendment Effective Date, have an aggregate fair market value not exceeding \$750 million. The Revolving Credit Facility is secured on a pari passu basis with certain interest rate, foreign currency and commodity hedging obligations of NRG, the Senior Secured Notes and certain other indebtedness.

The Revolving Credit Facility contains customary covenants, which, among other things, require NRG to maintain a minimum interest coverage ratio and a maximum first lien leverage ratio on a consolidated basis and limit NRG’s ability to:

- incur indebtedness and liens and enter into sale and lease-back transactions;
- make investments, loans and advances;
- return capital to shareholders;
- repay subordinated indebtedness;
- consummate mergers, consolidations and asset sales;
- enter into affiliate transactions; and
- change its fiscal year-end.

As of December 31, 2022, there were no outstanding borrowings and there were \$1.6 billion in letters of credit issued under the Revolving Credit Facility.

Senior Notes

Issuance of 2032 Senior Notes

On August 23, 2021, the Company issued \$1.1 billion of aggregate principal amount of 3.875% senior notes due 2032. The 2032 Senior Notes are senior unsecured obligations of NRG and are guaranteed by certain of its subsidiaries. Interest is paid semi-annually beginning on February 15, 2022 until the maturity date of February 15, 2032. The 2032 Senior Notes were issued under NRG’s Sustainability-Linked Bond Framework, which sets out certain sustainability targets, including reducing greenhouse gas emissions. Failure to meet such sustainability targets will result in a 25 basis point increase to the interest rate payable on the 2032 Senior Notes from and including August 15, 2026. The proceeds of the 2032 Senior Notes, along with cash on hand, were used to fund the redemption of \$1.0 billion aggregate principal amount of the 7.250% Senior Notes due 2026 and \$355 million aggregate principal amounts of the 6.625% Senior Notes due 2027.

Senior Note Redemptions

During the year ended December 31, 2021, the Company redeemed approximately \$1.9 billion in aggregate principal amount of its Senior Notes for \$1.9 billion using the proceeds of the 2032 Senior Notes and cash on hand, as detailed in the table below. In connection with the redemptions, a \$77 million loss on debt extinguishment was recorded, which included the write-off of previously deferred financing costs of \$12 million.

(In millions, except percentages)	Principal Repurchased	Cash Paid ^(a)	Average Early Redemption Percentage
7.250% Senior Notes, due 2026	\$ 1,000	\$ 1,056	103.625 %
6.625% Senior Notes, due 2027	855	893	103.313 %
Total	\$ 1,855	\$ 1,949	

(a) Includes accrued interest of \$29 million for redemptions for the year ended December 31, 2021

2048 Convertible Senior Notes

Accounting for Convertible Senior Notes — Upon issuance in 2018, the Convertible Senior Notes were separated into liability and equity components for accounting purposes. The carrying amount of the liability component was initially calculated by measuring the fair value of similar liabilities that do not have an associated convertible feature. The carrying amount of the equity component representing the conversion option was determined by deducting the fair value of the liability component from the par value of the Convertible Senior Notes. This difference represented the debt discount that was amortized to interest expense over seven years, which was determined to be the expected life of the Convertible Senior Notes, using the effective interest rate method. The equity component was recorded in additional paid-in capital and was not remeasured as it continued to meet the conditions for equity classification.

Following the adoption of ASU 2020-06 as of January 1, 2022, the Company no longer records the conversion feature of its convertible senior notes in equity. Instead, the Company combined the previously separated equity component with the liability component, which together is now classified as debt, thereby eliminating the subsequent amortization of the debt discount as interest expense. As a result of the provisions of the amended guidance, the Company recorded a \$100 million decrease to additional paid-in capital, a \$57 million decrease to debt discount, a \$57 million increase to retained earnings, and a \$14 million decrease to long-term deferred tax liabilities. For more information on the adoption of ASU 2020-06, refer to Note 2, *Summary of Significant Accounting Policies*.

Modification to Convertible Senior Notes — On February 22, 2022, the Company irrevocably elected to eliminate the right to settle conversions only in shares of the Company's common stock, such that any conversion after such date, the Company will pay cash per \$1,000 principal amount and will settle in cash or a combination of cash and the Company's common stock for the remainder, if any, of the Company's conversion obligation in excess of the aggregate principal amount.

Convertible Senior Notes Features — As of December 31, 2022, the Convertible Senior Notes were convertible, under certain circumstances, into cash or a combination of cash and the Company's common stock at a price of \$43.46 per common share, which is equivalent to a conversion rate of approximately 23.0116 shares of common stock per \$1,000 principal amount of Convertible Senior Notes. As of December 31, 2021, the Convertible Senior Notes were convertible at a price of \$44.89 per common share, which is equivalent to a conversion rate of approximately 22.2761 shares of common stock per \$1,000 principal amount of Convertible Senior Notes. The net carrying amounts of the Convertible Senior Notes as of December 31, 2022 and December 31, 2021 were \$570 million and \$512 million, respectively. The Convertible Senior Notes mature on June 1, 2048, unless earlier repurchased, redeemed or converted in accordance with their terms. The Convertible Senior notes are convertible at the option of the holders under certain circumstances. Prior to the close of business on the business day immediately preceding December 1, 2024, the Convertible Senior Notes will be convertible only upon the occurrence of certain events and during certain periods, and thereafter during specified periods as follows:

- from December 1, 2024 until the close of business on the second scheduled trading day immediately before June 1, 2025; and
- from December 1, 2047 until the close of business on the second scheduled trading day immediately before the maturity date

The following table details the interest expense recorded in connection with the Convertible Senior Notes, due 2048:

(\$ In millions)	For the years ended December 31,		
	2022	2021	2020
Contractual interest expense	\$ 16	\$ 16	\$ 16
Amortization of discount and deferred finance costs ^(a)	1	15	14
Total	\$ 17	\$ 31	\$ 30
Effective Interest Rate	3.01 %	5.34 %	5.19 %

(a) Upon adoption of ASU 2020-06 on January 1, 2022, which resulted in the removal of the debt discount, no further debt discount amortization is being recorded

Senior Notes Early Redemption

As of December 31, 2022, NRG had the following outstanding issuances of senior notes with an early redemption feature, or Senior Notes:

- i. 6.625% senior notes, issued August 2, 2016 and due January 15, 2027, or the 2027 Senior Notes;
- ii. 5.750% senior notes, issued December 7, 2017 and due January 15, 2028, or the 2028 Senior Notes;
- iii. 5.250% senior notes, issued May 24, 2019 and due June 15, 2029, or the 2029 Senior Notes;
- iv. 3.375% senior notes, issued December 2, 2020 and due February 15, 2029, or the 3.375% 2029 Senior Notes;
- v. 3.625% senior notes, issued December 2, 2020 and due February 15, 2031, or the 2031 Senior Notes; and
- vi. 3.875% senior notes, issued August 23, 2021 and due February 15, 2032, or the 2032 Senior Notes.

The Company periodically enters into supplemental indentures for the purpose of adding entities under the Senior Notes as guarantors.

The indentures and the forms of notes provide, among other things, that the Senior Notes will be senior unsecured obligations of NRG. The indentures also provide for customary events of default, which include, among others: nonpayment of principal or interest; breach of other agreements in the indentures; defaults in failure to pay certain other indebtedness; the rendering of judgments to pay certain amounts of money against NRG and its subsidiaries; the failure of certain guarantees to be enforceable; and certain events of bankruptcy or insolvency. Generally, if an event of default occurs, the Trustee or the Holders of at least 25% or 30% (depending on the series of Senior Notes) in principal amount of the then outstanding series of Senior Notes may declare all of the Senior Notes of such series to be due and payable immediately. The terms of the indentures, among other things, limit NRG's ability and certain of its subsidiaries' ability to return capital to stockholders, grant liens on assets to lenders and incur additional debt. Interest is payable semi-annually on the Senior Notes until their maturity dates.

2027 Senior Notes

NRG may redeem some or all of the 2027 Senior Notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	Redemption Percentage
July 15, 2022 to July 14, 2023	102.208 %
July 15, 2023 to July 14, 2024	101.104 %
July 15, 2024 and thereafter	100.000 %

2028 Senior Notes

NRG may redeem some or all of the 2028 Senior Notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	Redemption Percentage
January 15, 2023 to January 14, 2024	102.875 %
January 15, 2024 to January 14, 2025	101.917 %
January 15, 2025 to January 14, 2026	100.958 %
January 15, 2026 and thereafter	100.000 %

5.250% 2029 Senior Notes

At any time prior to June 15, 2024, NRG may redeem all or a part of the 2029 Senior Notes, at a redemption price equal to 100% of the principal amount of the notes redeemed, plus accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of the principal amount of the note over the following: the present value of 102.625% of the note, plus interest payments due on the note through June 15, 2024 (excluding accrued but unpaid interest to the redemption date), computed using a discount rate equal to the Treasury Rate as of such redemption date plus 0.50%. In addition, on or after June 15, 2024, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	Redemption Percentage
June 15, 2024 to June 14, 2025	102.625 %
June 15, 2025 to June 14, 2026	101.750 %
June 15, 2026 to June 14, 2027	100.875 %
June 15, 2027 and thereafter	100.000 %

3.375% 2029 Senior Notes

At any time prior to February 15, 2024, NRG may redeem up to 40% of the aggregate principal amount of the 2029 Senior Notes, at a redemption price equal to 103.375% of the principal amount of the notes redeemed, plus accrued and unpaid interest, with an amount equal to the net cash proceeds of certain equity offerings, provided that at least 50% of the aggregate principal amount remains outstanding immediately after the occurrence of such redemption. At any time prior to February 15, 2024, NRG may redeem all or a part of the 2029 Senior Notes, at a redemption price equal to 100% of the principal amount of the notes redeemed, plus accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of the principal amount of the note over the following: the present value of 101.688% of the note, plus interest payments due on the note through February 15, 2024 (excluding accrued but unpaid interest to the redemption date), computed using a discount rate equal to the Treasury Rate as of such redemption date plus 0.50%. In addition, on or after February 15, 2024, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	Redemption Percentage
February 15, 2024 to February 14, 2025	101.688 %
February 15, 2025 to February 14, 2026	100.844 %
February 15, 2026 and thereafter	100.000 %

2031 Senior Notes

At any time prior to February 15, 2026, NRG may redeem up to 40% of the aggregate principal amount of the 2031 Senior Notes, at a redemption price equal to 103.625% of the principal amount of the notes redeemed, plus accrued and unpaid interest, with an amount equal to the net cash proceeds of certain equity offerings, provided that at least 50% of the aggregate principal amount remains outstanding immediately after the occurrence of such redemption. At any time prior to February 15, 2026, NRG may redeem all or a part of the 2031 Senior Notes, at a redemption price equal to 100% of the principal amount of the notes redeemed, plus accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of the principal amount of the note over the following: the present value of 101.813% of the note, plus interest payments due on the note through February 15, 2026 (excluding accrued but unpaid interest to the redemption date), computed using a discount rate equal to the Treasury Rate as of such redemption date plus 0.50%. In addition, on or after February 15, 2026, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Redemption Period	Redemption Percentage
February 15, 2026 to February 14, 2027	101.813 %
February 15, 2027 to February 14, 2028	101.208 %
February 15, 2028 to February 14, 2029	100.604 %
February 15, 2029 and thereafter	100.000 %

2032 Senior Notes

At any time prior to August 15, 2024, NRG may redeem up to 40% of the aggregate principal amount of the 2032 Senior Notes, at a redemption price equal to 103.875% of the principal amount of the notes redeemed, plus accrued and unpaid interest, with an amount equal to the net cash proceeds of certain equity offerings, provided that at least 50% of the aggregate principal amount remains outstanding immediately after the occurrence of such redemption. At any time prior to February 15, 2027, NRG may redeem all or a part of the 2032 Senior Notes, at a redemption price equal to 100% of the principal amount of the notes redeemed, plus accrued and unpaid interest to the redemption date, plus a premium. The premium is the greater of: (i) 1% of the principal amount of the notes; or (ii) the excess of (A) the present value of (1) the redemption price of the note at February 15, 2027 (such redemption price being set forth in the table appearing below in the column "Redemption Percentage (If Sustainability Performance Target has not been satisfied and/or confirmed by External Verifier)" unless the Sustainability Performance Target has been satisfied in respect of the year ended December 31, 2025 and the Company has provided confirmation thereof to the Trustee together with a related confirmation by the External Verifier by the date that is at least 15 days prior to August 15, 2026 in which case the redemption price shall be as set forth in the column "Redemption Percentage (If Sustainability Performance Target has been satisfied and confirmed by External Verifier)") plus (2) interest payments due on the note through February 15, 2027 (excluding accrued but unpaid interest to the redemption date) computed using a discount rate equal to the Treasury Rate as of such redemption date plus 0.50%, over (B) the principal amount of the note. In addition, on or after February 15, 2027, NRG may redeem some or all of the notes at redemption prices expressed as percentages of principal amount as set forth in the following table during the twelve-month period beginning on February 15 of the years indicated below, plus accrued and unpaid interest on the notes redeemed to the first applicable redemption date:

Year	Redemption Percentage (If Sustainability Performance Target has been satisfied and confirmed by External Verifier)	Redemption Percentage (If Sustainability Performance Target has not been satisfied and/or confirmed by External Verifier)
2027	101.938 %	102.188 %
2028	101.292 %	101.458 %
2029	100.646 %	100.729 %
2030 and thereafter	100.000 %	100.000 %

Receivables Facility

In 2020, NRG Receivables LLC, a bankruptcy remote, special purpose, indirect wholly owned subsidiary, entered into the Receivables Facility for an amount up to \$750 million, subject to adjustments on a seasonal basis, with issuers of asset-backed commercial paper and commercial banks (the "Lenders".) The assets of NRG Receivables LLC are first available to satisfy the claims of the Lenders before making payments on the subordinated note and equity issued by NRG Receivables LLC. The assets of NRG Receivables LLC are not available to the Company and its subsidiaries or creditors unless and until distributed by NRG Receivables LLC. Under the Receivables Facility, certain indirect subsidiaries of the Company sell their accounts receivables to NRG Receivables LLC, subject to certain terms and conditions. In turn, NRG Receivables LLC grants a security

interest in the purchased receivables to the Lenders as collateral for cash borrowings and issuances of letters of credit. Pursuant to the Performance Guaranty, the Company has guaranteed, for the benefit of NRG Receivables and the Lenders, the payment and performance by each indirect subsidiary of its respective obligations under the Receivables Facility. The accounts receivables remain on the Company's consolidated balance sheet and any amounts funded by the Lenders to NRG Receivables LLC will be reflected as short-term borrowings. Cash flows from the Receivables Facility are reflected as financing activities in the Company's consolidated statements of cash flows. The Company will continue to service the accounts receivables sold in exchange for a servicing fee.

On July 26, 2022, NRG Receivables LLC, a wholly-owned indirect subsidiary of the Company, entered into an amendment to its Receivables Facility dated September 22, 2020 with a group of conduit lenders and banks and Royal Bank of Canada, as Administrative Agent to, among other things, (i) extend the scheduled termination date by one year, (ii) increase the aggregate commitments from \$800 million to \$1.0 billion, (iii) increase the letter of credit sublimit to equal the aggregate commitments, (iv) replace LIBOR with Term SOFR as the benchmark for borrowings and (v) add new originators. Borrowings by NRG Receivables LLC under the Receivables Facility bear interest as defined under the Receivables Financing Agreement. The weighted average interest rate related to usage under the Receivables Facility as of December 31, 2022 was 0.844%. As of December 31, 2022, there were no outstanding borrowings and there were \$721 million in letters of credit issued under the Receivables Facility.

Repurchase Facility

In 2020, the Company entered into the Repurchase Facility related to the Receivables Facility. Under the Repurchase Facility, the Company can borrow up to \$75 million, collateralized by a subordinated note issued by NRG Receivables LLC to NRG Retail LLC in favor of the originating entities representing a portion of the balance of receivables sold to NRG Receivables LLC under the Receivables Facility.

On February 9, 2022, the Company entered into amendments to its existing Repurchase Facility to, among other things, (i) increase the size of the facility from \$75 million to \$150 million and (ii) replace LIBOR with term SOFR as the benchmark for the pricing rate. On July 26, 2022, the Company renewed its existing Repurchase Facility to, among other things, extend the maturity date to July 26, 2023. The Repurchase Facility has no commitment fee and borrowings will be drawn at SOFR + 1.30%. As of December 31, 2022, there were no outstanding borrowings under the Repurchase Facility.

Bilateral Letter of Credit Facilities

On April 29, 2022, May 27, 2022 and October 13, 2022, the Company increased the size of the facilities by \$100 million, \$50 million and \$50 million respectively, to provide additional liquidity, allowing for the issuance of up to \$675 million of letters of credit. These facilities are uncommitted. As of December 31, 2022, \$668 million was issued under these facilities.

Tax Exempt Bonds

(In millions, except rates)	As of December 31,		Interest Rate %
	2022	2021	
NRG Indian River Power 2020, tax exempt bonds, due 2040	\$ 57	\$ 57	1.250
NRG Indian River Power 2020, tax exempt bonds, due 2045	190	190	1.250
NRG Dunkirk 2020, tax exempt bonds, due 2042	59	59	1.300
City of Texas City, tax exempt bonds, due 2045	33	33	4.125
Fort Bend County, tax exempt bonds, due 2038	54	54	4.750
Fort Bend County, tax exempt bonds, due 2042	73	73	4.750
Total	<u>\$ 466</u>	<u>\$ 466</u>	

Note 15 — Benefit Plans and Other Postretirement Benefits

NRG sponsors and operates defined benefit pension and other postretirement plans.

NRG pension benefits are available to eligible non-union and union employees through various defined benefit pension plans. These benefits are based on pay, service history and age at retirement. Most pension benefits are provided through tax-qualified plans. NRG also provides postretirement health and welfare benefits for certain groups of employees. Cost sharing provisions vary by the terms of any applicable collective bargaining agreements.

NRG maintains three separate qualified pension plans, the NRG Pension Plan for Bargained Employees, the NRG Pension Plan and the Pension Plan for Employees of Direct Energy Marketing Limited ("DEML"). Participation in the NRG Pension Plan for Bargained Employees depends upon whether an employee is covered by a bargaining agreement. The NRG Pension

plan was frozen for non-union employees on December 31, 2018. The Pension Plan for Employees of DEML is closed to new participants.

NRG expects to contribute \$83 million to the Company's pension plans in 2023, of which \$45 million relates to the GenOn plan.

NRG Defined Benefit Plans

The annual net periodic benefit cost/(credit) related to NRG's pension and other postretirement benefit plans include the following components:

(In millions)	Year Ended December 31,		
	Pension Benefits		
	2022	2021	2020
Service cost benefits earned	\$ 7	\$ 9	\$ 10
Interest cost on benefit obligation	41	27	38
Expected return on plan assets	(47)	(66)	(61)
Amortization of unrecognized net loss	3	1	5
Settlement/curtailment expense	14	2	—
Net periodic benefit cost/(credit)	\$ 18	\$ (27)	\$ (8)

(In millions)	Year Ended December 31,		
	Other Postretirement Benefits		
	2022	2021	2020
Interest cost on benefit obligation	\$ 2	\$ 2	\$ 3
Amortization of unrecognized prior service cost	(8)	(10)	(14)
Amortization of unrecognized net loss	2	1	1
Curtailment loss	—	1	—
Net periodic benefit credit	\$ (4)	\$ (6)	\$ (10)

A comparison of the pension benefit obligation, other postretirement benefit obligations and related plan assets for NRG's plans on a combined basis is as follows:

(In millions)	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
	2022	2021	2022	2021
Benefit obligation at January 1	\$ 1,452	\$ 1,489	\$ 105	\$ 90
Acquired benefit obligation from Direct Energy	—	74	—	19
Service cost	7	9	—	—
Interest cost	41	27	2	2
Actuarial gain	(289)	(55)	(11)	—
Employee and retiree contributions	—	—	3	3
Curtailment loss	—	—	—	1
Benefit payments	(171)	(93)	(15)	(10)
Foreign exchange translation	(4)	1	—	—
Benefit obligation at December 31	1,036	1,452	84	105
Fair value of plan assets at January 1	1,336	1,272	—	—
Acquired fair value of plan assets from Direct Energy	—	64	—	—
Actual return on plan assets	(317)	85	—	—
Employee and retiree contributions	—	—	3	3
Employer contributions	—	7	12	7
Benefit payments	(171)	(93)	(15)	(10)
Foreign exchange translation	(4)	1	—	—
Fair value of plan assets at December 31	844	1,336	—	—
Funded status at December 31 — excess of obligation over assets	\$ (192)	\$ (116)	\$ (84)	\$ (105)

During the year ended December 31, 2022, the actuarial gain of \$289 million on pension benefits was primarily driven by increasing discount rates.

During the year ended December 31, 2021, the actuarial gain of \$55 million on pension benefits was primarily driven by increasing discount rates and changes in demographic assumptions.

Amounts recognized in NRG's balance sheets were as follows:

(In millions)	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
	2022	2021	2022	2021
Other current liabilities	\$ —	\$ —	\$ 7	\$ 7
Other non-current liabilities	192	116	77	98

Amounts recognized in NRG's accumulated OCI that have not yet been recognized as components of net periodic benefit cost were as follows:

(In millions)	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
	2022	2021	2022	2021
Net loss/(gain)	\$ 110	\$ 52	\$ (7)	\$ 5
Prior service cost/(credit)	1	2	(12)	(19)
Total accumulated OCI	\$ 111	\$ 54	\$ (19)	\$ (14)

Other changes in plan assets and benefit obligations recognized in OCI were as follows:

(In millions)	Year Ended December 31,			
	Pension Benefits		Other Postretirement Benefits	
	2022	2021	2022	2021
Net actuarial loss/(gain)	\$ 74	\$ (72)	\$ (11)	\$ —
Amortization of net actuarial loss	(3)	(1)	(2)	(1)
Amortization of prior service cost	—	—	8	10
Effect of settlement/curtailment	(14)	(2)	—	—
Total recognized in OCI	\$ 57	\$ (75)	\$ (5)	\$ 9
Net periodic benefit cost/(credit)	18	(27)	(4)	(6)
Net recognized in net periodic pension cost/(credit) and OCI	\$ 75	\$ (102)	\$ (9)	\$ 3

The following table presents the balances of significant components of NRG's pension plan:

(In millions)	As of December 31,	
	Pension Benefits	
	2022	2021
Projected benefit obligation	\$ 1,036	\$ 1,452
Accumulated benefit obligation	1,022	1,423
Fair value of plan assets	844	1,336

NRG's market-related value of its plan assets is the fair value of the assets. The fair values of the Company's pension plan assets by asset category and their level within the fair value hierarchy are as follows:

(In millions)	Fair Value Measurements as of December 31, 2022		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Total
	Common/collective trust investment — U.S. equity	\$ —	\$ 155
Common/collective trust investment — non-U.S. equity	—	65	65
Common/collective trust investment — non-core assets	—	90	90
Common/collective trust investment — fixed income	—	181	181
Short-term investment fund	22	—	22
Subtotal fair value	\$ 22	\$ 491	\$ 513
Measured at net asset value practical expedient:			
Common/collective trust investment — non-U.S. equity			33
Common/collective trust investment — fixed income			220
Common/collective trust investment — non-core assets			55
Partnerships/joint ventures			23
Total fair value			\$ 844

Fair Value Measurements as of December 31, 2021

(In millions)	Fair Value Measurements as of December 31, 2021		Total
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	
Common/collective trust investment — U.S. equity	\$ —	\$ 221	\$ 221
Common/collective trust investment — non-U.S. equity	—	69	69
Common/collective trust investment — non-core assets	—	110	110
Common/collective trust investment — fixed income	—	340	340
Short-term investment fund	13	—	13
Subtotal fair value	\$ 13	\$ 740	\$ 753
Measured at net asset value practical expedient:			
Common/collective trust investment — non-U.S. equity			78
Common/collective trust investment — fixed income			405
Common/collective trust investment — non-core assets			65
Partnerships/joint ventures			35
Total fair value			<u>\$ 1,336</u>

In accordance with ASC 820, the Company determines the level in the fair value hierarchy within which each fair value measurement in its entirety falls, based on the lowest level input that is significant to the fair value measurement in its entirety. The fair value of the common/collective trust investments is valued at fair value which is equal to the sum of the market value of all of the fund's underlying investments. Certain common/collective trust investments have readily determinable fair value as they publish daily net asset value, or NAV, per share and are categorized as Level 2. Certain other common/collective trust investments and partnerships/joint ventures use NAV per share, or its equivalent, as a practical expedient for valuation, and thus have been removed from the fair value hierarchy table.

The following table presents the significant assumptions used to calculate NRG's benefit obligations:

Weighted-Average Assumptions	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
	2022	2021	2022	2021
Discount rate	5.18 %	2.89 %	5.19 %	2.89 %
Interest crediting rate	5.21 %	3.07 %	4.00 %	1.94 %
Rate of compensation increase	3.06 %	3.06 %	— %	— %
Health care trend rate	—	—	7.0% grading to 4.4% in 2031	6.8% grading to 4.4% in 2028

The following table presents the significant assumptions used to calculate NRG's benefit expense:

Weighted-Average Assumptions	As of December 31,					
	Pension Benefits			Other Postretirement Benefits		
	2022	2021	2020	2022	2021	2020
Discount rate	2.89%/4.71%/5.41%	2.55 %	3.26 %	2.82 %	2.81 %	3.26 %
Interest crediting rate	3.07 %	3.13 %	3.66 %	1.94 %	1.62 %	2.28 %
Expected return on plan assets	4.99 %	5.62 %	5.93 %	—	—	—
Rate of compensation increase	3.06 %	3.06 %	3.00 %	—	—	—
Health care trend rate	—	—	—	6.9% grading to 4.4% in 2028	7.0% grading to 4.4% in 2028	7.5% grading to 4.5% in 2028

NRG uses December 31 of each respective year as the measurement date for the Company's pension and other postretirement benefit plans. The Company sets the discount rate assumptions on an annual basis for each of NRG's defined benefit retirement plans as of December 31. The discount rate assumptions represent the current rate at which the associated liabilities could be effectively settled at December 31. The Company utilizes the Aon AA Above Median, or AA-AM, yield curve and the AON Canada yield curve to select the appropriate discount rate assumption for its retirement plans. The AA-AM yield curve is a hypothetical AA yield curve represented by a series of annualized individual spot discount rates from 6 months to 99 years. Under the AA-AM yield curve, each bond issue used to build this yield curve must be non-callable, and have an average rating of AA when averaging available Moody's Investor Services, Standard & Poor's and Fitch ratings. The AON Canada yield curve is based on high quality corporate bonds. Under the AON Canada yield curve, expected plan cash flows were discounted using the yield curve, and then a single rate is determined which produces an equivalent present value.

NRG employs a total return investment approach, whereby a mix of equities and fixed income investments are used to maximize the long-term return of plan assets for a prudent level of risk. Risk tolerance is established through careful consideration of plan liabilities, plan funded status, and corporate financial condition. The Investment Committee reviews the asset mix periodically and as the plan assets increase in future years, the Investment Committee may examine other asset classes such as real estate or private equity. NRG employs a building block approach to determining the long-term rate of return assumption for plan assets, with proper consideration given to diversification and rebalancing. Historical markets are studied and long-term historical relationships between equities and fixed income are preserved, consistent with the widely accepted capital market principle that assets with higher volatility generate a greater return over the long run. Current factors such as inflation and interest rates are evaluated before long-term capital market assumptions are determined. Peer data and historical returns are reviewed to check for reasonableness and appropriateness.

The target allocations of NRG's pension plan assets were as follows for the year ended December 31, 2022:

U.S. equity	21 %
Non-U.S. equity	14 %
Non-core assets	18 %
Fixed Income	47 %

Plan assets are currently invested in a diversified blend of equity and fixed-income investments. Furthermore, equity investments are diversified across U.S., non-U.S., global, and emerging market equities, as well as among growth, value, small and large capitalization stocks.

Investment risk and performance are monitored on an ongoing basis through quarterly portfolio reviews of each asset fund class to a related performance benchmark, if applicable, and annual pension liability measurements. Performance benchmarks are composed of the following indices:

Asset Class	Index
U.S. equities	Dow Jones U.S. Total Stock Market Index
Non-U.S. equities	MSCI All Country World Index
Non-core assets ^(a)	Various (per underlying asset class)
Fixed income securities	Barclays Short, Intermediate and Long Credits/Barclays Strips 20+ Index and FTSE Canada Universe Bond Index

(a) Non-Core Assets are defined as diversifying asset classes approved by the Investment Committee that are intended to enhance returns and/or reduce volatility of the U.S. and non-U.S. equities. Asset classes considered Non-Core include, but may not be limited to: Emerging Market Equity, Emerging Market Debt, Non-US Developed Market Small Cap, High Yield Fixed Income, Real Estate, Bank Loans, Global Infrastructure and other Alternatives.

NRG's expected future benefit payments for each of the next five years, and in the aggregate for the five years thereafter, are as follows:

(In millions)	Pension		Other Postretirement Benefit	
	Benefit Payments	Benefit Payments	Benefit Payments	Medicare Prescription Drug Reimbursements
2023	\$ 83	\$ 7	\$ —	—
2024	81	7	—	—
2025	79	6	—	—
2026	77	6	—	—
2027	76	6	—	—
2028-2032	361	27	—	2

STP Defined Benefit Plans

NRG has a 44% undivided ownership interest in STP, as discussed further in Note 28, *Jointly Owned Plants*. STPNOC, which operates and maintains STP, provides its employees a defined benefit pension plan, as well as postretirement health and welfare benefits. Although NRG does not sponsor the STP plan, it reimburses STPNOC for 44% of the contributions made towards its retirement plan obligations. The STPNOC defined benefit pension plan was frozen to all employees during 2021.

For the years ended December 31, 2022 and December 31, 2021, NRG reimbursed STPNOC \$18 million and \$17 million, respectively, for its contribution to the plans. In 2023, NRG expects to reimburse STPNOC \$10 million for its contribution to the plan.

The Company has recognized the following in its statement of financial position, statement of operations and accumulated OCI related to its 44% interest in STP:

(In millions)	As of December 31,			
	Pension Benefits		Other Postretirement Benefits	
	2022	2021	2022	2021
Funded status — STPNOC benefit plans	\$ (7)	\$ (50)	\$ (13)	\$ (18)
Net periodic benefit cost/(credit)	2	17	(4)	(4)
Other changes in plan assets and benefit obligations recognized in other comprehensive income	(27)	(51)	1	4

Defined Contribution Plans

NRG's employees are also eligible to participate in defined contribution 401(k) plans.

The Company's contributions to these plans were as follows:

(In millions)	Year Ended December 31,		
	2022	2021	2020
Company contributions to defined contribution plans	\$ 26	\$ 25	\$ 22

Note 16 — Capital Structure

For the period from December 31, 2019 to December 31, 2022, the Company had 10,000,000 shares of preferred stock authorized and 500,000,000 shares of common stock authorized. The following table reflects the changes in NRG's common shares issued and outstanding for each period presented:

	Common Shares		
	Issued	Treasury	Outstanding
Balance as of December 31, 2019	421,890,790	(172,894,601)	248,996,189
Shares issued under ESPP	—	131,469	131,469
Shares issued under LTIPs	1,167,058	—	1,167,058
Share repurchases	—	(6,062,783)	(6,062,783)
Balance as of December 31, 2020	423,057,848	(178,825,915)	244,231,933
Shares issued under ESPP	—	117,392	117,392
Shares issued under LTIPs	489,326	—	489,326
Share repurchases	—	(1,084,752)	(1,084,752)
Balance as of December 31, 2021	423,547,174	(179,793,275)	243,753,899
Shares issued under ESPP	—	142,825	142,825
Shares issued under LTIPs	349,827	—	349,827
Share repurchases	—	(14,685,521)	(14,685,521)
Balance as of December 31, 2022	423,897,001	(194,335,971)	229,561,030
Shares issued under LTIPs	213,208	—	213,208
Balance as of February 15, 2023	424,110,209	(194,335,971)	229,774,238

Common Stock

As of December 31, 2022, NRG had 14,022,916 shares of common stock reserved for the maximum number of shares potentially issuable based on the conversion and redemption features of the long-term incentive plans.

Common stock dividends — The Company declared and paid \$0.350, \$0.325 and \$0.30 quarterly dividend per common share, or \$1.40, \$1.30 and \$1.20 per share on an annualized basis for 2022, 2021 and 2020 respectively.

In the first quarter of 2020, NRG increased the annual dividend to \$1.20 from \$0.12 per share, as part of a long-term capital allocation policy adopted in the fourth quarter of 2019. In 2021, 2022 and 2023, NRG increased the annual dividend to \$1.30, \$1.40 and \$1.51 per share, respectively, representing an 8% increase each year. The long-term capital allocation policy targets an annual dividend growth rate of 7-9% per share in subsequent years. The Company's common stock dividends are subject to available capital, market conditions, and compliance with associated laws, regulations and other contractual obligations.

On January 20, 2023, NRG declared a quarterly dividend on the Company's common stock of \$0.3775 per share, or \$1.51 per share on an annualized basis, payable on February 15, 2023, to stockholders of record as of February 1, 2023.

Employee Stock Purchase Plan — The Company offers participation in the ESPP, which allows eligible employees to elect to withhold between 1% and 10% of their eligible compensation to purchase shares of NRG common stock at the lesser of 95% of its market value on the offering date or 95% of the fair market value on the exercise date. An offering date will occur each April 1 and October 1. An exercise date will occur each September 30 and March 31. As of December 31, 2021, there remained 2,493,374 shares of treasury stock reserved for issuance under the ESPP.

Share Repurchases

In December 2021, the Company announced that the Board of Directors authorized \$1 billion for share repurchases as part of NRG's Capital Allocation policy. The program began with \$44 million of repurchases in December 2021, and an incremental \$601 million was repurchased in 2022. The balance of \$355 million under the current program is expected to be repurchased in 2023, subject to the availability of excess cash and full visibility of the achievement of the Company's 2023 targeted credit metrics.

In October 2022, the Company announced its 2023 capital allocation plan which, consistent with NRG's stated strategy of returning 50% of cash available for allocation to shareholders, included \$600 million incremental share repurchases to be completed in 2023. In connection with the anticipated Vivint acquisition, the Company updated its 2023 capital allocation plan by reallocating 2023 capital primarily to fund the Vivint acquisition, dividend payments and debt reduction. Following the completion of the Vivint acquisition, the Company plans to further update its 2023 capital allocation plan.

The following table summarizes the shares repurchases made during the years ended December 31, 2020, 2021 and 2022:

	Total number of shares and share equivalents purchased	Average price paid per share and share equivalent	Amounts paid for shares and share equivalents purchased (in millions)
2020 repurchases:			
Repurchases	6,062,783		197
Equivalent shares purchased in lieu of tax withholdings on equity compensation issuances ^(a)	711,248		27
Total Share Repurchases during 2020	6,774,031	\$ 33.05	\$ 224
2021 repurchases:			
Repurchases ^(b)	1,084,752		44
Equivalent shares purchased in lieu of tax withholdings on equity compensation issuances ^(a)	249,013		9
Total Share Repurchases during 2021	1,333,765	\$ 40.22	\$ 53
2022 repurchases:			
Repurchases	14,685,521		595
Equivalent shares purchased in lieu of tax withholdings on equity compensation issuances ^(a)	151,241		6
Total Share Repurchases during 2022	14,836,762	\$ 40.50	\$ 601

(a) NRG elected to pay cash for tax withholding on equity awards instead of issuing actual shares to management. The average price per equivalent shares withheld was \$42.74, \$37.50 and \$38.23 in 2022, 2021 and 2020, respectively. See Note 21, Stock-Based Compensation, for further discussion of the equity awards

(b) Includes \$5 million accrued as of December 31, 2021

Note 17 — Investments Accounted for by the Equity Method and Variable Interest Entities

Entities that are not Consolidated

NRG accounts for the Company's significant investments using the equity method of accounting. NRG's carrying value of equity investments can be impacted by a number of elements including impairments, unrealized gains and losses on derivatives and movements in foreign currency exchange rates.

On June 1, 2022, the Company sold its 49% ownership in the Watson natural gas generating facility for \$59 million as further described in Note 4, *Acquisitions and Dispositions*. On September 14, 2022, the Company sold its 50% ownership in Petra Nova natural gas generating facility. The following table summarizes NRG's equity method investments as of December 31, 2022:

(In millions, except percentages)

Name:	Economic Interest	Investment Balance
Gladstone	37.5 %	\$ 128
Ivanpah Master Holdings, LLC ^(a)	54.5 %	—
Midway-Sunset Cogeneration Company	50.0 %	5
Total equity investments in affiliates		\$ 133

(a) The equity method of accounting for Ivanpah has been suspended based on losses generated by the project, including the impact of debt service and depreciation

The following table summarizes the undistributed earnings from NRG's equity method investments as of December 31, 2022:

(In millions)	As of December 31,	
	2022	2021
Undistributed earnings	\$ 42	\$ 33

Other Equity Investments

Gladstone — Through a joint venture, NRG owns a 37.5% interest in Gladstone, a 1,613 MW coal-fueled power generation facility in Queensland, Australia. The power generation facility is managed by the joint venture participants and the facility is operated by NRG. Operating expenses incurred in connection with the operation of the facility are funded by each of the participants in proportion to their ownership interests. Coal is sourced from local mines in Queensland. NRG and the joint

venture participants receive their respective share of revenues directly from the off takers in proportion to the ownership interests in the joint venture. Power generated by the facility is primarily sold to an adjacent aluminum smelter, with excess power sold to the Queensland Government-owned utility under long-term supply contracts. NRG's investment in Gladstone was \$128 million as of December 31, 2022.

Entities that are Consolidated

The Company has a controlling financial interest that has been identified as a VIE under ASC 810 in NRG Receivables LLC, which has entered into financing transactions related to the Receivables Facility as further described in Note 13, *Long-term Debt and Finance Leases*.

The summarized financial information for the Company's consolidated VIEs consisted of the following:

(In millions)	December 31, 2022	December 31, 2021
Accounts receivable and Other current assets	\$ 2,108	\$ 939
Current liabilities	152	78
Net assets	<u>\$ 1,956</u>	<u>\$ 861</u>

Note 18 — Income Per Share

Basic income per common share is computed by dividing net income by the weighted average number of common shares outstanding. Shares issued and treasury shares repurchased during the year are weighted for the portion of the year that they were outstanding. Diluted income per share is computed in a manner consistent with that of basic income per share, while giving effect to all potentially dilutive common shares that were outstanding during the period.

Dilutive effect for equity compensation and other equity instruments — The relative performance stock units, non-vested restricted stock units, market stock units and non-qualified stock options are not considered outstanding for purposes of computing basic income per share. However, these instruments are included in the denominator for purposes of computing diluted income per share under the treasury stock method for periods when there is net income. The Convertible Senior Notes are convertible, under certain circumstances, into cash or combination of cash and Company's common stock. Prior to adoption of ASU 2020-06, there was no dilutive effect for the Convertible Senior Notes due to the Company's expectation to settle the liability in cash. Upon adoption of ASU 2020-06, on January 1, 2022, the Company is including the potential share settlements, if any, in the denominator for purposes of computing diluted income per share under the if converted method for periods when there is net income. The potential shares settlements are calculated as the excess of the Company's conversion obligation over the aggregate principal amount (which will be settled in cash), divided by the average share price for the period. For the year ended December 31, 2022, there was no dilutive effect for the Convertible Senior Notes since there were no potential share settlements for the period.

The reconciliation of NRG's basic income per share to diluted income per share is shown in the following table:

(In millions, except per share amounts)	Year Ended December 31,		
	2022	2021	2020
Basic income per share attributable to NRG Energy, Inc;			
Net income attributable to NRG Energy, Inc. common stockholders	\$ 1,221	\$ 2,187	\$ 510
Weighted average number of common shares outstanding-basic	236	245	245
Income per weighted average common share — basic	<u>\$ 5.17</u>	<u>\$ 8.93</u>	<u>\$ 2.08</u>
Diluted income per share attributable to NRG Energy, Inc;			
Net income attributable to NRG Energy, Inc. common stockholders	\$ 1,221	\$ 2,187	\$ 510
Weighted average number of common shares outstanding-basic	236	245	245
Incremental shares attributable to the issuance of equity compensation (treasury stock method)	—	—	1
Weighted average number of common shares outstanding-diluted	<u>236</u>	<u>245</u>	<u>246</u>
Income per weighted average common share — diluted	<u>\$ 5.17</u>	<u>\$ 8.93</u>	<u>\$ 2.07</u>

As of December 31, 2022, 2021 and 2020, the Company had an insignificant number of outstanding equity instruments that are anti-dilutive and were not included in the computation of the Company's diluted income per share.

Note 19 — Segment Reporting

The Company's segment structure reflects how management makes financial decisions and allocates resources. The Company manages its operations based on the combined results of the retail and wholesale generation businesses with a geographical focus.

NRG's chief operating decision maker, its chief executive officer, evaluates the performance of its segments based on operational measures including adjusted earnings before interest, taxes, depreciation and amortization, or Adjusted EBITDA, free cash flow and allocation of capital, as well as net income/(loss).

The Company had no customer that comprised more than 10% of the Company's consolidated revenues during the years ended December 31, 2022, 2021 and 2020.

Intersegment sales are accounted for at market.

For the Year Ended December 31, 2022						
(In millions)	Texas	East	West/ Services/ Other	Corporate ^(a)	Eliminations	Total
Revenues^(a)	\$ 10,057	\$ 16,763	\$ 4,706	\$ —	\$ 17	\$ 31,543
Operating expenses	8,495	16,031	4,108	86	17	28,737
Depreciation and amortization	310	208	85	31	—	634
Impairment losses	—	206	—	—	—	206
Total operating cost and expenses	8,805	16,445	4,193	117	17	29,577
Gain on sale of assets	10	—	45	(3)	—	52
Operating income	1,262	318	558	(120)	—	2,018
Equity in (losses)/earnings of unconsolidated affiliates	(2)	—	8	—	—	6
Other income, net	5	10	3	54	(16)	56
Interest expense	—	(1)	(32)	(400)	16	(417)
Income/(loss) before income taxes	1,265	327	537	(466)	—	1,663
Income tax expense	—	1	57	384	—	442
Net income/(loss)	\$ 1,265	\$ 326	\$ 480	\$ (850)	\$ —	\$ 1,221
Balance sheet						
Equity investments in affiliates	\$ —	\$ —	\$ 133	\$ —	\$ —	\$ 133
Capital expenditures	273	7	37	50	—	367
Goodwill	710	723	217	—	—	1,650
Total assets	\$ 11,475	\$ 19,526	\$ 8,139	\$ 35,780	\$ (45,774)	\$ 29,146
(a) Inter-segment sales and inter-segment net derivative gains and losses included in revenues	\$ 4	\$ (26)	\$ 5	\$ —	\$ —	\$ (17)

For the Year Ended December 31, 2021

(In millions)	Texas	East	West/ Services/ Other	Corporate ^(a)	Eliminations	Total
Revenues^(a)	\$ 10,295	\$ 13,025	\$ 3,659	\$ —	\$ 10	\$ 26,989
Operating expenses	8,692	10,256	3,467	141	10	22,566
Depreciation and amortization	336	333	88	28	—	785
Impairment losses	—	535	9	—	—	544
Total operating cost and expenses	9,028	11,124	3,564	169	10	23,895
Gain on sale of assets	19	—	17	211	—	247
Operating income	1,286	1,901	112	42	—	3,341
Equity in (losses)/earnings of unconsolidated affiliates	(3)	—	20	—	—	17
Other income, net	8	7	3	59	(14)	63
Loss on debt extinguishment	—	—	—	(77)	—	(77)
Interest expense	(1)	(1)	(28)	(469)	14	(485)
Income/(loss) before income taxes	1,290	1,907	107	(445)	—	2,859
Income tax expense	—	—	19	653	—	672
Net income/(loss)	\$ 1,290	\$ 1,907	\$ 88	\$ (1,098)	\$ —	\$ 2,187

Balance sheet

Equity investments in affiliates	\$ —	\$ —	\$ 157	\$ —	\$ —	\$ 157
Capital expenditures	153	50	21	45	—	269
Goodwill	716	853	226	—	—	1,795
Total assets	\$ 12,271	\$ 13,645	\$ 4,673	\$ 19,051	\$ (26,458)	\$ 23,182

(a) Inter-segment sales and inter-segment net derivative gains and losses included in revenues	\$ 5	\$ (18)	\$ 3	\$ —	\$ —	\$ (10)
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For the Year Ended December 31, 2020

(In millions)	Texas	East	West/ Services/ Other	Corporate ^(a)	Eliminations	Total
Revenues^(a)	\$ 6,312	\$ 2,249	\$ 536	\$ —	\$ (4)	\$ 9,093
Operating expenses	5,251	1,755	422	57	(4)	7,481
Depreciation and amortization	233	132	36	34	—	435
Impairment losses	14	—	61	—	—	75
Total operating cost and expenses	5,498	1,887	519	91	(4)	7,991
(Loss)/gain on sale of assets	—	—	(2)	5	—	3
Operating income/(loss)	814	362	15	(86)	—	1,105
Equity in (losses)/earnings of unconsolidated affiliates	(12)	—	29	—	—	17
Impairment losses on investments	(18)	—	—	—	—	(18)
Other income, net	11	7	8	41	—	67
Loss on debt extinguishment	—	(4)	(5)	—	—	(9)
Interest expense	—	(14)	(3)	(384)	—	(401)
Income/(loss) before income taxes	795	351	44	(429)	—	761
Income tax (benefit)/expense	—	(1)	2	250	—	251
Net income/(loss)	\$ 795	\$ 352	\$ 42	\$ (679)	\$ —	\$ 510

(a) Inter-segment sales and inter-segment net derivative gains and losses included in revenues	\$ 6	\$ (6)	\$ 4	\$ —	\$ —	\$ 4
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Note 20 — Income Taxes

The income tax provision consisted of the following amounts:

(In millions, except effective income tax rate)	Year Ended December 31,		
	2022	2021	2020
Current			
U.S. Federal	\$ 3	\$ —	\$ —
State	65	48	22
Foreign	3	3	4
Total — current	71	51	26
Deferred			
U.S. Federal	258	569	168
State	59	36	60
Foreign	54	16	(3)
Total — deferred	371	621	225
Total income tax expense	\$ 442	\$ 672	\$ 251
Effective income tax rate	26.6 %	23.5 %	33.0 %

The IRA enacted on August 16, 2022, introduced new provisions including a 15% corporate book minimum tax and a 1% excise tax on net share repurchases with both taxes effective beginning in fiscal year 2023 for NRG. The Company will continue to evaluate the impact of the corporate book minimum tax when the U.S. Treasury and the IRS release further guidance. Additionally, the IRA establishes a production tax credit associated with existing nuclear facilities which begins in 2024 and terminates at the end of 2031. The production tax credit will fully apply when gross revenues are at or below \$25 per MWh and phases out completely at \$43.75 per MWh. The U.S. Treasury is in the process of defining the methods by which gross revenues may be calculated pursuant to the IRA.

On March 27, 2020, the Senate passed the CARES Act to provide emergency relief related to the COVID-19 pandemic. The CARES Act contains federal income tax provisions which, among other things: (i) increases the amount of interest expense that businesses are allowed to deduct by increasing the adjusted taxable income limitation from 30% to 50% for tax years that begin in 2019 and 2020; (ii) permits businesses to carry back to each of the five tax years NOLs arising from tax years beginning after December 31, 2017 and before January 1, 2020; and (iii) temporarily removes the 80% limitation on NOLs until tax years beginning after 2020. The CARES Act provisions did not have a material impact on the tax positions of the Company.

The following represented the domestic and foreign components of income before income taxes:

(In millions)	Year Ended December 31,		
	2022	2021	2020
U.S.	\$ 1,436	\$ 2,759	\$ 749
Foreign	227	100	12
Total	\$ 1,663	\$ 2,859	\$ 761

Reconciliations of the U.S. federal statutory tax rate to NRG's effective tax rate were as follows:

(In millions, except effective income tax rate)	Year Ended December 31,		
	2022	2021	2020
Income before income taxes	\$ 1,663	\$ 2,859	\$ 761
Tax at federal statutory tax rate	349	600	160
Foreign rate differential	7	(3)	—
State taxes	69	111	18
Permanent differences	17	8	8
Changes in valuation allowance	(3)	(29)	24
Deferred impact of state tax rate changes	14	(10)	2
Recognition of uncertain tax benefits	8	(10)	3
Carbon capture tax credits	(19)	—	—
Return to provision adjustments	—	5	36
Income tax expense	\$ 442	\$ 672	\$ 251
Effective income tax rate	26.6 %	23.5 %	33.0 %

For the year ended December 31, 2022, NRG's effective income tax rate was higher than the federal statutory tax rate of 21% primarily due to state tax expense partially offset by the recognition of carbon capture tax credits.

For the year ended December 31, 2021, NRG's effective income tax rate was higher than the federal statutory tax rate of 21% primarily due to state tax expense partially offset by tax benefits from the revaluation of state deferred tax assets, valuation allowance, and settlements of uncertain tax positions.

For the year ended December 31, 2020, NRG's effective income tax rate was higher than the federal statutory tax rate of 21% primarily due to state tax expense, the recognition of state valuation allowance on NOLs, and return to provision adjustments.

The temporary differences, which gave rise to the Company's deferred tax assets and liabilities consisted of the following:

(In millions)	As of December 31,	
	2022	2021
Deferred tax assets:		
Deferred compensation, accrued vacation and other reserves	\$ 93	\$ 114
Difference between book and tax basis of property	399	436
Pension and other postretirement benefits	62	65
Equity compensation	8	7
Allowance for credit losses	33	168
U.S. Federal net operating loss carryforwards	1,717	1,773
Foreign net operating loss carryforwards	104	112
State net operating loss carryforwards	315	328
Federal and state tax credit carryforwards	393	384
Federal benefit on state uncertain tax positions	5	3
Interest disallowance carryforward per §163(j) of the Tax Act	65	6
Inventory obsolescence	10	9
U.S. capital loss	15	—
Other	22	15
Total deferred tax assets	3,241	3,420
Deferred tax liabilities:		
Emissions allowances	19	20
Derivatives	874	591
Goodwill	26	40
Intangibles amortization (excluding goodwill)	269	363
Equity method investments	82	62
Convertible Debt	—	14
Total deferred tax liabilities	1,270	1,090
Total deferred tax assets less deferred tax liabilities	1,971	2,330
Valuation allowance	(224)	(248)
Total net deferred tax assets, net of valuation allowance	\$ 1,747	\$ 2,082

The following table summarizes NRG's net deferred tax position as presented in the consolidated balance sheets:

(In millions)	As of December 31,	
	2022	2021
Deferred tax asset	\$ 1,881	\$ 2,155
Deferred tax liability	(134)	(73)
Net deferred tax asset	\$ 1,747	\$ 2,082

The primary drivers for the decrease in the net deferred tax asset from \$2.1 billion as of December 31, 2021 to \$1.7 billion as of December 31, 2022 is an increase in unrealized mark-to-market book gains on derivative instruments.

Deferred tax assets and valuation allowance

Net deferred tax balance — As of December 31, 2022 and 2021, NRG recorded a net deferred tax asset, excluding valuation allowance, of \$2.0 billion and \$2.3 billion, respectively. The Company believes certain state net operating losses may not be realizable under the more-likely-than-not measurement and as such, a valuation allowance was recorded as of December 31, 2022 as discussed below.

NOL carryforwards — As of December 31, 2022, the Company had tax-effected cumulative U.S. NOLs consisting of carryforwards for federal and state income tax purposes of \$1.7 billion and \$315 million, respectively. In addition, NRG has tax-effected cumulative foreign NOL carryforwards of \$104 million. The majority of NRG's NOL carryforwards have no expiration date.

Valuation allowance — As of December 31, 2022, the Company's tax-effected valuation allowance was \$224 million, consisting of state NOL carryforwards and foreign NOL carryforwards. The valuation allowance was recorded based on the assessment of cumulative and forecasted pre-tax book earnings and the future reversal of existing taxable temporary differences.

Taxes Receivable and Payable

As of December 31, 2022, NRG recorded a current net federal receivable of \$5 million and a current net foreign receivable of \$13 million due to filings of Canadian amended returns as well as prepayments of estimated taxes.

Uncertain tax benefits

NRG has identified uncertain tax benefits with after-tax value of \$22 million and \$13 million as of December 31, 2022 and 2021, for which NRG has recorded a non-current tax liability of \$24 million and \$14 million, respectively. The Company recognizes interest and penalties related to uncertain tax benefits in income tax expense. The Company recognized \$1 million of interest expense for the year ended December 31, 2022, an immaterial amount for the year ended 2021 and \$1 million for the year ended 2020. As of December 31, 2022 and 2021, NRG had cumulative interest and penalties related to these uncertain tax benefits of \$2 million and \$1 million, respectively.

Tax jurisdictions — NRG is subject to examination by taxing authorities for income tax returns filed in the U.S. federal jurisdiction and various state and foreign jurisdictions including operations located in Australia and Canada.

The Company is no longer subject to U.S. federal income tax examinations for years prior to 2019. With few exceptions, state and Canadian income tax examinations are no longer open for years before 2014.

The following table summarizes uncertain tax benefits activity:

(In millions)	As of December 31,	
	2022	2021
Balance as of January 1	\$ 13	\$ 15
Increase due to current year positions	9	4
Increase due to acquired balance from Direct Energy	—	9
Settlements, payments and statute closure	—	(15)
Uncertain tax benefits as of December 31	<u>\$ 22</u>	<u>\$ 13</u>

Note 21 — Stock-Based Compensation

NRG Energy, Inc. Long-Term Incentive Plan

On April 27, 2017, the NRG LTIP was amended to increase the number of shares available for issuance by 3,000,000. As of December 31, 2022 and 2021, a total of 25,000,000 shares of NRG common stock were authorized for issuance under the NRG LTIP. There were 8,179,771 and 8,871,874 shares of common stock remaining available for grants under the NRG LTIP as of December 31, 2022 and 2021, respectively. The NRG LTIP is subject to adjustments in the event of reorganization, recapitalization, stock split, reverse stock split, stock dividend, and a combination of shares, merger or similar change in NRG's structure or outstanding shares of common stock.

Restricted Stock Units

As of December 31, 2022, RSUs granted under the Company's LTIPs typically have three-year graded vesting schedules beginning on the grant date. Fair value of the RSUs granted during 2022 and 2021 is derived from the closing price of NRG common stock on the grant date. The following table summarizes the Company's non-vested RSU awards and changes during the year:

	Units	Weighted Average Grant Date Fair Value per Unit
Non-vested at December 31, 2021	669,952	\$ 38.69
Granted	530,565	41.26
Forfeited	(43,601)	41.09
Vested	(299,999)	38.36
Non-vested at December 31, 2022	<u>856,917</u>	<u>40.25</u>

The total fair value of RSUs vested during the years ended December 31, 2022, 2021 and 2020 was \$10 million, \$12 million and \$17 million, respectively. The weighted average grant date fair value of RSUs granted during the years ended December 31, 2022, 2021 and 2020 was \$41.26, \$39.00 and \$38.05, respectively.

Deferred Stock Units

DSUs represent the right of a participant to be paid one share of NRG common stock at the end of a deferral period established under the terms of the award. DSUs granted under the Company's LTIPs are fully vested at the date of issuance. Fair value of the DSUs, which is based on the closing price of NRG common stock on the date of grant, is recorded as compensation expense in the period of grant.

The following table summarizes the Company's outstanding DSU awards and changes during the year:

	Units	Weighted Average Grant Date Fair Value per Unit
Outstanding at December 31, 2021	384,128	\$ 26.11
Granted	52,865	45.49
Converted to Common Stock	(18,979)	39.27
Outstanding at December 31, 2022	418,014	27.63

The aggregate intrinsic values for DSUs outstanding as of December 31, 2022, 2021 and 2020 were approximately \$13 million, \$17 million and \$13 million, respectively. The aggregate intrinsic values for DSUs converted to common stock for the years ended December 31, 2022, 2021 and 2020 were \$1 million, \$1 million and \$2 million, respectively. The weighted average grant date fair value of DSUs granted during the years ended December 31, 2022, 2021 and 2020 was \$45.49, \$32.27 and \$35.59, respectively.

Relative Performance Stock Units

RPSUs entitle the recipient to stock upon vesting. The amount of the award is subject to the Company's achievement of certain performance measures over the vesting period. RPSUs are restricted grants where the quantity of shares increases and decreases alongside the Company's Total Shareholder Return, or TSR, relative to the TSR of the Company's current proxy peer group and the total returns of select indexes, or Peer Group. For RPSU's granted in 2022 and forward, the peer group consists of the companies that comprise the Standard & Poor's 500 Index on the first day of the performance period. Each RPSU represents the potential to receive NRG common stock after the completion of the performance period, typically three years of service from the date of grant. The number of shares of NRG common stock to be paid (if any) as of the vesting date for each RPSU will depend on the Company's percentile rank within the Peer Group. The number of shares of common stock to be paid as of the vesting date for each RPSU is linearly interpolated for TSR performance between the following points: (i) 0% if ranked below the 25th percentile; (ii) 25% if ranked at the 25th percentile; (iii) 100% if ranked at the 55th percentile (or the 65th percentile if the Company's absolute TSR is less than negative 15%); and (iv) 200% if ranked at the 75th percentile or above.

The following table summarizes the Company's non-vested RPSU awards and changes during the year:

	Units	Weighted Average Grant- Date Fair Value per Unit
Non-vested at December 31, 2021	730,505	\$ 47.40
Granted	291,852	57.41
Forfeited	(54,392)	46.68
Vested	(172,630)	45.77
Non-vested at December 31, 2022	795,335	50.23

The weighted average grant date fair value of RPSUs granted during the years ended December 31, 2022, 2021 and 2020, was \$57.41, \$46.78 and \$23.75, respectively.

The fair value of RPSUs is estimated on the date of grant using a Monte Carlo simulation model and expensed over the service period, which equals the vesting period. Significant assumptions used in the fair value model with respect to the Company's RPSUs are summarized below:

	2022	2021 ^(a)	2020
	RPSUs	RPSUs	RPSUs
Expected volatility	37.54 %	34.05 %	30.15 %
Expected term (in years)	3	3	3
Risk free rate	0.97 %	0.17 %	1.58 %

(a) Assumptions pertain to the main award granted in January 2021. Additional 60,815 RPSUs were granted in September 2021 with a risk free rate of 0.42% and expected volatility of 37.38%

For the years ended December 31, 2022 and 2021, expected volatility is calculated based on NRG's historical stock price volatility data over the period commensurate with the expected term of the RPSU, which equals the vesting period.

Non-Qualified Stock Options

All NQSOs granted under the Company's LTIP were fully vested as of December 31, 2022, 2021 and 2020. No NQSOs were granted in 2022, 2021 or 2020. Of the 17,870 NQSOs that were outstanding at December 31, 2021, 14,477 were exercised during the year ended December 31, 2022 and 3,393 expired. No compensation expense was recognized during 2022, 2021 or 2020 related to NQSOs.

Supplemental Information

The following table summarizes NRG's total compensation expense recognized for the years presented, as well as total non-vested compensation costs not yet recognized and the period over which this expense is expected to be recognized as of December 31, 2022, for each of the types of awards issued under the LTIPs. Minimum tax withholdings of \$6 million, \$9 million, and \$27 million for the years ended December 31, 2022, 2021, and 2020, respectively, are reflected as a reduction to additional paid-in capital on the Company's consolidated balance sheets.

(In millions, except weighted average data)	Compensation Expense			Non-vested Compensation Cost	
				Unrecognized Total Cost	Weighted Average Recognition Period Remaining (In years)
	Year Ended December 31,			As of December 31,	
Award	2022	2021	2020	2022	2022
RSUs	\$ 15	\$ 9	\$ 9	\$ 17	1.75
DSUs	2	2	2	—	0.00
RPSUs	11	9	10	13	1.16
PRSUs ^(a)	6	7	6	7	1.45
Total	\$ 34	\$ 27	\$ 27	\$ 37	
Tax detriment/(benefit) recognized	\$ 3	\$ 2	\$ (9)		

(a) Phantom Restricted Stock Units, PRSUs, are liability-classified time-based awards that typically vest ratably over a three-year period. The amount to be paid upon vesting is based on NRG's closing stock price for the period

Note 22 — Related Party Transactions

NRG provides services to some of its related parties, who are accounted for as equity method investments, under operations and maintenance agreements. Fees for the services under these agreements include recovery of NRG's costs of operating the plants. Certain agreements also include fees for administrative service, a base monthly fee, profit margin and/or annual incentive bonus.

The following table summarizes NRG's material related party transactions with third-party affiliates:

(In millions)	Year Ended December 31,		
	2022	2021	2020
<i>Revenues from Related Parties Included in Revenues</i>			
Gladstone	\$ 4	\$ 4	\$ 4
Ivanpah ^(a)	42	39	43
Midway-Sunset	6	6	5
Total	\$ 52	\$ 49	\$ 52

(a) Includes fees under project management agreements with each project company

Note 23 — Commitments and Contingencies

Certain Fuel and Transportation Commitments

NRG has entered into long-term contractual arrangements to procure certain fuel and transportation services for the Company's generation assets.

As of December 31, 2022, the Company's minimum commitments under such outstanding agreements are estimated as follows:

Period	(In millions)
2023	\$ 110
2024	71
2025	83
2026	54
2027	78
Thereafter	56
Total^(a)	\$ 452

- (a) Actual fuel and transportation purchases are significantly higher than these estimated minimum unconditional long-term firm commitments with remaining term in excess of one year

For the years ended December 31, 2022, 2021 and 2020, the costs of certain fuel and transportation were \$736 million, \$584 million and \$479 million, respectively.

Purchased Energy Commitments

NRG has long-term contractual commitments related to electricity and natural gas products, including power purchases, gas transportation and storage of various quantities and durations. These contracts are not included in the consolidated balance sheet as of December 31, 2022. Minimum purchase commitment obligations are as follows as of December 31, 2022:

Period	(In millions)
2023	\$ 908
2024	1,050
2025	662
2026	396
2027	296
Thereafter	987
Total^(a)	\$ 4,299

- (a) Actual energy purchases are significantly higher than these estimated minimum unconditional long-term firm commitments with remaining term in excess of one year. The year ending 2023 does not include an additional \$1.5 billion of short-term commitments

For the years ended December 31, 2022, 2021 and 2020, the costs of purchased energy were \$18.8 billion, \$12.8 billion and \$1.8 billion, respectively.

First Lien Structure

NRG has granted first liens to certain counterparties on a substantial portion of property and assets owned by NRG and the guarantors of its senior debt. NRG uses the first lien structure to reduce the amount of cash collateral and letters of credit that it would otherwise be required to post from time to time to support its obligations under out-of-the-money hedges. To the extent that the underlying hedge positions for a counterparty are out-of-the-money to NRG, the counterparty would have a claim under the first lien program. As of December 31, 2022, hedges under the first lien were out-of-the-money for NRG on a counterparty aggregate basis.

Nuclear Insurance

STP maintains required insurance coverage for liability claims arising from nuclear incidents pursuant to the Price-Anderson Act. The current liability limit per incident is \$13.7 billion, subject to change to account for the effects of inflation and the number of licensed reactors. An inflation adjustment must be made at least once every five years with the next adjustment expected to be effective no later than November 1, 2023. Under the Price-Anderson Act, owners of nuclear power plants in the U.S. are required to purchase primary insurance limits of \$450 million for each operating site. In addition, the Price-Anderson Act requires an additional layer of protection through mandatory participation in a retrospective rating plan for power reactors resulting in an additional \$13.2 billion in funds available for public liability claims. The current maximum

assessment per incident, per reactor, is approximately \$138 million, taking into account a 5% adjustment for administrative fees, payable at approximately \$21 million per reactor, per incident, per year. NRG would be responsible for 44% of the maximum assessment, or \$9 million per reactor, per incident, per year, and a maximum of \$61 million per incident, per reactor. In addition, the U.S. Congress retains the ability to impose additional financial requirements on the nuclear industry to pay liability claims that exceed \$13.7 billion for a single incident. The liabilities of the co-owners of STP with respect to the retrospective premium assessments for nuclear liability insurance are joint and several.

STP purchases insurance for property damage and site decontamination cleanup costs from Nuclear Electric Insurance Limited, or NEIL, and European Mutual Association for Nuclear Insurance, or EMANI, both of which are industry mutual insurance companies, of which STP is a member. STP has purchased \$2.8 billion in limits for nuclear events and \$1.0 billion in limits for non-nuclear events. The nuclear event limit remains the maximum available from NEIL. The upper \$1.3 billion in nuclear events limits (excess of the first \$1.5 billion in nuclear events limits) is a single limit blanket policy shared with two Diablo Canyon nuclear reactors, which have no affiliation with the Company. This shared limit is not subject to automatic reinstatement in the event of a loss. The NEIL primary policy covers both nuclear and non-nuclear property damage events, and a NEIL companion policy provides Accidental Outage coverage for the co-owners of STP's lost revenue following a property damage event, at a weekly indemnity limit of \$3 million per unit up to a maximum of \$274 million nuclear per unit and \$183 million non-nuclear per unit, and is subject to an eight-week waiting period. NRG also purchases an Accidental Outage policy from NEIL, which provides protection for lost revenue due to an insurable event. This coverage allows for reimbursement up to \$2 million per week per unit up to a maximum of \$216 million nuclear and \$144 million non-nuclear, and is subject to an eight-week waiting period. Accidental Outage coverage amounts decrease in the event more than one unit at a station is out of service due to a common accident. Under the terms of the NEIL and EMANI policies, member companies may be assessed up to ten and six times their annual premiums, respectively, if the NEIL or EMANI Board of Directors determines their surplus has been depleted due to the payment of property losses at any of the licensed reactors in a single policy year. NEIL and EMANI require that their members maintain an investment grade credit rating or ensure their annual retrospective obligation by providing a financial guarantee, letter of credit, deposit premium, or an insurance policy. NRG has purchased an insurance policy from NEIL and EMANI to guarantee the Company's obligation; however note the NEIL aspect of this insurance will only respond to retrospective premium adjustments assessed within twenty-four months after the policy term, whereas NEIL's Board of Directors can make such an adjustment up to 6 years after the policy expires. All insurance coverage is subject to various sub limits and significant deductibles.

Contingencies

The Company's material legal proceedings are described below. The Company believes that it has valid defenses to these legal proceedings and intends to defend them vigorously. NRG records accruals for estimated losses from contingencies when information available indicates that a loss is probable and the amount of the loss, or range of loss, can be reasonably estimated. As applicable, the Company has established an adequate accrual for the applicable legal matters, including regulatory and environmental matters as further discussed in Note 24, *Regulatory Matters*, and Note 25, *Environmental Matters*. In addition, legal costs are expensed as incurred. Management has assessed each of the following matters based on current information and made a judgment concerning its potential outcome, considering the nature of the claim, the amount and nature of damages sought, and the probability of success. Unless specified below, the Company is unable to predict the outcome of these legal proceedings or reasonably estimate the scope or amount of any associated costs and potential liabilities. As additional information becomes available, management adjusts its assessment and estimates of such contingencies accordingly. Because litigation is subject to inherent uncertainties and unfavorable rulings or developments, it is possible that the ultimate resolution of the Company's liabilities and contingencies could be at amounts that are different from its currently recorded accruals and that such difference could be material.

In addition to the legal proceedings noted below, NRG and its subsidiaries are party to other litigation or legal proceedings arising in the ordinary course of business. In management's opinion, the disposition of these ordinary course matters will not materially adversely affect NRG's consolidated financial position, results of operations, or cash flows.

Environmental Lawsuits

Sierra club et al. v. Midwest Generation LLC — In 2012, several environmental groups filed a complaint against Midwest Generation with the Illinois Pollution Control Board ("IPCB") alleging violations of environmental law resulting in groundwater contamination. In June 2019, the IPCB found in an interim order that Midwest Generation violated the law because it had improperly handled coal ash at four facilities in Illinois and caused or allowed coal ash constituents to impact groundwater. On September 9, 2019, Midwest Generation filed a Motion to Reconsider numerous issues, which the court granted in part and denied in part on February 6, 2020. The IPCB will hold hearings to determine the appropriate relief. Midwest Generation has been working with the Illinois EPA to address the groundwater issues since 2010.

Consumer Lawsuits

Similar to other energy service companies operating in the industry, from time-to-time, the Company and/or its subsidiaries may be subject to consumer lawsuits in various jurisdictions where they sell natural gas and electricity.

Variable Price Cases — In the cases set forth below, referred to as the Variable Price Cases, such actions involve consumers alleging that one of the Company's ESCOs promised that consumers would pay the same or less than they would have paid if they stayed with their default utility or previous energy supplier. The underlying claims of each case are similar and the Company continues to deny the allegations and is vigorously defending these matters. These matters were known and accrued for at the time of each acquisition.

XOOM Energy

XOOM Energy is a defendant in a putative class action lawsuit pending in New York. This case is in the summary judgment phase.

Direct Energy

There are four putative class actions pending against Direct Energy: (1) Linda Stanley v. Direct Energy (S.D.N.Y. Apr. 2019) - The parties mediated in June 2021 and agreed on a settlement. In April 2022, the Court granted final approval of the settlement, which was primarily paid during the second quarter of 2022. This matter is complete and final; (2) Martin Forte v. Direct Energy (N.D.N.Y. Mar. 2017) - In December 2017, the Court granted Direct Energy's Motion for summary judgment effectively ending the matter at the district court level. Forte appealed. Direct Energy participated in oral argument on January 12, 2023. The Second Circuit Court of Appeals recently issued an opinion in Direct Energy's favor; (3) Richard Schafer v. Direct Energy (W.D.N.Y. Dec. 2019; on appeal 2nd Cir. N.Y.) - The Second Circuit sent the matter back to the trial court in December 2021. After discovery, Direct Energy filed summary judgment. Direct Energy won summary judgment and Schafer appealed. The parties are now briefing the appeal. Given the result in the Forte case, the trial court's summary judgment will be upheld and Direct Energy is expected to prevail; and (4) Andrew Gant v. Direct Energy and NRG (D.N.J. Aug. 2022) - Direct Energy and NRG filed a Motion to Dismiss on October 18, 2022.

Telephone Consumer Protection Act ("TCPA") Cases — In the cases set forth below, referred to as the TCPA Cases, such actions involve consumers alleging violations of the Telephone Consumer Protection Act of 1991, as amended, by receiving calls, texts or voicemails without consent in violation of the federal Telemarketing Sales Rule, and/or state counterpart legislation. The underlying claims of each case are similar. The Company denies the allegations asserted by plaintiffs and intends to vigorously defend these matters. These matters were known and accrued for at the time of the acquisition.

There are two putative class actions pending against Direct Energy: (1) Holly Newman v. Direct Energy, LP (D. Md. Sept 2021) - Direct Energy filed its Motion to Dismiss asserting the ruling in the Brittany Burk v. Direct Energy (S.D. Tex. Feb 2019) preempts the Plaintiff's ability to file suit based on the same facts. The Court denied Direct Energy's motion stating the Court does not have the benefit of all of the facts that were in front of the Burk court to issue a similar ruling. On October 19, 2022, Direct Energy filed a Motion to Transfer Venue asking the Court to transfer the case to the Southern District where the Burk case was filed. Direct Energy will await the court's ruling before moving forward with written discovery; and (2) Matthew Dickson v. Direct Energy (N.D. Ohio Jan. 2018) - The case was stayed pending the outcome of an appeal to the Sixth Circuit based on the unconstitutionality of the TCPA during the period from 2015-2020. The Sixth Circuit found the TCPA was in effect during that period and remanded the case back to the trial court. Direct Energy refiled its motions along with supplements. On March 25, 2022, the Court granted summary judgment in favor of Direct Energy and dismissed the case. Dickson appealed. The Court held oral arguments on January 17, 2023. Direct Energy anticipates a ruling within the next six months.

Winter Storm Uri Lawsuits

The Company has been named in certain property damage and wrongful death claims that have been filed in connection with Winter Storm Uri in its capacity as a generator and a REP. Most of the lawsuits related to Winter Storm Uri are consolidated into a single multi-district litigation matter in Harris County District Court. NRG's REPs have since been severed from the multi-district litigation and will be seeking dismissal in any remaining cases. As a power generator, the Company is named in various cases with claims ranging from: wrongful death; personal injury only; property damage and personal injury; property damage only; and subrogation. The case is currently stayed pending appeal by other parties on other issues. The Company intends to vigorously defend these matters.

Indemnifications and Other Contractual Arrangements

Washington-St. Tammany and Claiborne Electric Cooperative v. LaGen — On June 28, 2017, plaintiffs Washington-St. Tammany Electric Cooperative, Inc. and Claiborne Electric Cooperative, Inc. filed a lawsuit against LaGen in the United States District Court for the Middle District of Louisiana. The plaintiffs claimed breach of contract against LaGen for allegedly improperly charging the plaintiffs for costs related to the installation and maintenance of certain pollution control technology. Plaintiffs sought damages for the alleged improper charges and a declaration as to which charges were proper under the contract. In February 2020, the federal court dismissed this lawsuit without prejudice for lack of subject matter jurisdiction. On March 17, 2020, plaintiffs filed a lawsuit in the Nineteenth Judicial District Court for the Parish of East Baton Rouge in Louisiana alleging substantially the same matters. On February 4, 2019, NRG sold the South Central Portfolio, including the entities subject to this litigation. However, NRG has agreed to indemnify the purchaser for certain losses suffered in connection therewith.

Note 24 — *Regulatory Matters*

NRG operates in a highly regulated industry and is subject to regulation by various federal, state and provincial agencies. As such, NRG is affected by regulatory developments at the federal, state and provincial levels and in the regions in which NRG operates. In addition, NRG is subject to the market rules, procedures and protocols of the various ISO and RTO markets in which NRG participates. These power markets are subject to ongoing legislative and regulatory changes that may impact NRG's wholesale and retail operations.

In addition to the regulatory proceeding noted below, NRG and its subsidiaries are parties to other regulatory proceedings arising in the ordinary course of business or have other regulatory exposure. In management's opinion, the disposition of these ordinary course matters will not materially adversely affect NRG's consolidated financial position, results of operations, or cash flows.

California Station Power — As the result of unfavorable final and non-appealable litigation, the Company accrued a liability associated with consumption of station power at the Company's Encina power plant facility in California after August 30, 2010. The Company has established an appropriate accrual pending potential regulatory action by San Diego Gas & Electric regarding the Company's Encina facility.

Note 25 — *Environmental Matters*

NRG is subject to a wide range of environmental laws in the development, construction, ownership and operation of power plants. These laws generally require that governmental permits and approvals be obtained before construction and maintained during operation of power plants. The electric generation industry has been facing increasingly stringent requirements regarding air quality, GHG emissions, combustion byproducts, water discharge and use, and threatened and endangered species. In general, future laws are expected to require the addition of emissions controls or other environmental controls or to impose additional restrictions on the operations of the Company's facilities, which could have a material effect on the Company's consolidated financial position, results of operations, or cash flows. The Company has elected to use a \$1 million disclosure threshold, as permitted, for environmental proceedings to which the government is a party.

Air

CPP/ACE Rules — On July 8, 2019, the EPA promulgated the ACE rule, which rescinded the CPP, which had sought to broadly regulate CO₂ emissions from the power sector. The ACE rule required states that have coal-fired EGUs to develop plans to seek heat rate improvements from coal-fired EGUs. On January 19, 2021, the D.C. Circuit vacated the ACE rule (but on February 22, 2021, at the EPA's request, stayed the issuance of the portion of the mandate that would vacate the repeal of the CPP). On June 30, 2022, the U.S. Supreme Court held that the "generation shifting" approach in the CPP exceeded the powers granted to the EPA by Congress. The Court did not address the related issues of whether the EPA may adopt only measures applied at each source. The Company anticipates that there will be additional proceedings at the D.C. Circuit and additional rulemaking by the EPA over the next several years.

Cross-State Air Pollution Rule ("CSAPR") — In April 2022, the EPA proposed revising the CSAPR to address the good-neighbor provisions of the 2015 ozone NAAQS. If the rule were finalized as proposed, it would apply to 25 states (including Texas) beginning in 2023. In 2023, the revised Group 3 trading program (previously established in the Revised CSAPR Update Rule) would have emission budgets based on NO_x emission rates that the EPA says are achievable by existing controls at power plants. Starting in 2026, the NO_x budgets would be reduced significantly based on levels achievable if SCR controls were installed at coal-fueled power plants that do not currently have such controls. Starting in 2025, the budgets would be updated annually to account for retirements, changes to operations and new units. The proposal also contemplates heightened surrender requirements for units that exceed certain NO_x emission rate thresholds. The Company cannot predict the outcome of this proposed revision and anticipates that this rulemaking will be subject to legal challenges after it is finalized. The EPA anticipates finalizing the revised rule in Spring 2023.

Water

Effluent Limitations Guidelines — In November 2015, the EPA revised the ELG for Steam Electric Generating Facilities, which imposed more stringent requirements (as individual permits were renewed) for wastewater streams from FGD, fly ash, bottom ash, and flue gas mercury control. On September 18, 2017, the EPA promulgated a final rule that, among other things, postponed the compliance dates to preserve the status quo for FGD wastewater and bottom ash transport water by two years to November 2020 until the EPA amended the rule. On October 13, 2020, the EPA amended the 2015 ELG rule by: (i) altering the stringency of certain limits for FGD wastewater; (ii) relaxing the zero-discharge requirement for bottom ash transport water; and (iii) changing several deadlines. On July 26, 2021, the EPA announced that it is initiating a new rulemaking to evaluate revising the ELG rule. While the EPA is developing the new rule, the existing rule (as amended in 2020) will stay in place, and the EPA expects permitting authorities to continue to implement the current regulation. The Company anticipates that the EPA will release a proposed rule in the first half of 2023. In October 2021, NRG informed its regulators that the Company intends to comply with the ELG by ceasing combustion of coal by the end of 2028 at its domestic coal units outside of Texas, and installing appropriate controls by the end of 2025 at its two plants that have coal-fired units in Texas.

Byproducts, Wastes, Hazardous Materials and Contamination

In April 2015, the EPA finalized the rule regulating byproducts of coal combustion (e.g., ash and gypsum) as solid wastes under the RCRA. On July 30, 2018, the EPA promulgated a rule that amended the ash rule by extending some of the deadlines and providing more flexibility for compliance. On August 21, 2018, the D.C. Circuit found, among other things, that the EPA had not adequately regulated unlined ponds and legacy surface impoundments. On August 28, 2020, the EPA finalized "A Holistic Approach to Close Part A: Deadline to Initiate Closure," which amended the April 2015 Rule to address the August 2018 D.C. Circuit decision and extend some of the deadlines. On November 12, 2020, the EPA finalized "A Holistic Approach to Closure Part B," which further amended the April 2015 Rule to, among other things, provide procedures for requesting approval to operate existing impoundments with an alternative liner. NRG anticipates further rulemaking related to the Federal Permit Program and legacy surface impoundments.

Note 26 — Cash Flow Information

Detail of supplemental disclosures of cash flow and non-cash investing and financing information was:

(In millions)	Year Ended December 31,		
	2022	2021	2020
Interest paid, net of amount capitalized	\$ 383	\$ 433	\$ 340
Income taxes paid, net of refunds	66	32	24
Non-cash investing activities:			
Decreases to fixed assets for accrued capital expenditures	(68)	(16)	(6)

Note 27 — Guarantees

NRG and its subsidiaries enter into various contracts that include indemnification and guarantee provisions as a routine part of the Company's business activities. Examples of these contracts include asset purchases and sale agreements, commodity sale and purchase agreements, retail contracts, joint venture agreements, EPC agreements, operation and maintenance agreements, service agreements, settlement agreements, and other types of contractual agreements with vendors and other third parties, as well as affiliates. These contracts generally indemnify the counterparty for tax, environmental liability, litigation and other matters, as well as breaches of representations, warranties and covenants set forth in these agreements. The Company is obligated with respect to customer deposits associated with the Company's retail operations. In some cases, NRG's maximum potential liability cannot be estimated, since the underlying agreements contain no limits on potential liability.

The following table summarizes the maximum potential exposures that can be estimated for NRG's guarantees, indemnities, and other contingent liabilities by maturity:

(In millions)	By Remaining Maturity at December 31,					
	2022					2021 Total
	Under 1 Year	1-3 Years	3-5 Years	Over 5 Years	Total	
Guarantees						
Letters of credit and surety bonds	\$ 5,211	\$ —	\$ —	\$ —	\$ 5,211	\$ 4,095
Asset sales guarantee obligations	270	25	34	80	409	414
Other guarantees	—	—	—	15	15	93
Total guarantees	\$ 5,481	\$ 25	\$ 34	\$ 95	\$ 5,635	\$ 4,602

Letters of credit and surety bonds — As of December 31, 2022, NRG and its consolidated subsidiaries were contingently obligated for a total of \$5.2 billion under letters of credit and surety bonds. Most of these letters of credit and surety bonds are issued in support of the Company's obligations to perform under commodity agreements and obligations associated with future closure and maintenance of ash sites, as well as for financing or other arrangements. A majority of these letters of credit and surety bonds expire within one year of issuance, and it is typical for the Company to renew them on similar terms.

The material indemnities, within the scope of ASC 460, are as follows:

Asset sales — The purchase and sale agreements which govern NRG's asset or share investments and divestitures customarily contain guarantees and indemnifications of the transaction to third parties. The contracts indemnify the parties for liabilities incurred as a result of a breach of a representation or warranty by the indemnifying party, changes in tax laws or for pre-existing environmental matters. These obligations generally have a discrete term and are intended to protect the parties against risks that are difficult to predict or estimate at the time of the transaction. In several cases, the contract limits the liability of the indemnifier. NRG has no reason to believe that the Company currently has any material liability relating to such routine indemnification obligations included in the table above, except for the California property tax indemnity for estimated increases in California property taxes of certain solar properties that the Company agreed to indemnify NRG Yield for, as part of the agreement to sell NRG Yield and the Renewables Platform. The California property tax indemnity is estimated to be \$141 million as of December 31, 2022 and is included in the above table under asset sales guarantee obligations.

Other guarantees — NRG has issued other guarantees of obligations including payments under certain agreements with respect to certain of its unconsolidated subsidiaries, payment or performance by fuel providers and payment or reimbursement of credit support and deposits. The Company does not believe that it will be required to perform under these guarantees.

Other indemnities — Other indemnifications NRG has provided cover operational, tax, litigation and breaches of representations, warranties and covenants. NRG has also indemnified, on a routine basis in the ordinary course of business, consultants or other vendors who have provided services to the Company. NRG's maximum potential exposure under these indemnifications can range from a specified dollar amount to an indeterminate amount, depending on the nature of the transaction. Total maximum potential exposure under these indemnifications is not estimable due to uncertainty as to whether claims will be made or how they will be resolved. NRG does not have any reason to believe that the Company will be required to make any material payments under these indemnity provisions.

Because many of the guarantees and indemnities NRG issues to third parties and affiliates do not limit the amount or duration of its obligations to perform under them, there exists a risk that the Company may have obligations in excess of the amounts described above. For those guarantees and indemnities that do not limit the Company's liability exposure, it may not be able to estimate what the Company's liability would be, until a claim is made for payment or performance, due to the contingent nature of these contracts.

Note 28 — Jointly Owned Plants

Certain NRG subsidiaries own undivided interests in jointly-owned plants, as described below. These plants are maintained and operated pursuant to their joint ownership participation and operating agreements. NRG is responsible for its subsidiaries' share of operating costs and direct expenses and includes its proportionate share of the facilities and related revenues and direct expenses in these jointly-owned plants in the corresponding balance sheet and income statement captions of the Company's consolidated financial statements.

The following table summarizes NRG's proportionate ownership interest in the Company's jointly-owned facilities:

(In millions unless otherwise stated)

As of December 31, 2022	Ownership Interest	Property, Plant & Equipment	Accumulated Depreciation	Construction in Progress
South Texas Project Units 1 and 2, Bay City, TX	44.00 %	\$ 478	\$ (235)	\$ 7
Cedar Bayou Unit 4, Baytown, TX	50.00 %	229	(118)	7

SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS

For the Years Ended December 31, 2022, 2021 and 2020

(In millions)	<u>Balance at Beginning of Period</u>	<u>Charged to Costs and Expenses</u>	<u>Charged to Other Accounts</u>	<u>Deductions</u>	<u>Balance at End of Period</u>
Allowance for credit losses, deducted from accounts receivable					
Year Ended December 31, 2022	\$ 683	\$ 11	\$ —	\$ (561) ^(a)	\$ 133
Year Ended December 31, 2021	67	698	112	(194) ^(a)	683
Year Ended December 31, 2020	43	108	—	(84) ^(a)	67
Income tax valuation allowance, deducted from deferred tax assets					
Year Ended December 31, 2022	\$ 248	\$ (20)	\$ (4)	\$ —	\$ 224
Year Ended December 31, 2021	266	(29)	11	—	248
Year Ended December 31, 2020	242	24	—	—	266

(a) Represents principally net amounts charged as uncollectible

EXHIBIT INDEX

Number	Description	Method of Filing
2.1	Third Amended Joint Plan of Reorganization of NRG Energy, Inc., NRG Power Marketing, Inc., NRG Capital LLC, NRG Finance Company I LLC, and NRGenerating Holdings (No. 23) B.V.	Incorporated herein by reference to Exhibit 99.1 to the Registrant's current report on Form 8-K filed on November 19, 2003.
2.2	First Amended Joint Plan of Reorganization of NRG Northeast Generating LLC (and certain of its subsidiaries), NRG South Central Generating (and certain of its subsidiaries) and Berrians I Gas Turbine Power LLC.	Incorporated herein by reference to Exhibit 99.2 to the Registrant's current report on Form 8-K filed on November 19, 2003.
2.3	Acquisition Agreement, dated as of September 30, 2005, by and among NRG Energy, Inc., Texas Genco LLC and the Direct and Indirect Owners of Texas Genco LLC.	Incorporated herein by reference to Exhibit 2.1 to the Registrant's current report on Form 8-K filed on October 3, 2005.
2.4	Asset Purchase Agreement, dated October 18, 2013, by and among NRG Energy, Inc., Edison Mission Energy and NRG Energy Holdings Inc.	Incorporated herein by reference to Exhibit 2.2 to Amendment No. 1 to the Registrant's current report on Form 8-K filed on October 21, 2013.
2.5	Third Amended Joint Plan of Reorganization of GenOn Energy, Inc. and its Debtor Affiliates.	Incorporated herein by reference to Exhibit 2.1 to the Registrant's current report on Form 8-K filed on December 18, 2017.
2.6†^	Purchase and Sale Agreement, dated as of February 6, 2018, by and among NRG Energy, Inc. and NRG Repowering Holdings LLC, and GIP III Zephyr Acquisition Partners, L.P.	Incorporated herein by reference to Exhibit 2.9 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
2.7^	Purchase and Sale Agreement, dated as of February 6, 2018, by and among NRG Energy, Inc., NRG South Central Generating LLC, and Cleco Energy LLC.	Incorporated herein by reference to Exhibit 2.10 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
2.8‡	Purchase and Sale Agreement dated as of February 28, 2021 by and between NRG Energy, Inc., and Generation Bridge Acquisition, LLC, as a Purchaser	Incorporated herein by reference to Exhibit 2.1 to the Registrant's quarterly report on Form 10-Q filed on May 6, 2021.
2.9^	Agreement and Plan of Merger dated as of December 6, 2022, by and among the Company, Merger Sub and Vivint.	Incorporated herein by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K, filed on December 6, 2022.
3.1	Amended and Restated Certificate of Incorporation.	Incorporated herein by reference to Exhibit 3.1 to the Registrant's quarterly report on Form 10-Q filed on May 3, 2012.
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation.	Incorporated herein by reference to Exhibit 3.1 to the Registrant's current report on Form 8-K filed on December 14, 2012.
3.3	Sixth Amended and Restated By-Laws.	Incorporated herein by reference to Exhibit 3.2 to the Registrant's current report on Form 8-K filed on December 2, 2022.
4.1	Specimen of Certificate representing common stock of NRG Energy, Inc.	Incorporated herein by reference to Exhibit 4.3 to the Registrant's quarterly report on Form 10-Q filed on August 4, 2006.
4.2	Second Supplemental Indenture, dated as of July 19, 2016, among NRG Energy, Inc., the guarantors named therein and Law Debenture Trust Company of New York.	Incorporated herein by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed on July 25, 2016.
4.3	Third Supplemental Indenture, dated August 2, 2016, among NRG Energy, Inc., the guarantors named therein and Law Debenture Trust Company of New York.	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on August 3, 2016.
4.4	Form of 6.625% Senior Note due 2027.	Incorporated herein by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed on August 3, 2016.
4.5	Registration Rights Agreement, dated August 2, 2016, among NRG Energy, Inc., the guarantors named therein and Morgan Stanley & Co. LLC, as representative to the initial purchasers listed in Schedule I thereto.	Incorporated herein by reference to Exhibit 4.4 to the Registrant's Current Report on Form 8-K, filed on August 3, 2016.
4.6	Fourth Supplemental Indenture, dated December 7, 2017, among NRG Energy, Inc., the guarantors named therein and Delaware Trust Company, as trustee.	Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on December 8, 2017.
4.7	Form of 5.75% Senior Notes due 2028.	Incorporated herein by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed on December 8, 2017.

- 4.8 [Registration Rights Agreement, dated December 7, 2017, among NRG Energy, Inc., the guarantors named therein and Citigroup Global Markets, Inc., as representative to the initial purchasers listed in Schedule I thereto.](#) Incorporated herein by reference to Exhibit 4.4 to the Registrant's Current Report on Form 8-K, filed on December 8, 2017.
- 4.9 [Indenture, dated May 24, 2018, among NRG Energy, Inc., the guarantors named therein and Delaware Trust Company, as trustee.](#) Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on May 25, 2018.
- 4.10 [Form of 2.75% Convertible Senior Notes due 2048.](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on May 25, 2018.
- 4.11 [Description of NRG Energy, Inc. securities registered pursuant to section 12 of the Securities Exchange Act of 1934](#) Incorporated herein by reference to Exhibit 4.15 to the Registrant's Annual Report on Form 10-K, filed on February 27, 2020.
- 4.12 [Indenture, dated December 2, 2020, between NRG Energy, Inc. and Deutsche Bank Trust Company Americas, as trustee, pertaining to the Secured Notes.](#) Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.13 [Supplemental Indenture, dated December 2, 2020, among NRG Energy, Inc., the guarantors named therein and Deutsche Bank Trust Company Americas, as trustee, pertaining to the Secured Notes](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.14 [Form of 2.000% Senior Secured First Lien Notes due 2025](#) Incorporated herein by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.15 [Form of 2.450% Senior Secured First Lien Notes due 2027](#) Incorporated herein by reference to Exhibit 4.4 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.16 [Indenture, dated December 2, 2020, between NRG Energy, Inc. and Deutsche Bank Trust Company Americas, as trustee, pertaining to the Unsecured Notes](#) Incorporated herein by reference to Exhibit 4.5 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.17 [Supplemental Indenture, dated December 2, 2020, among NRG Energy, Inc., the guarantors named therein and Deutsche Bank Trust Company Americas, as trustee, pertaining to the Unsecured Notes](#) Incorporated herein by reference to Exhibit 4.6 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.18 [Form of 3.375% Senior Notes due 2029 \(incorporated by reference to Exhibit 4.6 filed herewith\)](#) Incorporated herein by reference to Exhibit 4.7 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.19 [Form of 3.625% Senior Notes due 2031 \(incorporated by reference to Exhibit 4.6 filed herewith\)](#) Incorporated herein by reference to Exhibit 4.8 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.20 [Facility Agreement, dated December 2, 2020, among NRG Energy, Inc., the guarantors party thereto, Alexander Funding Trust and Deutsche Bank Trust Company Americas, as the notes trustee](#) Incorporated herein by reference to Exhibit 4.9 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.21 [Letter of Credit Facility Agreement, dated December 2, 2020, among NRG Energy, Inc., the financial institutions from time to time party thereto as letter of credit issuers, and Deutsche Bank Trust Company Americas, as administrative agent and as collateral agent](#) Incorporated herein by reference to Exhibit 4.10 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.22 [Amended and Restated Declaration of Trust of Alexander Funding Trust, dated December 2, 2020, among NRG Energy, Inc. as depositor and in its own capacity, Deutsche Bank Trust Company Americas, as trustee, and Deutsche Bank Trust Company Delaware, as Delaware trustee](#) Incorporated herein by reference to Exhibit 4.11 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.23 [Indenture, dated December 2, 2020, between NRG Energy, Inc. and Deutsche Bank Trust Company Americas, as trustee, pertaining to the P-Caps Secured Notes](#) Incorporated herein by reference to Exhibit 4.12 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.24 [Supplemental Indenture, dated December 2, 2020, among NRG Energy, Inc., the guarantors named therein and Deutsche Bank Trust Company Americas, as trustee, pertaining to the P-Caps Secured Notes](#) Incorporated herein by reference to Exhibit 4.13 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.25 [Form of 1.841% Senior Secured First Lien Notes due 2023\(incorporated by reference to Exhibit 4.31 filed herewith\)](#) Incorporated herein by reference to Exhibit 4.14 to the Registrant's Current Report on Form 8-K, filed on December 4, 2020.
- 4.26 [Amendment and Restatement Agreement, dated as of June 30, 2016, to the Amended and Restated Credit Agreement, the Second Amended and Restated Collateral Trust Agreement and the Amended and Restated Guarantee and Collateral Agreement.](#) Incorporated herein by reference to Exhibit 10.1 to the Registrant's quarterly report on Form 10-Q filed on August 9, 2016.

- 4.27 [Second Amended and Restated Credit Agreement, dated as of June 30, 2016, by and among NRG Energy, Inc., the lenders party thereto, the joint lead arrangers and joint lead bookrunners party thereto, Citicorp North America, Inc., Commerzbank AG, New York Branch, Keybank Capital Markets Inc. and CIT Bank, N.A.](#) Incorporated herein by reference to Exhibit 10.2 to the Registrant's quarterly report on Form 10-Q filed on August 9, 2016.
- 4.28 [First Amendment Agreement, dated as of January 24, 2017, dated as of January 24, 2017, by and among NRG Energy, Inc., the lenders from time to time parties thereto and Citicorp North America, Inc., as administrative agent and collateral agent.](#) Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on January 24, 2017.
- 4.29 [Second Amendment Agreement, dated as of March 21, 2018, by and among NRG Energy, Inc., the lenders from time to time parties thereto and Citicorp North America, Inc., as administrative agent and collateral agent.](#) Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on March 22, 2018.
- 4.30 [Third Amendment Agreement, dated as of May 7, 2018, by and among NRG Energy, Inc., its subsidiaries parties thereto, the lenders from time to time parties thereto and Citicorp North America, Inc., as administrative agent and collateral agent.](#) Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on May 7, 2018.
- 4.31 [Indenture, dated May 23, 2016, between NRG Energy, Inc. and Delaware Trust Company \(as successor in interest to Law Debenture Trust Company of New York\), as trustee.](#) Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on May 23, 2016.
- 4.32 [Fifth Supplemental Indenture, dated May 14, 2019, among NRG Energy, Inc., the guarantors named therein and Delaware Trust Company, as trustee.](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 16, 2019.
- 4.33 [Form of 5.250% Senior Notes due 2029.](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 14, 2019.
- 4.34 [Indenture, dated May 28, 2019, between NRG Energy, Inc. and Delaware Trust Company, as trustee](#) Incorporated herein by reference to Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on May 30, 2019.
- 4.35 [Supplemental Indenture, dated May 28, 2019, among NRG Energy, Inc., the guarantors named therein and Delaware Trust Company, as trustee.](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 30, 2019.
- 4.36 [Form of 3.750% Senior Secured First Lien Notes due 2024](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 30, 2019.
- 4.37 [Form of 4.450% Senior Secured First Lien Notes due 2029](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on May 30, 2019.
- 4.38 [Fourth Amendment dated as of May 28, 2019 to the Second Amended and Restated Credit Agreement dated as of June 30, 2016, included as Annex A thereto a clean, conformed copy of the Second Amended and Restated Credit Agreement](#) Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on November 7, 2019.
- 4.39 [Fifth Amendment to Credit Agreement and Third Amendment to Collateral Trust Agreement, dated as of August 20, 2020, by and among NRG Energy, Inc., its subsidiaries parties thereto, the lenders party thereto, Citicorp North America, Inc., as administrative agent and collateral agent, and Deutsche Bank Trust Company Americas, as collateral trustee.](#) Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on August 21, 2020.
- 4.40 [Receivables Sale Agreement, dated as of September 22, 2020, among the Originators from time to time parties thereto, NRG Retail LLC, as Servicer, and NRG Receivables LLC.](#) Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on September 22, 2020.
- 4.41 [Receivables Loan and Servicing Agreement, dated as of September 22, 2020, among NRG Receivables LLC, as Borrower, NRG Retail LLC, as Servicer, the persons from time to time party thereto as Conduit Lenders, the persons from time to time party thereto as Committed Lenders, the persons from time to time party thereto as Facility Agents, the financial institutions from time to time party thereto as LC Issuers, and Royal Bank of Canada as Administrative Agent](#) Incorporated herein by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on September 22, 2020.

- 4.42 [Supplemental Indenture \(Additional Subsidiary Guarantees-2.750% Convertible Senior Notes due 2048\) dated January 5, 2021, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.](#) Incorporated herein by reference to Exhibit 4.1 to the Registrant's quarterly report on Form 10-Q filed on May 6, 2021.
- 4.43 [Supplemental Indenture \(Additional Subsidiary Guarantees 1.841% Senior Secured First Lien Notes due 2023\) dated January 5, 2021, among NRG Energy, Inc., each of its guarantor subsidiaries, and Deutsche Bank Trust Company Americas as trustee.](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's quarterly report on Form 10-Q filed on May 6, 2021.
- 4.44 [Supplemental Indenture \(additional Subsidiary Guarantees-6.625% Senior Notes due 2027\) dated January 5, 2021, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.](#) Incorporated herein by reference to Exhibit 4.4 to the Registrant's quarterly report on Form 10-Q filed on May 6, 2021.
- 4.45 [Supplemental Indenture \(additional Subsidiary Guarantees-5.750% Senior Notes due 2028\) dated January 5, 2021, Supplemental Indenture \(additional Subsidiary Guarantees-5.750% Senior Notes due 2028\) dated January 5, 2021, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.](#) Incorporated herein by reference to Exhibit 4.5 to the Registrant's quarterly report on Form 10-Q filed on May 6, 2021.
- 4.46 [Supplemental Indenture \(additional Subsidiary Guarantees-5.250% Senior Notes due 2029\) dated January 5, 2021, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.](#) Incorporated herein by reference to Exhibit 4.6 to the Registrant's quarterly report on Form 10-Q filed on May 6, 2021.
- 4.47 [Supplemental Indenture \(Additional Subsidiary Guarantees 3.375% Senior Notes due 2029 and 3.625% Senior Notes due 2031\) dated January 5, 2021, among NRG Energy, Inc., each of its guarantor subsidiaries, and Deutsche Bank Trust Company Americas as trustee.](#) Incorporated herein by reference to Exhibit 4.7 to the Registrant's quarterly report on Form 10-Q filed on May 6, 2021.
- 4.48 [Supplemental Indenture \(additional Subsidiary Guarantees-3.750% Senior Secured First Lien Notes due 2024 and 4.450% Senior Secured First Lien Notes due 2029\) dated January 5, 2021, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on August 23, 2021.
- 4.49 [Supplemental Indenture \(Additional Subsidiary Guarantees 2.000% Senior Secured First Lien Notes due 2025 and 2.450% Senior Secured First Lien Notes due 2027\) dated January 5, 2021, among NRG Energy, Inc., each of its guarantor subsidiaries, and Deutsche Bank Trust Company Americas as trustee.](#) Incorporated herein by reference to Exhibit 4.3 to the Registrant's Current Report on Form 8-K, filed on August 23, 2021.
- 4.50 [Second Supplemental Indenture, dated August 23, 2021, among NRG Energy, Inc., the guarantors named therein and Deutsche Bank Trust Company Americas, as trustee.](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on August 23, 2021.
- 4.51 [Form of 3.875% Senior Notes due 2032.](#) Incorporated herein by reference to Exhibit 4.2 to the Registrant's Current Report on Form 8-K, filed on August 23, 2021.
- 4.52 [Supplemental Indenture \(Settlement Elections - 2.750% Convertible Senior Notes due 2048\) dated February 22, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.](#) Incorporated herein by reference to Exhibit 4.52 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
- 4.53 [Supplemental Indenture \(Additional Subsidiary Guarantees-2.750% Convertible Senior Notes due 2048\) dated February 17, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.](#) Incorporated herein by reference to Exhibit 4.53 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
- 4.54 [Supplemental Indenture \(Additional Subsidiary Guarantees-1.841% Senior Secured First Lien Notes due 2023\) dated February 17, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Deutsche Bank Trust Company Americas as trustee.](#) Incorporated herein by reference to Exhibit 4.54 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
- 4.55 [Supplemental Indenture \(Additional Subsidiary Guarantees-6.625% Senior Notes due 2027\) dated February 17, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.](#) Incorporated herein by reference to Exhibit 4.55 to the Registrant's annual report on Form 10-K filed on February 24, 2022.

4.56	<u>Supplemental Indenture (Additional Subsidiary Guarantees-5.750% Senior Notes due 2028) dated February 17, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.</u>	Incorporated herein by reference to Exhibit 4.56 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
4.57	<u>Supplemental Indenture (Additional Subsidiary Guarantees-5.250% Senior Notes due 2029) dated February 17, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.</u>	Incorporated herein by reference to Exhibit 4.57 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
4.58	<u>Supplemental Indenture (Additional Subsidiary Guarantees-3.375% Senior Notes due 2029 and 3.625% Senior Notes due 2031) dated February 17, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Deutsche Bank Trust Company Americas as trustee.</u>	Incorporated herein by reference to Exhibit 4.58 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
4.59	<u>Supplemental Indenture (Additional Subsidiary Guarantees-3.750% Senior Secured First Lien Notes due 2024 and 4.450% Senior Secured First Lien Notes due 2029) dated February 17, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Delaware Trust Company as trustee.</u>	Incorporated herein by reference to Exhibit 4.59 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
4.60	<u>Supplemental Indenture (Additional Subsidiary Guarantees-2.000% Senior Secured First Lien Notes due 2025 and 2.450% Senior Secured First Lien Notes due 2027) dated February 17, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Deutsche Bank Trust Company Americas as trustee.</u>	Incorporated herein by reference to Exhibit 4.60 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
4.61	<u>Supplemental Indenture (Additional Subsidiary Guarantees-3.875% Senior Notes due 2032) dated February 17, 2022, among NRG Energy, Inc., each of its guarantor subsidiaries, and Deutsche Bank Trust Company Americas as trustee.</u>	Incorporated herein by reference to Exhibit 4.61 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
4.62	<u>Sixth Amendment to Second Amended and Restated Credit Agreement, dated February 14, 2023, by and among NRG Energy, Inc., its subsidiaries party thereto, the lenders and issuing banks party thereto, Citicorp North America, Inc., as administrative agent and collateral agent, and Deutsche Bank</u>	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on February 14, 2023.
10.1*	<u>Form of NRG Energy, Inc. Long-Term Incentive Plan Deferred Stock Unit Agreement for Directors.</u>	Incorporated herein by reference to Exhibit 10.15 to the Registrant's annual report on Form 10-K filed on March 30, 2005.
10.2*	<u>Form of NRG Energy, Inc. Long-Term Incentive Plan Restricted Stock Unit Agreement for Officers.</u>	Incorporated herein by reference to Exhibit 10.6 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
10.3*	<u>Form of NRG Energy, Inc. Long-Term Incentive Plan Restricted Stock Unit Agreement for Non-Officers.</u>	Incorporated herein by reference to Exhibit 10.7 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
10.4*	<u>Form of NRG Energy, Inc. Long-Term Incentive Plan Performance Stock Unit Agreement.</u>	Incorporated herein by reference to Exhibit 10.7 to the Registrant's annual report on Form 10-K filed on February 23, 2010.
10.5*	<u>Second Amended and Restated Annual Incentive Plan for Designated Corporate Officers.</u>	Incorporated herein by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed on May 7, 2015.
10.6†	<u>LLC Membership Interest Purchase Agreement between Reliant Energy, Inc. and NRG Retail LLC, dated as of February 28, 2009.</u>	Incorporated herein by reference to Exhibit 10.1 to the Registrant's quarterly report on Form 10-Q filed on April 30, 2009.
10.7*	<u>The NRG Energy, Inc. Amended and Restated Long-Term Incentive Plan.</u>	Incorporated herein by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed on April 28, 2017.
10.8*	<u>NRG 2010 Stock Plan for GenOn Employees.</u>	Incorporated herein by reference to Exhibit 10.49 to the Registrant's annual report on Form 10-K filed on February 27, 2013.

10.9*	<u>NRG Energy, Inc. Long-Term Incentive Plan Market Stock Unit Agreement.</u>	Incorporated herein by reference to Exhibit 10.53 to the Registrant's annual report on Form 10-K filed on February 28, 2014.
10.10*	<u>NRG Energy, Inc. 2010 Stock Plan For GenOn Employees Market Stock Unit Agreement</u>	Incorporated herein by reference to Exhibit 10.54 to the Registrant's annual report on Form 10-K filed on February 28, 2014.
10.11	<u>Employment Agreement, dated December 21, 2015, by and between NRG Energy, Inc. and Mauricio Gutierrez.</u>	Incorporated herein by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed on December 24, 2015.
10.12	<u>Settlement Agreement, dated as of December 14, 2017, by and between NRG Energy, Inc. on behalf of itself and the NRG Parties, GenOn Energy, Inc. on behalf of itself and the Debtors.</u>	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on December 18, 2017.
10.13	<u>Pension Indemnity Agreement, dated as of December 14, 2017, by and between NRG Energy, Inc. and GenOn Energy, Inc.</u>	Incorporated herein by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K filed on December 18, 2017.
10.14	<u>Tax Matters Agreement, initially dated as of December 14, 2017, by and between NRG Energy, Inc. and GenOn Energy, Inc. and by Reorganized GenOn upon the Effective Date.</u>	Incorporated herein by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K filed on December 18, 2017.
10.15*	<u>Form of NRG Energy, Inc. Long-Term Incentive Plan Relative Performance Stock Unit Agreement for Officers.</u>	Incorporated herein by reference to Exhibit 10.73 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
10.16*	<u>Form of NRG Energy, Inc. Long-Term Incentive Plan Relative Performance Stock Unit Agreement for Senior Vice Presidents.</u>	Incorporated herein by reference to Exhibit 10.74 to the Registrant's annual report on Form 10-K filed on March 1, 2018.
10.17†	<u>Consent and Indemnity Agreement, dated as of February 6, 2018, by and among NRG Energy, Inc., NRG Repowering Holdings LLC, NRG Yield, Inc., and GIP III Zephyr Acquisition Partners, L.P., and NRG Yield Operating LLC (solely with respect to Sections E.5, E.6 and G.12).</u>	Incorporated herein by reference to Exhibit 10.34 to NRG Yield, Inc.'s Annual Report on Form 10-K filed on March 1, 2018.
10.18*	<u>Amended and Restated Employee Stock Purchase Plan</u>	Incorporated herein by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q filed on May 2, 2019.
10.19*	<u>NRG Energy, Inc. Amended and Restated Executive Change-in-Control and General Severance Plan for Tier IA and Tier IIA Executives (Amended and Restated Effective April 1, 2018).</u>	Incorporated herein by reference to Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q filed on August 2, 2018.
10.20	<u>A copy of Amendment No. 1 to Receivables Loan and Servicing Agreement, dated as of July 26, 2021, among NRG Retail LLC, as Servicer, NRG Receivables LLC, as Borrower, NRG Energy, Inc., as Performance Guarantor, the Conduit Lenders, Committed Lenders, Facility Agents and LC Issuers party, and Royal Bank of Canada, as administrative Agent, and included as Exhibit A-2 thereto a clean, conformed copy of the Receivables Loan and Servicing Agreement.</u>	Incorporated herein by reference to Exhibit 4.9 to the Registrant's quarterly report on Form 10-Q filed on August 5, 2021.
10.21*	<u>Form of NRG Energy, Inc. Long-Term Incentive Plan Relative Performance Stock Unit Agreement for Chief Executive Officer</u>	Incorporated herein by reference to Exhibit 10.21 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
10.22*	<u>Form of NRG Energy, Inc. Long-Term Incentive Plan Relative Performance Stock Unit Agreement for Executive Vice Presidents</u>	Incorporated herein by reference to Exhibit 10.22 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
10.23*	<u>Form of NRG Energy, Inc. Long-Term Incentive Plan Relative Performance Stock Unit Agreement for Senior Vice Presidents.</u>	Incorporated herein by reference to Exhibit 10.23 to the Registrant's annual report on Form 10-K filed on February 24, 2022.
10.24	<u>Amendment No. 2 to Receivables Loan and Servicing Agreement, dated as of July 26, 2022, among NRG Retail LLC, as Servicer, NRG Receivables LLC, as Borrower, NRG Energy, Inc., as Performance Guarantor, the Conduit Lenders, Committed Lenders, Facility Agents and LC Issuers party thereto, and Royal Bank of Canada, as administrative Agent, and included as Exhibit A-2 thereto a clean, conformed copy of the Receivables Loan and Servicing Agreement.</u>	Incorporated herein by reference to Exhibit 10.1 to the Registrant's current report on Form 8-K filed on August 1, 2022.

10.25	Joinder Agreement, dated as of July 26, 2022, by Direct Energy, LP, as an additional originator, and consented to by NRG Receivables LLC, as Borrower, NRG Retail LLC, as Servicer, and Royal Bank of Canada, as administrative agent, to the Receivables Sale Agreement, dated as of September 22, 2020, among the Originators from time to time parties thereto, NRG Retail LLC, as Servicer, and NRG Receivables LLC.	Incorporated herein by reference to Exhibit 10.2 to the Registrant's current report on Form 8-K filed on August 1, 2022.
10.26	Joinder Agreement, dated as of July 26, 2022, by Direct Energy Business, LLC, as an additional originator and consented to by NRG Receivables LLC, as Borrower, NRG Retail LLC, as Servicer, and Royal Bank of Canada, as administrative agent, to the Receivables Sale Agreement, dated as of September 22, 2020, among the Originators from time to time parties thereto, NRG Retail LLC, as Servicer, and NRG Receivables LLC.	Incorporated herein by reference to Exhibit 10.3 to the Registrant's current report on Form 8-K filed on August 1, 2022.
21.1	Subsidiaries of NRG Energy, Inc.	Filed herewith.
22.1	List of Guarantor Subsidiaries	Filed herewith.
23.1	Consent of KPMG LLP.	Filed herewith.
24.1	Power of Attorney	Included on signature page
31.1	Rule 13a-14(a)/15d-14(a) certification of Mauricio Gutierrez.	Filed herewith.
31.2	Rule 13a-14(a)/15d-14(a) certification of Alberto Fornaro.	Filed herewith.
31.3	Rule 13a-14(a)/15d-14(a) certification of Emily Picarello.	Filed herewith.
32	Section 1350 Certification.	Furnished herewith.
95.1	Mine Safety Disclosure	Filed herewith.
101 INS	Inline XBRL Instance Document.	The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document.
101 SCH	Inline XBRL Taxonomy Extension Schema.	Filed herewith.
101 CAL	Inline XBRL Taxonomy Extension Calculation Linkbase.	Filed herewith.
101 DEF	Inline XBRL Taxonomy Extension Definition Linkbase.	Filed herewith.
101 LAB	Inline XBRL Taxonomy Extension Label Linkbase.	Filed herewith.
101 PRE	Inline XBRL Taxonomy Extension Presentation Linkbase.	Filed herewith.
104	Cover Page Interactive Data File (the cover page interactive data file does not appear in Exhibit 104 because it's Inline XBRL tags are embedded within the Inline XBRL document).	Filed herewith.
*	Exhibit relates to compensation arrangements.	
†	Portions of this exhibit have been redacted and are subject to a confidential treatment request filed with the Secretary of the Securities and Exchange Commission pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.	
^	This filing excludes schedules pursuant to Item 601(b)(2) of Regulation S-K, which the registrant agrees to furnish supplementary to the Securities and Exchange Commission upon request by the Commission.	
‡	Portions of this exhibit have been excluded because they are both not material and would likely cause competitive harm to the registrant if publicly disclosed. Information that has been omitted has been noted in this document with a placeholder identified by the mark “[***]”.	

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

NRG ENERGY, INC.
(Registrant)

By: /s/ MAURICIO GUTIERREZ

Mauricio Gutierrez
Chief Executive Officer

Date: February 23, 2023

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Brian E. Curci and Christine A. Zoino, each or any of them, such person's true and lawful attorney-in-fact and agent with full power of substitution and resubstitution for such person and in such person's name, place and stead, in any and all capacities, to sign any and all amendments to this report on Form 10-K, and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing necessary or desirable to be done in and about the premises, as fully to all intents and purposes as such person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

In accordance with the Exchange Act, this report has been signed by the following persons on behalf of the registrant in the capacities indicated on February 23, 2023.

Signature	Title	Date
<u>/s/ MAURICIO GUTIERREZ</u> Mauricio Gutierrez	President, Chief Executive Officer and Director (Principal Executive Officer)	February 23, 2023
<u>/s/ ALBERTO FORNARO</u> Alberto Fornaro	Chief Financial Officer (Principal Financial Officer)	February 23, 2023
<u>/s/ EMILY PICARELLO</u> Emily Picarello	Corporate Controller (Principal Accounting Officer)	February 23, 2023
<u>/s/ LAWRENCE S. COBEN</u> Lawrence S. Coben	Chair of the Board	February 23, 2023
<u>/s/ E. SPENCER ABRAHAM</u> E. Spencer Abraham	Director	February 23, 2023
<u>/s/ ANTONIO CARRILLO</u> Antonio Carrillo	Director	February 23, 2023
<u>/s/ MATTHEW CARTER, JR.</u> Matthew Carter, Jr.	Director	February 23, 2023
<u>/s/ HEATHER COX</u> Heather Cox	Director	February 23, 2023
<u>/s/ ELISABETH B. DONOHUE</u> Elisabeth B. Donohue	Director	February 23, 2023
<u>/s/ PAUL W. HOBBY</u> Paul W. Hobby	Director	February 23, 2023
<u>/s/ ALEXANDRA PRUNER</u> Alexandra Pruner	Director	February 23, 2023
<u>/s/ ANNE C. SCHAUMBURG</u> Anne C. Schaumburg	Director	February 23, 2023
<u>/s/ THOMAS H. WEIDEMEYER</u> Thomas H. Weidemeyer	Director	February 23, 2023