Join the change

fortum

CEO Letter 2016

Join the change

Dear stakeholders,

2016 was a fascinating year of learning for one who came from outside the energy industry. Ten years in telecom and a little more in technology and machine building gave me valuable tools that are useful in the ongoing energy transition. However, a significant part of the utility business logic will continue to be industry specific.

Fortum has in the past few years made several important strategic decisions. The divestment of the distribution business was, without a doubt, the most significant one. In February 2016, we published a high-level strategy framework describing our way forward. During the Capital Markets Day in November our priorities, growth drivers and planned capital allocation were expanded in more depth.

Fortum's strategy

CO_2-free power generation and deep knowledge about how to operate generation assets is in the very core of Fortum's DNA. It is complemented by our thorough understanding of power markets and trading as well as our deep expertise in combined heat and power production. This is the solid foundation that we build our future on.

There are four growth areas in our strategy and they have a clear priority order. Growth engine number one and our first priority is to drive productivity and industry transformation. Growth engine number two and our second priority is solutions for sustainable cities. Growth engines three and four – growing in solar and wind and building new energy ventures – are targeting to secure our long-term competitiveness in the future energy system.

The timing of our growth efforts and the redeployment of cash will take place in two phases, and a significant part of the redeployment is expected to take place during 2017. Our objective is to maximise our cash flow, while targeting a net debt to EBITDA ratio of 2.5. We believe that the European power generation industry will consolidate and we want to have a significant role in driving the change. Broadening the scope of our City Solutions business will also offer growth opportunities.

We will utilise the competencies we have today in our combined heat and power production and in the acquired Ekokem business, and build on these combined strengths. The acquisition of Ekokem, was therefore an essential step in implementing our strategy. The cash flow generated as a result of phase one will be used for 1) securing a competitive dividend; and 2) investments into phase two.

Phase two comprises growth engines three and four as described above. We have already started investments in solar and wind, in the Nordics, Russia and India. They are lower in priority when it comes to capital allocation, but we have a clear target to accumulate a gigawatt-scale portfolio in the coming years.

The final priority is New Ventures, in which we will allocate approximately EUR 100-200 million into new innovations and start-ups with disruptive potential. This is very important for our long-term competitiveness, since many parts of the energy system of the future will be significantly different from the one known today. Here, too, we have already acted by investing in companies like Info24, Chempolis and Exeger, which are small investments, but have good potential for the future and are a good fit with Fortum's business.

Vision and Mission

We updated our vision and mission during the autumn of 2016. Our updated vision – 'For a cleaner world' – goes beyond just clean energy production, it expresses our commitment to fuel and resource efficiency and how we enable our stakeholders, customers and society to make sustainable choices. Also here our acquisition of Ekokem plays an important role. We wanted to create a vision that clearly incorporates also the circular economy aspects, including its connections to the energy system. It's not only about energy production, it's also the wider added value potential of fuels like biomass and waste. Our new strategy clearly pronounces our commitment and the continuous alignment of our actions with the principles of the UN Global Compact and Caring for Climate initiatives.

In our mission we state that "we engage our customers and society to drive the change towards a cleaner world." In saying so, we invite all our stakeholders – society, our employees, our shareholders and our partners – to join us in the change. Still today approximately 80% of the world's primary energy demand is based on fossil fuels, so decarbonisation needs to be a process. Our role is to accelerate the change by reshaping the energy system, improving resource efficiency and providing smart solutions for the future. More and more of this will be digitally-enabled. And naturally we believe that we can do this in a way that delivers excellent shareholder value.

Megatrends

The global megatrends affecting our industry are quite well-known and impact many other businesses as well: climate change, urbanisation, digitalisation and active customers. Climate change and the need for decarbonisation and resource efficiency is the one changing our industry in a profound way.

The Paris Agreement sets a target to limit global warming below 2°C above pre-industrial levels while pursuing efforts to limit the increase to 1.5°C. The International Energy Agency has estimated that in order to fulfil the targets of the Paris Agreement, approximately USD 16,500 billion will have to be invested in the world's energy system. It's obvious that that money will not come from government budgets alone. We strongly believe that the only way forward will be market mechanisms that remunerate private investments. We continue to advocate for market-based, technology-neutral solutions and efficient carbon pricing as tools for decarbonisation.

The progress in renewable energy technology is very encouraging. The investment cost of new renewables is declining rapidly and is causing fundamental changes in the energy system. The cost of solar has dropped approximately 80% in five years, and we have seen recent drops in the levelised cost of electricity for on-shore wind.

In addition, recycling and the circular economy create opportunities for companies like Fortum. The amount of waste the world is producing is roughly expected to double between 2015 and 2025. In the growing megacities of Asia, waste is a massive and rapidly growing problem that will create additional opportunities. Also, in the EU alone, about 30% of municipal waste today goes to landfills, which will be restricted in the future.

A third very big shift will be the role of active customers and, in particular, the role of the retail electricity business model. Digitalisation enables new scalable services to consumers, and the growth of decentralised generation means that many consumers will become "prosumers" with their own production as well as consumption. Consumers will also play an important role in balancing the increasingly intermittent energy system.

Our operating market in 2016

2016 was a challenging year in many respects. The beginning of the year was characterised by increased commodity market volatility; especially coal and oil prices were very low. Nordic water reservoirs were clearly above the long-term average, creating pressure on electricity prices, and the British EU exit vote also created uncertainty.

From the second quarter onward, the power market started showing positive signs, mainly driven by the improving commodity market prices. Commodity prices increased throughout the year and are now clearly higher than at the end of 2015. In the Nordic system the role of hydro-power is very important. Typically, the annual hydro-power production is around 200 terawatt hours (TWh), but it can vary by 40 TWh in either direction between wet and dry years. These changes have been quite fast. At the beginning of 2016 Nordic water reservoirs were 15 TWh above the long-term average, and by the end of 2016 they had dropped 23 TWh to 8 TWh below the long-term average. There is a direct correlation to how much we can produce. In 2016, our hydro production was almost 20% lower than the year before. The varying hydrological situation in combination with the changes in commodity prices caused very high volatility in power forwards, especially for 2017.

Our comparable operating profit for continuing operations was EUR 644 million, down 20% from 2015. The decline was mainly due to significantly lower hydro-power production and the lower achieved power price.

Operationally, the year met our expectations, as availability in our plants was good and ongoing projects progressed as planned. We completed our extensive investment programme in Russia in spring 2016, and the new capacity has been the key driver for the earnings growth in the Russia division.

Also positive was the Swedish political agreement on energy policy in June and the government's budget proposal in September. The budget proposal included the timetable for lowering the real-estate tax on hydro assets and for phasing out the nuclear capacity tax over the coming years. We are very pleased with the swift decision and the finalisation of the timetable, which gives regulatory stability to operate the plants and plan the necessary safety investments. This is completely in line with what we have been advocating for: a regulation and taxation policy where the different forms of CO_2-free production are treated more equally.

Going forward

The number one priority for Fortum going forward is to ensure a controlled transition towards a low-carbon energy system. Accordingly, our CO_2-free production should increase. It is important to recognise that the development is not necessary linear. Sometimes it may seem that we are taking one step back before taking two steps forward.

To the extent we have fossil production, our goal and strategy is, of course, to make it as efficient as possible. Our specific CO_2 emissions from power generation, measured as grams of CO_2 per kilowatt hour produced (gCO_2/kWh), puts us among the lowest emitters of all utilities in Europe. In 2016, 96% of our power generation in the European Union was CO_2-free. Including the Russian power generation, which is mainly gas-based, and our Indian solar power, 62% is still CO_2-free, and our specific CO_2 emissions of 173 gCO_2/kWh puts us in the category of one of the cleanest utilities in Europe.

The energy sector is among the key sectors that can contribute to this mitigation, but the focus should not be solely on electricity generation. We at Fortum have decided to take an active role in mitigating climate change also by creating solutions for sustainable cities, by developing new products and services to help our customers mitigate their carbon footprint, and by building new energy ventures that we believe will play an important role in the future sustainable energy system.

We do this because it is the right thing to do for society, for our customers and for our shareholders. By being at the forefront of creating the new sustainable energy system, I am confident we will create value, stronger earnings per share, and a good platform for producing stable, sustainable and over time increasing dividends.

I would like to thank all our employees and partners for their excellent work in 2016. Thank you also to our customers and shareholders for your continued trust in us. I look forward to continuing to work together with all of you for a cleaner world.

Pekka Lundmark
President and CEO

Megatrends and the energy industry

The world we live in is changing at an ever-increasing pace. Staying competitive requires companies to be very aware of the underlying megatrends and to take an active role in driving the change for a better future.

This is especially true for the energy industry, as decarbonisation of the energy system plays an essential role in meeting the environmental targets of society. Only by working actively to decarbonise the energy system, significantly expand the share of renewable energy in the energy markets, reduce the emissions, increase the efficiency of older assets, and increase the amount of flexibility in the system can we mitigate climate change.

There are four megatrends that shape the energy sector: Climate change and resource efficiency, Urbanisation, Digitalisation & new technologies, and Active customers. These megatrends will bring profound changes not only to how energy is produced and sold to customers, but also to how it is consumed. The megatrends will also push to maximise the value of resources, such as waste and biomass.

Climate change and resource efficiency

Climate change and global warming is one of the largest challenges facing mankind. The problem is global, and global efforts and commitment are required in order to solve it. Discussions about climate change have been ongoing for decades, but actions have not been sufficient, due to lack of commitment, although positive developments have been seen in some regions.

With the adoption of the Paris Agreement in December 2015, mitigation of climate change rose to the top of the agenda all over the world. The commitment to mitigate climate change in order to limit global warming is now so widely spread that it affects every industry. The effects can be seen everywhere, e.g. the increase in low- or zero-emission housing, better fuel efficiency, the increase in the number of electric vehicles, the rapid growth in solar and wind power production, fuel switches to more environmentally friendly fuels, increased resource efficiency and waste recycling.

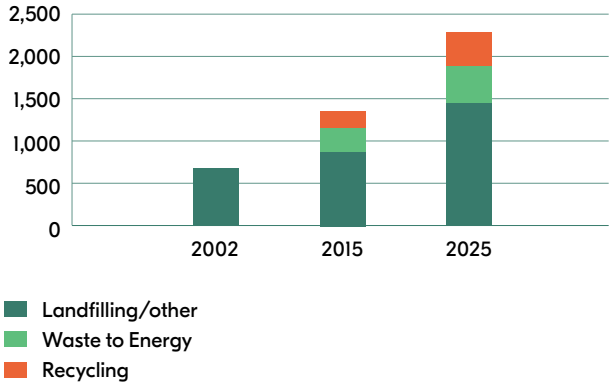
The whole energy industry is very heavily affected by this megatrend. This can be seen in the transition to low-carbon and renewable generation, which increases the share of intermittent power production and the need for demand response and flexible generation capacity. The increased need for resource efficiency paves the way for circular economy solutions.

Urbanisation

The second megatrend is urbanisation. Over the last decades an ever-increasing share of the world's population has moved to urban areas and the trend is continuing. This megatrend is very evident in the emerging markets of Asia, where an increasing share of the global GDP growth comes from the growing urban areas.

For many people in developing countries urbanisation might also mean electrification as 1.2 billion people still lack access to electricity. Increased urbanisation creates a demand for sustainable, efficient and reliable utility services. In many areas of the world the current heating, cooling and energy production is based on old technologies with high emissions and low efficiency. The increasing urbanisation creates a demand for utilities with efficient solutions for heating, cooling and electricity production.

Global Municipal Solid Waste Development (MSW), mtpa



Source: World Bank Global Review of Solid Waste Management, March 2012; Fortum view

2/3 of global emissions are from the production and use of energy

Source: World Energy Outlook Special Report on Energy and Climate Change, IEA, June 2015

2/3 of the world's population will live in urban areas by 2050

Source: World Urbanization Prospects by United Nations, Department of Economic and Social Affairs, Population Division, 2014

New solutions are also needed for transportation and waste management. The amount of waste is expected to nearly double between 2015 and 2025. Even with the increase in recycling and waste-to-energy solutions, the global municipal solid waste going to landfills is projected to grow over the coming years.

Digitalisation & new technologies

Technology development has always been a driver for change. Digitalisation as a megatrend is further fuelled by the accelerated pace of commercialisation and adoption of new technologies. The processing power of devices is increasing and the amount of connected devices is growing exponentially. This in combination with an ever-increasing amount of data readily available for consumers and businesses creates the perfect breeding ground for innovation.

This megatrend affects all companies and businesses. One example of how technological innovations can quickly transform industries is Uber and its impact on the taxi business. Rapid technological development and high adoption rates quickly drive down the costs for new technologies.

In the energy sector the cost of wind and solar power is decreasing. In the next 25 years the amount of solar power is expected to grow 12-fold and wind power more than 3-fold. This development leads to an increasing share of intermittent power production and fewer running hours for traditional baseload power. This challenges the way the energy system has been functioning, where production has been able to adapt to the changing power demand of customers.

Digitalisation opens up for new storage and demand-response solutions, which could change the way the customer interacts with the market. There will be new ways to produce, market, sell and deliver products and services offered by utilities, start-ups and new market entrants. Through these services, customers can take an active part in balancing a future power system that is heavily dependent on intermittent power production.

Active customers

As new technologies are creating a market for new products, there is another megatrend driving the change: Active customers. Customers are becoming more conscious about their choices and how they affect society. Customers are more willing to participate in the energy markets, they are aware of what the new technologies enable, and they are demanding services and solutions for that, e.g. home automation, electrical vehicles with smart charging solutions, local power production and storage as well as demand-response solutions.

The market for prosumers (consumers who produce some of their own energy) is growing rapidly. They require solutions for storage and two-way power flows to/from their house, as they act both as consumers and producers of energy. This challenges how the energy markets traditionally have worked and offers great potential for innovation and growth.

The large majority of customers are not yet demanding these types of services; but as the services emerge, they can be expanded to the masses on a large scale, which will have profound effects on the whole market.

Twenty years ago, less than 3 percent of the world's population had a mobile phone; now two-thirds of the world's population has one, and one-third of all humans are able to communicate on the Internet.

Source: The four global forces breaking all the trends, McKinsey Global Institute, April 2015

Market Development

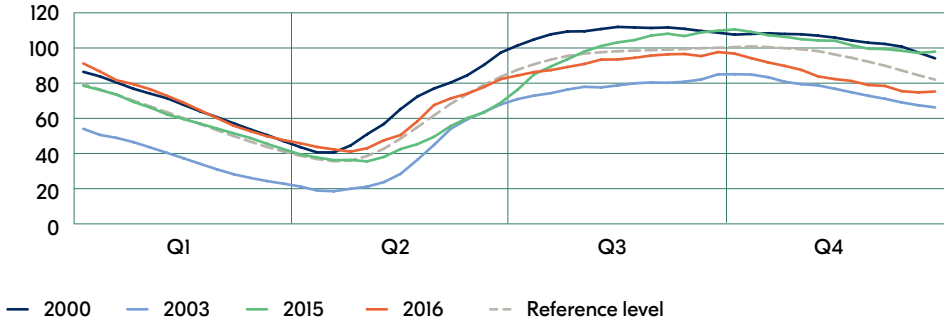
In early 2016, many commodity prices reached long-term low price levels. This marked the bottom of a downward trend that had continued for many years. In February, coal prices[1] were as low as USD 36.50 per tonne. Since the price of coal is one of the main drivers for European power prices, this also heavily impacted Nordic power prices with the Nasdaq OMX forward price for 2017 dropping to as low as EUR 16.30 per MWh.

From February to December the markets were characterised mainly by increasing prices and high volatility, as markets peaked in early November. Coal prices almost doubled (USD 70.25 per tonne at year end), resulting in increasing power prices. At the same time, prices for CO_2 emission allowances (EUA) fluctuated between EUR 4 and 6 per tonne for most of 2016 and ended at EUR 6.5 per tonne at the end of the year, down from EUR 8.1 per tonne at the beginning of 2016. This added to the price volatility on the Nordic power market.

The hydrological situation changed to the drier during 2016 due to low precipitation in the Nordic area and high hydropower production mainly in Norway. Precipitation in Sweden was low

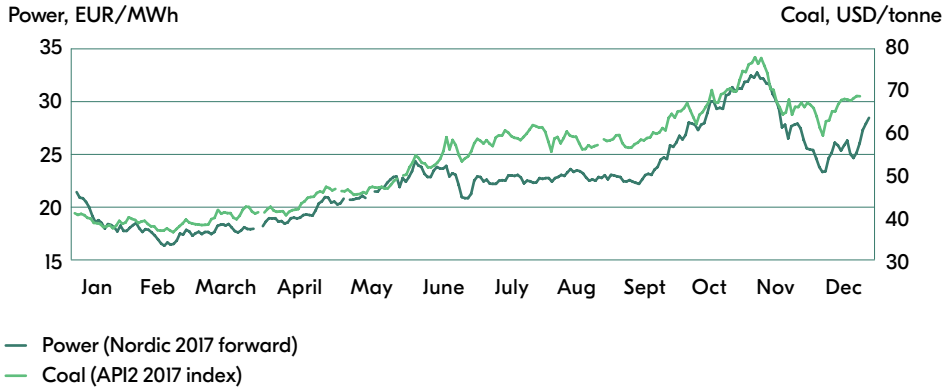
[1] API 2 Index for year 2017

Nordic water reservoirs, energy content, TWh



Source: Nord Pool

Power and coal prices 2016



Source: Bloomberg

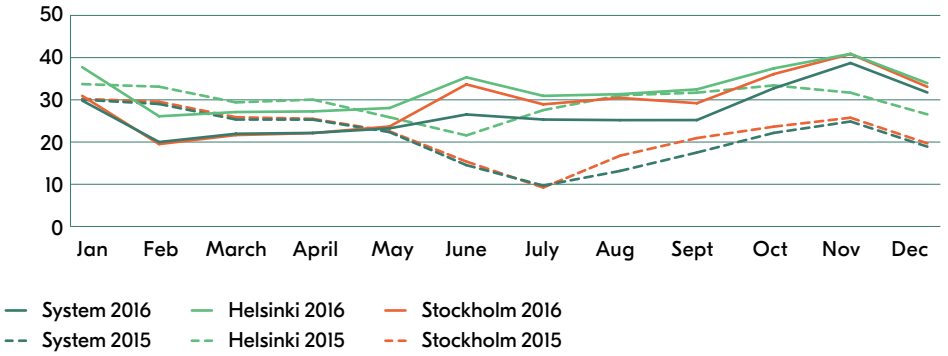
during 2016 resulting in lower hydropower production compared to 2015. At the beginning of 2016, the Nordic water reservoirs were at 98 TWh, which is 15 TWh above the long-term average and 18 TWh higher than a year earlier. By the end of the year, reservoirs were 8 TWh below the long-term average and 23 TWh lower than at the end of 2015.

The Nordic spot power prices at the beginning of 2016 were lower than in 2015. Due to increasing coal prices and the tightening hydrological situation the spot prices increased above the 2015 levels from the middle of the second quarter and stayed above the 2015 levels throughout 2016. The average system spot price during 2016 was EUR 26.9 per MWh, with the area price in Finland at EUR 32.4 per MWh and in Sweden SE3 (Stockholm) at EUR 29.2 per MWh. The increase was especially evident in the third quarter when the system spot price almost doubled from the exceptionally low level in 2015. The very low prices in 2015 were caused by high inflows and late snow melt.

Nordic electricity consumption in 2016 increased by 8 TWh to 390 TWh, mainly due to closer to long-term average temperatures compared to the warmer year in 2015; however, a modest basic demand growth seen in the Nordic countries also contributed to the increase in consumption.

In early 2016, many commodity prices reached long-term low price levels. This marked the bottom of a downward trend that had continued for many years.

Spot price development 2015 & 2016, EUR/MWh



Source: Nord Pool, Fortum

Strategy

We are ready to take the lead in driving the transformation towards a cleaner world

Our vision "For a cleaner world" reflects our ambition to drive the transformation towards a low-emissions energy system and optimal resource efficiency.

Our mission is to engage our customers and society to drive the change towards a cleaner world. Our role is to accelerate this change by reshaping the energy system, improving resource efficiency and providing smart solutions. This way we deliver excellent shareholder value.

Fortum's strategy

Fortum's strategy has four cornerstones: 1) Drive productivity and industry transformation, 2) Create solutions for sustainable cities, 3) Grow in solar and wind, and 4) Build new energy ventures.

Sustainability is an integral part of our strategy. The tight link between business operations and corporate responsibility underscores the importance of sustainability as a competitive advantage. In our operations, we give balanced consideration to economic, social and environmental responsibility.

Drive productivity and industry transformation

As the entire energy sector is transforming, our first priority is to participate in the consolidation of the generation business in Europe. This includes at least one sizable acquisition targeted to take place during 2017. This will maximise our opportunities for growth and value creation.

To ensure our competitiveness, we will continue to optimise our cost structure and asset portfolio in all businesses. We aim to reduce the fixed cost base according to our earlier announced plan, by EUR 100 million by the end of 2017. The progress so far has been good.

Create solutions for sustainable cities

The scope of our City Solutions has broadened to include efficient resource management within the circular economy. The Ekokem acquisition offers us a good platform for new types of solutions outside the traditional energy sector. Further organic- and/or acquisition-based growth of City Solutions will also be considered, mainly in Europe.

Growing cities and urban areas are facing multiple challenges, such as high emissions from inefficient heating, cooling and electricity production, increasing amounts of waste, and high traffic pollution and noise. Fortum aims to use its expertise and experience to help cities solve these challenges sustainably and to support the building of a circular economy.

Megatrends

Climate change and resource efficiency
Urbanisation
Active customers
Digitalisation, new technologies

Mission

We engage our customers and society to drive the change towards a cleaner world. Our role is to accelerate this change by reshaping the energy system, improving resource efficiency and providing smart solutions. This way we deliver excellent shareholder value.

Strategy

- Drive productivity and industry transformation
- Create solutions for sustainable cities
- Grow in solar and wind
- Build new energy ventures

Must-win-battles

- Put the customer in the centre
- Establish a culture of speed and agility
- Digitalise our business for maximum scalability
- Create value from market volatility
- Drive competitive markets and fair regulation

Grow in solar and wind

To secure our longer term competitiveness, we will continue to develop the solar and wind business. In wind, we will focus on areas closer to our current home markets in the Nordics and in Russia. In solar, the immediate focus is in India. The next step will focus on system integration, combining solar with other components, such as new consumer solutions, demand response, electric vehicles and storage.

We target a gigawatt-scale solar and wind portfolio. These technologies are rapidly maturing. At the same time, utility

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competences are becoming increasingly important as subsidy schemes are gradually being phased out and renewable energy production is becoming more market-based.

Build new energy ventures

We will acquire and invest in start-ups and funds that focus on energy-related technologies, because technological and digital disruption accelerate energy sector transformation. Start-ups have an increasingly important role in innovating both new technologies and business models in the changing energy industry landscape. Digitalisation will enable productivity improvements in the existing businesses and development of new customer offerings.

Our goal is to be in the forefront of energy technology and application development. To accelerate innovation and commercialisation of new offerings, we will strengthen our in-house focus on innovation and digitalisation, partner with global leading suppliers, promising technology companies and research institutions, as well as make direct and indirect investments in start-ups with encouraging new innovations.

Our next strategic steps, in two phases

The execution of our strategy and the redeployment of cash will take place in two phases. A significant part of the redeployment is targeted to take place during 2017.

In the first phase, the goal is to maximise cash flow through balance sheet redeployment. Our first priority is to participate in the consolidation of the generation business in Europe. This will include at least one sizable acquisition targeted to take place during 2017. This is the area we know best, and we believe that this move will maximise our opportunities for growth and value creation.

We plan also to invest to broaden the City Solutions business scope, mainly in Europe – organically and/or through acquisitions. The Ekokem acquisition in 2016 offers us a good platform for new types of circular economy solutions, while maintaining a strong connection to our traditional core, the energy system.

The resulting cash flow will be used to enable a competitive dividend and for investments into longer term competitiveness. In addition, Fortum will continue its cost structure and asset portfolio optimisation in all divisions.

The second phase of strategy implementation will focus on securing Fortum's longer-term competitiveness. This has already started through wind investments in our Nordic and Russian home markets and solar investments in India. The next steps will include solar-enabled system solutions, maximising the added value from waste and biomass, and minimising fossil emissions. In addition, new digital services, active consumers, electric traffic, new storage solutions and other potentially disruptive innovations will be included in Phase 2.

The Fortum Transformation

Sustainability and CO_2-free power generation have been part of Fortum's strategy for several decades. We believe that the energy system needs to transform to a system with substantially lower emissions, higher resource efficiency and a higher share of power generation based on renewables. In implementing our strategy we have worked to increase our CO_2-free power generation. We also have generation capacity based on fossil fuels, located mainly in Russia, and we have worked to increase its efficiency and reduce its specific emissions. We are focusing on increasing our solar and wind power capacity heavily over the coming years, and we are targeting a gigawatt-scale portfolio in solar and wind power.

Long-term focus on increasing CO_2-free power generation

Over the past decades Fortum has been working for a more sustainable world. We have increased our annual CO_2-free power generation from around 15 TWh in 1990 to 46 TWh in 2016. The development has not always been linear, as annual variations in hydropower production have a significant impact.

We have been advocating for market-based solutions to drive the necessary change in the energy system. We were among the early proponents for a market-based price on CO_2. In our own operations we have invested in CO_2-free power generation, and the carbon exposure of our production in Europe is among the lowest in Europe at 28 gCO_2/kWh in 2016. The respective figure for the Fortum overall was 173 gCO_2/kWh in 2016.

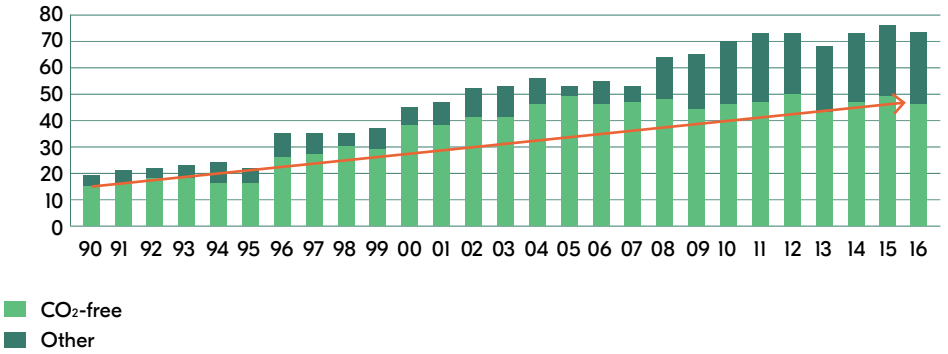
Increase efficiency and reduce specific emissions

In 2016, Fortum finalised the investment programme in Russia. Thereby our Russian power and heat generation capacity has increased substantially. By investing in high-efficiency combined power and heat plants, we have increased the power and heat output and at the same time substantially decreased the specific CO_2 emissions from our Russian power and heat production.

Fortum is now operating a fleet of power and heat plants with efficiency and emissions ranking among the best of our peers in Russia.

We have increased our annual CO_2-free power generation from around 15 TWh in 1990 to 46 TWh in 2016.

Fortum's power generation, TWh



Grow in solar and wind

In addition to CO_2-free hydro and nuclear power production, we believe that solar and wind power will play an essential role in the future. Solar power is becoming one of the most competitive forms of new power generation in many parts of the world, and we are targeting investments of EUR 200-400 million in solar power in India.

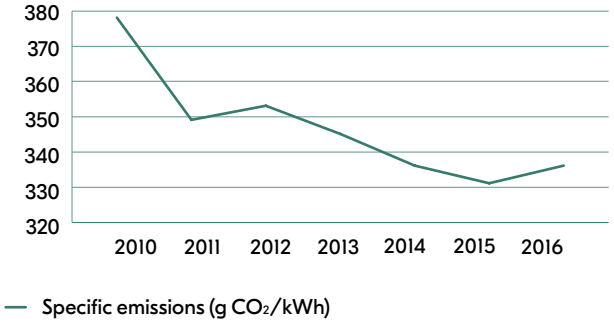
The market conditions in the Nord Pool area and in Russia are more suitable for wind power, and Fortum is increasing its investments heavily. Fortum is currently building the country's largest wind farm in Russia. In Sweden, Fortum is participating in the Blaiken wind park that is already operational and in the Solberg wind farm, that is due to be commissioned in 2018. In Norway, Fortum announced the purchase of one operational wind farm and two wind farm projects to be commissioned in 2018 and 2019, pending final investment decisions.

Our target in wind power is up to 1,000 MW in the Nord Pool area and up to 500 MW in Russia.

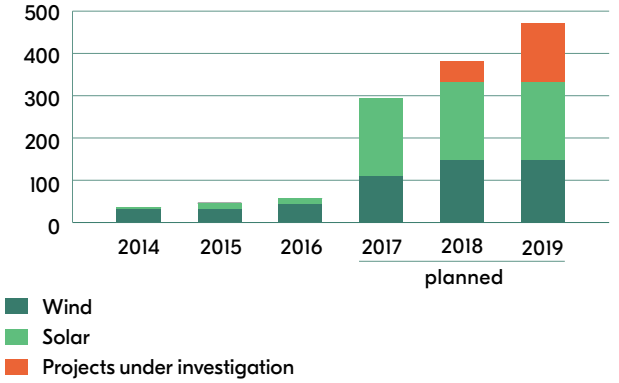
The growth target in solar and wind is substantial compared to the current solar and wind capacity of slightly less than 60 MW and would represent a more than 10% increase in Fortum's current total power generation capacity of more than 13,000 MW.

We believe that the energy system needs to transform to a system with substantially lower emissions, higher resource efficiency and a higher share of power generation based on renewables.

Russian specific CO_2 emissions from power and heat production



Fortum's wind and solar power generation capacity, MW



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Financials 2016

Financials 2016 — Reader's guide

This report consists of the Operating and Financial Review and the Consolidated Financial Statements of Fortum Group, including the Parent Company Financial Statements. Other parts of Fortum's reporting entity include the Online Annual Review, CEO Letter, Corporate Governance Statement, Remuneration Statement, Tax Footprint as well as the Sustainability Report. The Online Annual Review and Sustainability Report are published during week 10.

Operating and financial review
This section includes description of Fortum's financial performance during 2016. Here you will also find a description of the risk management as well as information on Fortum share performance.

Consolidated financial statements
Primary statements include Fortum's consolidated income statement, statement of comprehensive income, balance sheet, statement of changes in total equity and cash flow statement.

Notes
The notes to the consolidated financial statements are grouped to six sections based on their nature. Use the note number list on the right side of the notes pages to navigate in the financial statements.

Key figures 2007—2016
Key figures consist of financial key figures, share key figures and segment key figures for 2007—2016. The financial key figures derive mainly from the primary statements. Segment key figures include information on segments.

Parent company financial statements
Here you can read the parent company financial statements including the primary statements, cash flow and notes to the financial statements.

Proposal for the use of profit shown on the balance sheet
The Board of Directors proposal for the dividend in 2016 is disclosed in this section.

Auditor's report
This section includes the audit report issued by Fortum Oyj's auditor, Deloitte & Touche Oy.

Operational key figures and quarterly financial information
Look here for volume related key figures for 2007—2016 and quarterly financial information for the years 2015 and 2016.

Investor information
Here you will find information on Fortum's Annual General Meeting, dividend payment, basic share information as well as details of the financial information available to shareholders in 2017.

Notes are grouped to the following sections:

1—2 Basis of preparation
These notes describe the basis of preparing the consolidated financial statements and consist of the accounting policies and critical accounting estimates and judgements.

3—4 Risks
In the Risks section you will find notes that disclose how Fortum manages financial risks and capital risks.

5—15 Income statement
These notes provide supporting information for the income statement.

16—34 Balance sheet
These notes provide supporting information for the balance sheet.

35—38 Off balance sheet items
The notes in this section provide information on items that are not included in the balance sheet.

39—42 Group structure and related parties
This section includes information on events after balance sheet date, acquisitions and disposals, related party transactions and the subsidiaries of Fortum group.

The following symbols show which amounts in the notes reconcile to the items in income statement, balance sheets and cash flow statement.

IS = Income statement
BS = Balance sheet
CF = Cash flow

Financials 2016

Financial performance and position

Improved electricity prices, but very low hydro volumes ended a challenging year – Multi-year investment programme in Russia completed.

Key financial ratios[1)]

	2016	2015	2014	Change 16/15
Return on capital employed, %	4.0	22.7	19.5	-82%
Comparable net debt/EBITDA	0.0	-1.7	2.3	100%

1) Key financial ratios are based on total Fortum, including discontinued operations. See ▸ *Definitions of key figures*.

Key figures

EUR million	2016	2015	2014	Change 16/15
IS Sales	3,632	3,459	4,088	5%
Comparable EBITDA				
IS Continuing operations	1,015	1,102	1,457	-8%
Discontinued operations	-	163	416	
Total Fortum	1,015	1,265	1,873	-20%
Comparable operating profit				
IS Continuing operations	644	808	1,085	-20%
Discontinued operations	-	114	266	
Total Fortum	644	922	1,351	-30%
Operating Profit				
IS Continuing operations	633	-150	1 296	522%
Discontinued operations	-	4,395	2,132	
Total Fortum	633	4,245	3,428	-85%
Share of profits from associates and joint ventures				
IS Continuing operations	131	20	146	555%
Discontinued operations	-	0	3	
Total Fortum	131	20	149	555%
Profit before taxes				
IS Continuing operations	595	-305	1,232	295%
Discontinued operations	-	4,393	2,128	
Total Fortum	595	4,088	3,360	-85%
Earnings per share, EUR				
IS Continuing operations	0.56	-0.26	1.22	315%
Discontinued operations	-	4.92	2.33	
Total Fortum	0.56	4.66	3.55	-88%
CF Net cash from operating activities, continuing operations	621	1,228	1,406	-49%
Shareholders' equity per share, EUR	15.15	15.53	12.23	-2%
Interest-bearing net debt (at end of period)	-48	-2,195	4,217	98%

2016 was a challenging year in many respects. The beginning of the year was characterised by increased commodity market volatility; especially coal and oil prices were very low. Nordic water reservoirs were clearly above the long-term average, creating pressure on electricity prices, and the British EU exit vote also created uncertainty. Late in the year, however, some positive signs were seen on the power market, mainly driven by improved commodity and emission prices, although the overall business environment still continued to be demanding. Although some European economies have started to recover, the industry's power demand is still too weak and commodity prices are too low and volatile to support a material increase in electricity prices.

A positive development in 2016 was the Swedish government's budget proposal in September; it included the timetable for lowering the real-estate tax on hydro assets and for phasing out the nuclear capacity tax over the coming years. We are pleased with the swift decision and the finalisation of a timetable, which gives regulatory stability to operate the plants and plan the necessary safety investments. This is completely in line with what we have been advocating for, a regulation and taxation policy where the different forms of production are treated more equally.

Operationally, the year met our expectations, as availability in our plants was good and ongoing projects progressed as planned. We completed our extensive investment programme in Russia in the spring 2016, and the new capacity has been the key driver for the earnings growth in the Russia division.

In February, we published the key high-level elements in our strategy. We also adjusted our operational model to better enable strategy implementation. During the year we screened opportunities in line with our strategy. The acquisition of the Polish electricity and gas sales company DUON, wind power investments in Sweden, Norway and Russia, and the acquisition of Ekokem, a leading Nordic circular economy company, are important steps in the implementation of our strategy and give us access to new revenue streams independent of the Nordic power

price. In addition, as we are continuously looking to optimise our production fleet, we divested the Tobolsk power plant in Russia.

We updated our vision and mission in the autumn. Our vision and mission go beyond just clean energy production, they express our commitment to fuel and resource efficiency and how we enable our stakeholders, customers and society to make sustainable choices. Our updated vision – 'For a cleaner world' reflects our ambition to drive the transformation towards an low-emission energy system and optimal resource efficiency. Our role is to accelerate this change by reshaping the energy system, improving resource efficiency and providing smart solutions.

We expect the energy sector transformation to accelerate in the future. At the same time as we lower the cost and improve the productivity of our existing operations, we will focus on additional organic and M&A growth opportunities. We have two phases in our capital redeployment. Priority one in phase one is generation consolidation in Europe – consolidation of assets and businesses within our core competence and giving us direct access to cash flows. Priority two in phase one is to take the competencies that we have today in our combined heat and power production and in the acquired Ekokem business, and widen the City Solution's scope. The overall goal of phase one is to maximize our cash flow to enable both a competitive dividend and "phase two" investments into the future energy system. Phase two involves growing in solar and wind, and new internal or external energy ventures to take care of our long-term competitiveness.

Fortum's vision, strategic cornerstones and updated financial targets

In February 2016, Fortum launched its new vision, strategic cornerstones and updated financial targets. The new vision and strategy target growth and continued profitability with a strong focus on clean energy, customers and shareholder value creation.

The long-term financial target for return on capital employed (ROCE) was revised to at least 10%, while the target for comparable net debt to EBITDA, around 2.5 times, remained unchanged. The dividend policy also remained unchanged.

Fortum's strategy has four cornerstones: (1) enhance productivity of the current fleet and drive industry transformation, (2) create sustainable solutions for growing cities and urban areas, (3) increase investments in solar and wind power, and (4) build new energy ventures.

At Fortum's Capital Market Day in November 2016, the strategy execution plan was expanded in more depth. The redeployment of cash and the execution of Fortum's strategy will take place in two phases, and a significant part of the redeployment is targeted to take place during 2017.

Phase 1: The goal for the first phase is to maximise cash flow through capital redeployment. The priority is consolidation of the generation business in Europe. After this, and subject to the remaining financial headroom, also further organic growth and/or acquisition-based growth of City Solutions will be considered, mainly in Europe. The resulting cash flow will be used for two purposes: 1) implementing Fortum's dividend policy; and 2) investments into Phase 2 as described below. In addition, Fortum will continue its cost and asset portfolio optimisation in all divisions, informing the market about these as they advance.

Phase 2: The goal for the second phase is to secure Fortum's longer-term competitiveness. This has already started through wind investments in our Nordic and Russian home markets and through solar investments in India. The next steps will include solar-enabled system solutions, maximising the added value from waste and biomass as well as minimising fossil emissions. In addition, phase 2 will also include new digital services, services for active consumers, electric traffic, new storage solutions, and other potentially disruptive innovations.

Fortum also updated its vision and mission to cover a broader scope. "For a cleaner world" reflects the company's mission "We engage our customers and society to drive the change towards a cleaner world. Our role is to accelerate this change by reshaping the energy system, improving resource efficiency and providing smart solutions. In this way we deliver excellent shareholder value."

Reorganisation of operations

Fortum reorganised its operating structure in April 2016. The target of the new organisation is to enable the implementation of the company's new vision and strategy. The new organisation consists of three business divisions: Generation, City Solutions and Russia. In addition, two development units focusing on growing new businesses were established: (1) M&A and Solar & Wind Development, and (2) Technology and New Ventures.

The changes to Fortum's segment reporting were minor. The company continues to have four segments. The segments as of the second quarter of 2016 are: Generation (mainly the former Power and Technology); City Solutions (mainly the former Heat, Electricity Sales and Solutions); Russia; and Other, under which M&A, Solar & Wind Development, and Technology and New Ventures, as well as corporate functions are reported. Some businesses were repositioned due to the reorganisation, but because of the minor financial impact, the comparable segment information for 2015 has not been restated.

Following the divestment of the Swedish distribution business, Fortum no longer has electricity distribution operations. The Distribution segment was reclassified as discontinued operations as of the first quarter of 2015.

New Finnish GAAP requirement for financial derivatives

A new requirement issued by Finnish Accounting Board relating to accounting for financial derivatives was published 13 December 2016. The requirements have to be applied in 2016 separate financial statements for Finnish companies. Based on this requirement Fortum has chosen to apply IFRS principles for accounting financial derivatives in Fortum Oyj and its Finnish subsidiaries.

Applying IFRS principles means that financial derivatives are fair valued at each balance sheet date, which may create volatility in income statement and equity. The changes due to the new requirement has no effect to Fortum Group, but had a minor effect to net profit and equity of Fortum Oyj in 2016.

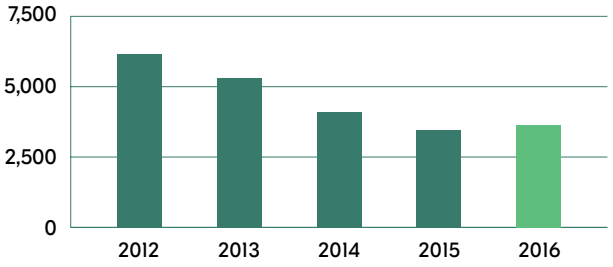
Comparability of information presented in tables and graphs

Fortum has restated the financial information in prior years as follows:

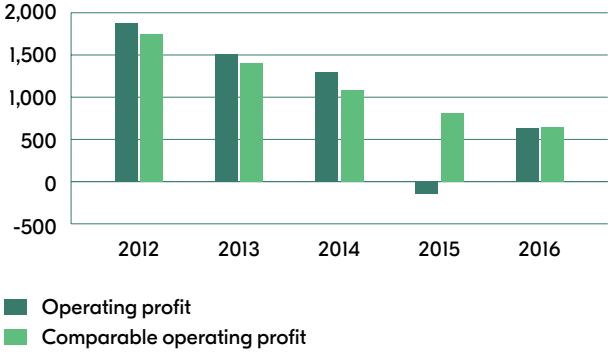
- Distribution segment is treated as discontinued operations in 2015. The comparative period information for 2014 was restated accordingly, but information in the tables and graphs presented for year 2013 or earlier is not restated due to reclassification of discontinued operations. Financial results discussed in this operating and financial review are for the continuing operations of Fortum Group. See additional information in ▸ *Note 14* Discontinued operations.
- Furthermore, information in the tables and graphs presented for year 2012 or earlier is not restated due to the adoption of IFRS 10 and IFRS 11. Adoption of standards influences treatment of Fortum's holding in AB Fortum Värme samägt med Stockholms stad in the consolidated financial statements.

In addition, as of 2014, presented figures have been rounded and consequently the sum of individual figures may deviate from the sum presented. Figures in brackets refer to the comparison period unless otherwise stated.

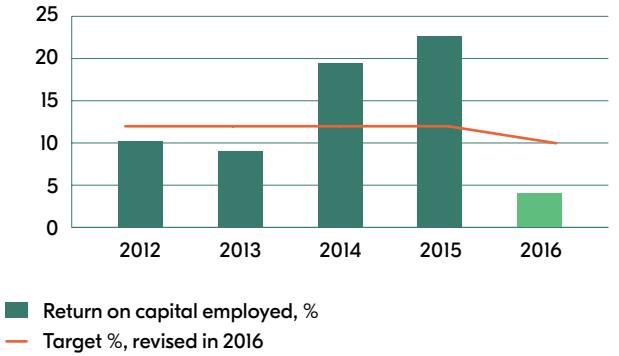
Sales, EUR million



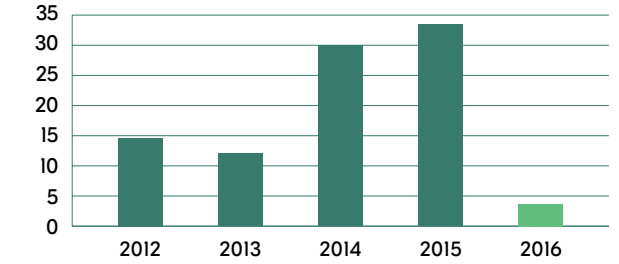
Operating profit and comparable operating profit, EUR million



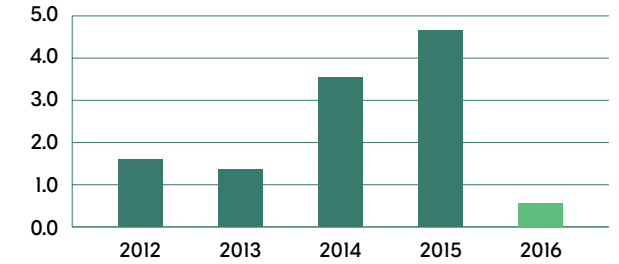
Return on capital employed total Fortum, %



Return on shareholders' equity total Fortum, %



Earnings per share total Fortum, EUR



Financial results

Sales by segment

EUR million	2016	2015	Change 16/15
Generation	1,657	1,722	-4%
City Solutions	1,424	1,187	20%
Russia	896	893	0%
Other	121	114	6%
Netting of Nord Pool transactions [1]	-384	-336	
Eliminations	-82	-122	
IS Total continuing operations	**3,632**	**3,459**	**5%**
Discontinued operations	-	274	
Eliminations	-	-31	
Total Fortum	**3,632**	**3,702**	**-2%**

1) Sales and purchases with Nord Pool are netted at the Group level on an hourly basis and posted either as revenue or cost depending on whether Fortum is a net seller or net buyer during any particular hour.

Comparable EBITDA by segment

EUR million	2016	2015	Change 16/15
Generation	527	680	-23%
City Solutions	238	209	14%
Russia	312	267	17%
Other	-61	-53	-15%
IS Total continuing operations	**1,015**	**1,102**	**-8%**
Discontinued operations	-	163	
Total Fortum	**1,015**	**1,265**	**-20%**

Comparable operating profit by segment

EUR million	2016	2015	Change 16/15
Generation	417	561	-26%
City Solutions	112	108	4%
Russia	191	201	-5%
Other	-76	-63	-21%
IS Total continuing operations	**644**	**808**	**-20%**
Discontinued operations	-	114	
Total Fortum	**644**	**922**	**-30%**

Operating profit by segment

EUR million	2016	2015	Change 16/15
Generation	338	-396	185%
City Solutions	145	105	38%
Russia	226	203	11%
Other	-76	-62	-23%
IS Total continuing operations	**633**	**-150**	**522%**
Discontinued operations	-	4,395	
Total Fortum	**633**	**4,245**	**-85%**

For further information see ▸ *Note 5* Segment reporting.

In 2016, sales were EUR 3,632 (3,459) million. Comparable EBITDA totalled EUR 1,015 (1,102) million. Comparable operating profit totalled EUR 644 (808) million and reported operating profit totalled EUR 633 (-150) million. Fortum's operating profit for the period was impacted by items affecting comparability, including sales gains, Ekokem transaction costs, updated provisions and an IFRS accounting treatment (IAS 39) of derivatives mainly used for hedging Fortum's power production, as well as nuclear fund adjustments for continuing operations, amounting to EUR -11 (-958) million (▸ *Note 5* and ▸ *Note 6*). The year 2015 included a EUR -794 million impact from the decision on the early closure of two nuclear units in Sweden (▸ *Note 5* and ▸ *Note 7*).

The share of profit from associates was EUR 131 (20) million, of which Hafslund represented EUR 51 (39) million, TGC-1 EUR 38 (32) million, Fortum Värme EUR 66 (47) million and OKG EUR -30 (-107) million. The share of profit from Hafslund and TGC-1 are based on the companies' published Q4 2015 and Q1–Q3 2016 interim reports (▸ *Note 20*). The OKG impact comes from the new technical plan for nuclear waste management (▸ *Note 30)*. Year 2015 was affected by the decision on the early closure of two nuclear units in Sweden, which impacted the share of profit from associates by EUR -116 million (▸ *Note 7*). In addition, Fortum Värme's share of profit in 2015 was lower mainly due to the paid compensation for refinancing the interest-bearing loans from Fortum.

Net financial expenses were EUR -169 (-175) million and include changes in the fair value of financial instruments of EUR -2 (-18) million. In 2015, net financial expenses included compensation of EUR 37 million from the prepayment of loans by Fortum Värme (▸ *Note 12*).

Profit before taxes was EUR 595 (-305) million. Year 2015, was impacted by EUR -910 million due to the decision on the early closing of the two nuclear units in Sweden.

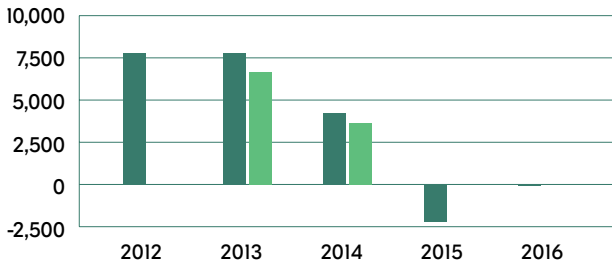
Taxes for the period totalled EUR -90 (78) million. The effective income tax rate according to the income statement was 15.2% (25.4%). The comparable effective income tax rate, excluding the impact of the share of profit from associated companies and joint ventures as well as non-taxable capital gains, was 20.0% (23.5%) (▸ *Note 13)*.

The profit for the period for continuing operations was EUR 504 (-228) million. Earnings per share for continuing operations were EUR 0.56 (-0.26), of which EUR -0.02 (-0.97) per share relates to items affecting comparability. In 2015, the impact of the decision on the early closure of two nuclear units in Sweden was EUR -0.82 per share.

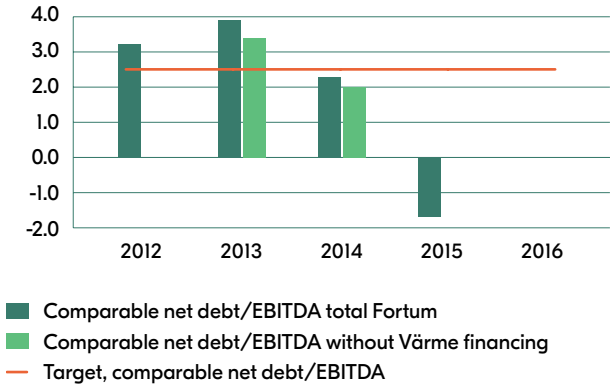
Financial position and cash flow

EUR million	2016	2015	Change 16/15
Interest expense	-169	-203	17%
Interest income	30	51	-41%
Fair value gains and losses on financial instruments	-2	-18	89%
Other financial expenses - net	-29	-4	-625%
IS Finance costs - net	**-169**	**-175**	**3%**
Interest-bearing liabilities	5,107	6,007	-15%
Less: Liquid funds	5,155	8,202	-37%
Interest-bearing net debt	**-48**	**-2,195**	

Interest-bearing net debt, EUR million



Comparable net debt/EBITDA



Cash flow

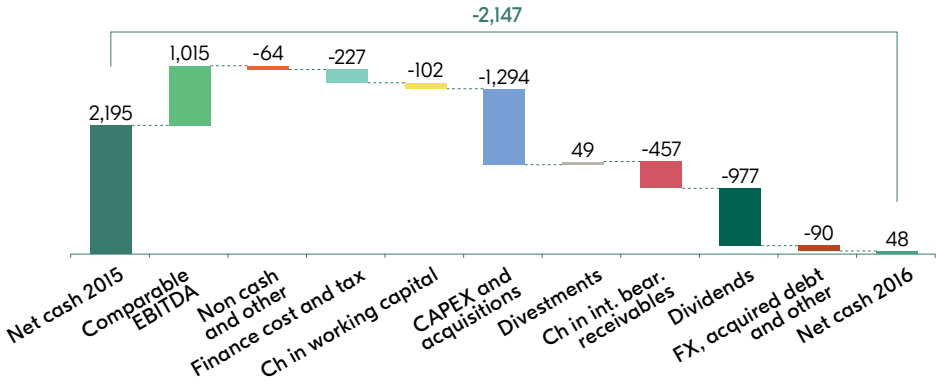
In 2016, net cash from operating activities from continuing operations decreased by EUR 607 million to EUR 621 (1,228) million, mainly due to EUR 87 million lower comparable EBITDA, EUR 151 million higher income taxes paid, EUR -182 million lower realised foreign exchange gains and losses, and an EUR 131 million increase in working capital. The increase in working capital is mainly due to the daily cash settlements for futures in Nasdaq OMX Commodities Europe (▸ *Additional cash flow information*). In June, Fortum paid income taxes in Sweden totalling EUR 127 million regarding tax disputes. The appeal process is ongoing and based on legal opinions, no provision is made, and the payment is booked as a receivable (▸ *Note 38*). Realised foreign exchange gains and losses of EUR 110 (292) million relate to the rollover of foreign exchange contract hedging loans to Fortum's Swedish and Russian subsidiaries.

Capital expenditures increased by EUR 72 million to EUR 599 (527) million. Net cash used in investing activities increased to EUR 1,701 (35) million, due to the acquired shares of EUR 695 (43) million related mainly to acquisitions of Ekokem and DUON. The increase in other interest-bearing receivables of EUR 340 million during 2016 relates mainly to cash collaterals, given as trading collaterals to commodity exchanges.

Cash flow before financing activities was EUR -1,080 (7,650) million. In 2015, the impact from discontinued operations was EUR 6,457 million.

Fortum paid dividends totalling EUR 977 (1,155) million in April 2016. Payments of long-term and short-term liabilities totalled EUR 1,031 (1,040) million including repayment of a EUR 750 million bond and EUR 115 million Ekokem loans. The net decrease in liquid funds was EUR 3,064 (increase of 5,490) million.

Change in net cash during 2016, EUR million



At the end of 2016 and 2015 Fortum has been in net cash position, see Financial position and cash flow table above.

Assets and capital employed

Total assets decreased by EUR 803 million to EUR 21,964 (22,767) million.

Liquid funds at the end of 2016 were EUR 5,155 (8,202) million.

Capital employed was EUR 18,648 (19,870) million, a decrease of EUR 1,222 million.

Equity

Equity attributable to owners of the parent company totalled EUR 13,459 (13,794) million.

The decrease in equity attributable to owners of the parent company totalled EUR 335 million and was mainly due to EUR 977 million in dividends paid and the net profit for the period of EUR 496 million.

Financing

Fortum was net cash positive at the end of 2016. Net cash decreased by EUR 2,147 million to EUR 48 (2,195) million.

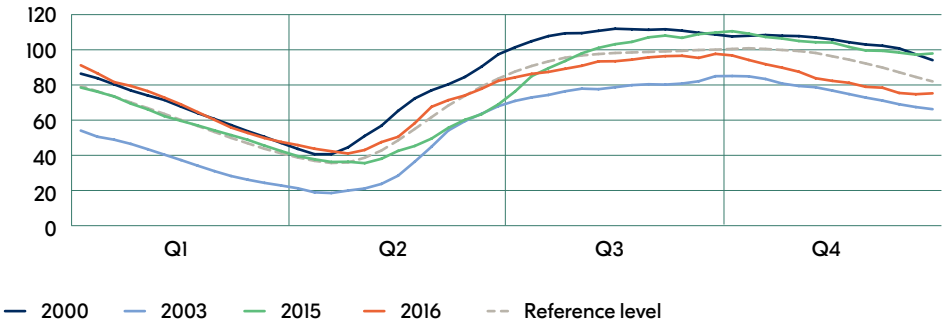
At the end of 2016, the Group's liquid funds totalled EUR 5,155 (8,202) million. Liquid funds include cash and bank deposits held by OAO Fortum amounting to EUR 105 (76) million. In addition to liquid funds, Fortum had access to EUR 2.0 billion of undrawn committed credit facilities (▸ *Note 28*).

Net financial expenses in January-December 2016 were EUR -169 (-175) million, of which net interest expenses were EUR -139 (-152) million. Net financial expenses include changes of EUR -2 (-18) million in the fair value of financial instruments and EUR 37 million compensation from the prepayment of loans by Fortum Värme in 2015.

In June 2016, Fortum signed a EUR 1,750 million syndicated Multicurrency Revolving Facility Agreement. The committed facility will be used for general corporate purposes and replaces the existing credit facility signed in July 2011. The facility has an initial maturity of five years and Fortum may request two one-year extension options.

Fortum's long-term credit ratings were unchanged. Standard & Poor's rating is BBB+ and the short-term rating A-2. The outlook is stable. Fitch Ratings long-term Issuer Default Rating (IDR) and senior unsecured rating is BBB+ and the short-term IDR is F2 with a stable outlook.

Nordic water reservoirs, energy content, TWh



Source: Nord Pool

Key figures

At the end of 2016, the comparable net debt to EBITDA was 0.0 (-1.7).

Gearing was 0% (-16%) and the equity-to-assets ratio 62% (61%). Equity per share was EUR 15.15 (15.53). Return on capital employed for year 2016 totalled 4.0% (22.7%).

Market conditions

Nordic countries

According to preliminary statistics, electricity consumption in the Nordic countries increased in 2016 by 9 TWh to 390 (381) TWh, mainly due to closer-to-long-term average temperature compared to the warmer year in 2015, although modest demand growth was seen in the Nordic countries.

At the beginning of 2016, the Nordic water reservoirs were at 98 TWh, which is 15 TWh above the long-term average and 18 TWh higher than a year earlier. By the end of the year, reservoirs were 8 TWh below the long-term average and 23 TWh lower than at the end of 2015. Reservoir levels have decreased due to low precipitation in the Nordic area and high hydro production mainly in Norway during 2016.

In 2016, the Nord Pool average system spot price was EUR 26.9 (21.0) per MWh, with the area price in Finland at EUR 32.4 (29.7) per MWh and in Sweden SE3 (Stockholm) at EUR 29.2 (22.0) per MWh. Nordic reservoirs turned from a 15 TWh surplus to an 8 TWh deficit during the year. 2016 was again warmer than normal, but less so than in 2015.

In Germany, the average spot price in 2016 was EUR 29.0 (31.6) per MWh.

The market price of CO_2 emission allowances (EUA) was EUR 8.1 per tonne at the beginning of the year. Throughout most of the fourth quarter and the whole calendar year the price fluctuated between EUR 4 and 6 per tonne and ended at EUR 6.5 per tonne at the end of 2016.

Russia

Fortum operates both in the Tyumen and Khanty-Mansiysk area of Western Siberia, where industrial production is dominated by the oil and gas industries, and in the Chelyabinsk area of the Urals, which is dominated by the metal industry.

According to preliminary statistics, Russian electricity consumption was 1,027 (1,007) TWh and the corresponding figure in Fortum's operating area in the First price zone (European and Urals part of Russia) was 787 (772) TWh in 2016.

In 2016, the average electricity spot price, excluding capacity price, increased by 4.3% to RUB 1,204 (1,154) per MWh in the First price zone.

Power consumption

TWh	2016	2015	2014
Nordic countries	390	381	378
Russia	1,027	1,007	1,021
Tyumen	94	93	93
Chelyabinsk	35	35	36
Russia Urals area	259	258	260

Average prices

TWh	2016	2015	2014
Spot price for power in Nord Pool power exchange, EUR/MWh	26.9	21.0	29.6
Spot price for power in Finland, EUR/MWh	32.4	29.7	36.0
Spot price for power in Sweden, SE3, Stockholm, EUR/MWh	29.2	22.0	31.6
Spot price for power in Sweden, SE2, Sundsvall, EUR/MWh	29.0	21.2	31.4
Spot price for power in European and Urals part of Russia, RUB/MWh [1)]	1,204	1,154	1,163
Average capacity price, tRUB/MW/month	481	359	304
Spot price for power in Germany, EUR/MWh	29.0	31.6	32.8
Average regulated gas price in Urals region, RUB/1,000 m^3	3,614	3,488	3,362
Average capacity price for old capacity, tRUB/MW/month [2)]	140	149	167
Average capacity price for new capacity, tRUB/MW/month [2)]	815	641	552
Spot price for power (market price), Urals hub, RUB/MWh [1)]	1,054	1,047	1,089
CO_2, (ETS EUA), EUR/tonne CO_2	5	8	6
Coal (ICE Rotterdam), USD/tonne	59	57	75
Oil (Brent Crude), USD/bbl	45	54	99

1) Excluding capacity tariff.

2) Capacity prices paid only for the capacity available at the time.

Water reservoirs

TWh	31 Dec 2016	31 Dec 2015	31 Dec 2014
Nordic water reservoirs level	75	98	80
Nordic water reservoirs level, long-term average	83	83	83

Export/import

TWh (+ = import to, - = export from Nordic area)	2016	2015	2014
Export/import between Nordic area and Continental Europe+Baltics	-10	-18	-14
Export/import between Nordic area and Russia	6	4	4
Export/import Nordic area, total	-4	-14	-10

European business environment and carbon market

Carbon pricing and emissions trading

The ratification of the global climate agreement adopted in Paris 2015, entered into force in November 2016. Preparation of implementation rules will take a couple of years, and the impact on the energy industry will become concrete only via legislation in different countries. The EU ratified the Agreement, but Russia's ratification is not expected before 2020. Carbon pricing schemes are being planned in several countries. The start of the Chinese ETS in 2017 is expected to double the coverage of emissions subject to carbon pricing globally.

The EU Commission released an announcement on the implications of the Paris Agreement for the EU climate policy. The EU decided not to revise its climate target for 2030. Basically all EU climate regulation to implement the 2030 target was under review in 2016. The revision of the emissions trading directive (ETS) was under discussion in the Parliament and the Council, but adoption isn't expected until late 2017 at the earliest or in 2018. Fortum and the electricity industry as a whole have highlighted the need to increase the ETS ambition and strengthen the market stability reserve mechanism.

Progress in implementation of the Energy Union

Year 2016 was the EU Energy Union's "year of delivery" with the release of three major legislative packages. The in early 2016 released "winter package" focused on security of supply and on heating and cooling (H&C). The new EU H&C strategy underlined the importance of decarbonisation of heating and cooling and the improvement of energy efficiency in the residential sector. The "summer package" contained a proposal for sharing the burden in the non-ETS sectors, i.e. binding national targets for member states to cut CO_2 emissions in transport, buildings, agriculture and waste management in 2021–2030. The strategy has a strong focus on electrification of the transport sector while also recognising

the role of biofuels. A broader "winter package" (Clean Energy for all Europeans) released in late 2016 completed to a large extent the legislative work in the field of energy. The winter package includes a renewal of the internal electricity market legislation, as well as energy efficiency and renewable energy directives with the intention to implement the related EU 2030 targets.

Swedish energy policy and taxation

The focus of the energy policy in 2016 was on the parliamentary energy commission's work with the aim of developing a long-term energy policy for the period after 2030. In June, a broad parliamentary agreement for long-term Swedish energy policy was presented by the government and parts of the opposition. The agreement aims at a 100% renewable energy system by 2040, but with no actual limits regarding nuclear generation. The electricity certificate system will be prolonged providing for an additional 18 TWh of electricity from renewable energy sources during 2020–2030. The progress of the energy agreement will be followed-up every second year starting in 2018.

One of the key elements of the parliamentary agreement was the proposal that taxation of different energy production forms should be more equal, and that the tax burden of nuclear and hydro should be taken to the level of other production technologies. The tax on installed nuclear capacity will be reduced starting in July 2017 and totally abolished as of 2018. The regulatory framework for investment of the nuclear waste funds' assets is suggested to be expanded to provide for a better long-term yield. The real-estate tax rate on hydro assets will be reduced from current 2.8% to the regular tax rate of 0.5% on real estate in four steps by 2020. In addition, a proposal for new hydro legislation is being prepared and is expected to be handed over to the parliament in autumn 2017.

Finnish energy policy and taxation

In late 2016 the Finnish Government published its energy and climate strategy in order to implement both the national energy and climate policy objectives of the Government's strategic programme, as well as the EU 2030 energy and climate targets. The key elements are: increase the share of renewable energy to a minimum of 50% with a strong focus on bioenergy, launch of a limited support scheme for renewable electricity (2 TWh of electricity production is auctioned, based on technology neutral tendering, in 2018–2020), 30% biofuel blending obligation and some incentives for electric vehicles as well as a ban on the use of coal in energy production by 2030.

In addition, the Finnish Government decided to increase the tax on heating fuels from 2017 onwards. However, CHP continues to pay only 50% of the CO_2 tax component, while the original aim was to increase it to 100%. The agreed tax model increases the tax on both the CO_2 and the energy content components. The Government also decided to make an assessment during 2017 concerning the possibility to apply real estate tax rates applicable to power plants also to wind power. Currently windmills below 3 MW are in the scope of lower tax rates. The earlier announced mechanism to offset the indirect costs of the EU Emissions Trading System for energy intensive industries was also approved.

Segment reviews

Generation

Generation is responsible for Nordic power production. The segment comprises nuclear, hydro and thermal power production, portfolio management, and trading and industrial intelligence, as well as nuclear services globally.

EUR million	2016	2015	Change 16/15
Sales	1,657	1,722	-4%
- power sales	1,635	1,625	1%
of which Nordic power sales [1)]	1,339	1,526	-12%
- other sales	22	97	-77%
Comparable EBITDA	527	680	-23%
Comparable operating profit	417	561	-26%
Operating profit	338	-396	185%
Share of profits from associates and joint ventures [2)]	-34	-111	69%
Comparable net assets (at period-end)	5,815	5,931	-2%
Comparable return on net assets, %	6.9	9.5	-27%
Capital expenditure and gross investments in shares	203	203	0%
Number of employees	979	1,341	-27%

1) The Nordic power sales income and volume includes hydro and nuclear generation, excluding minorities. It does not include thermal generation, minorities, customer business or other purchases.

2) Power plants are often built jointly with other power producers, and owners purchase electricity at cost including interest cost and production taxes. The share of profit/loss is mainly IFRS adjustments (e.g. accounting for nuclear-related assets and liabilities) and depreciations on fair-value adjustments from historical acquisitions (▸ Note 20).

In 2016, the Generation segment's comparable EBITDA was EUR 527 (680) million. Comparable operating profit was EUR 417 (561) million. The decline was mainly due to the lower achieved power price and lower hydro volumes. The decline was partly offset by higher nuclear volumes and lower fixed costs.

Operating profit of EUR 338 (-396) million was affected by sales gains, the IFRS accounting treatment (IAS 39) of derivatives, mainly used for hedging Fortum's power production, and by nuclear fund adjustments, amounting to EUR -79 (-958) million (▸ ***Note 5*** and ▸ ***Note 6***). Year 2015 included EUR -794 million from the decision on the early closure of two nuclear units in Sweden (▸ ***Note 5*** and ▸ ***Note 7***).

The share of profits from associated companies and joint ventures totalled EUR -34 (-111) million (▸ *Note 20*).

Generation's achieved Nordic power price was EUR 31.0 (33.0) per MWh, EUR 2.0 per MWh lower than in 2015. The average system spot price of electricity in Nord Pool was EUR 26.9 (21.0) per MWh. The average area price in Finland was EUR 32.4 (29.7) per MWh and in Sweden SE3 (Stockholm) EUR 29.2 (22.0) per MWh.

The segment's total power generation in the Nordic countries was 45.3 (48.1) TWh. The decrease is mainly due to lower hydro volumes. The CO_2-free production amounted to 99% (99%) of total production.

Power generation by source

TWh	2016	2015	Change 16/15
Hydro power, Nordic	20.7	25.1	-18%
Nuclear power, Nordic	24.1	22.7	6%
Thermal power, Nordic	0.5	0.3	67%
Total in the Nordic countries	**45.3**	**48.1**	**-6%**

Nordic sales volume

TWh	2016	2015	Change 16/15
Nordic sales volume	52.4	50.5	4%
of which Nordic Power sales volume [1)]	43.2	46.3	-7%

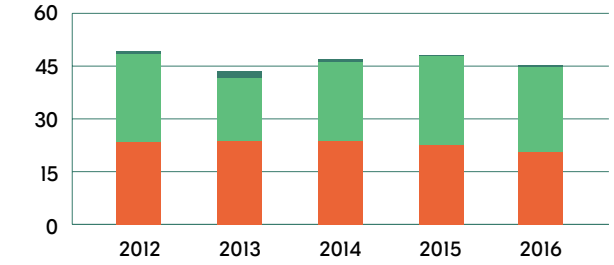
1) The Nordic power sales income and volume includes hydro and nuclear generation, excluding minorities. It does not include thermal generation, minorities, customer business or other purchases.

Sales price

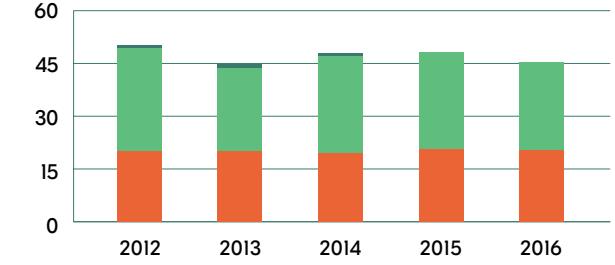
EUR/MWh	2016	2015	Change 16/15
Generation's Nordic power price [2)]	31.0	33	-6%

2) Generation's Nordic power price does not include sales income from thermal generation, market price-related purchases or minorities.

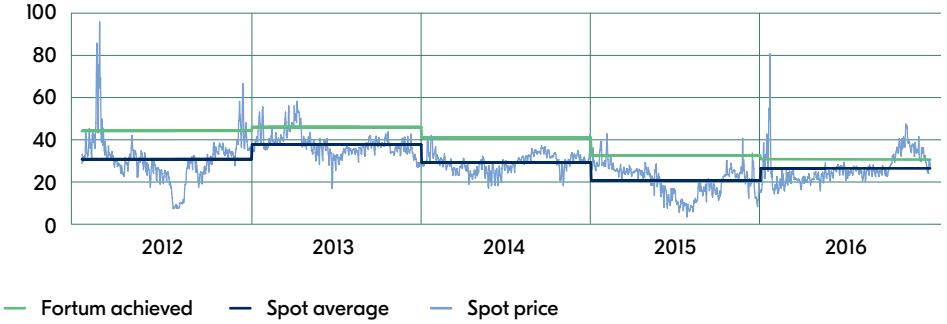
Generation segment's power generation in the Nordic area by source, TWh



Generation segment's power generation by area, TWh



Nord Pool, power price, 2012–2016, EUR/MWh



Source: Nord Pool, Fortum

City Solutions

City Solutions is responsible for developing sustainable city solutions into a growing business for Fortum. The segment comprises heating and cooling, waste-to-energy, biomass and other circular economy solutions, as well as electricity sales and services. The business operations are located in the Nordics, the Baltic countries and Poland. The segment also includes Fortum's 50% holding in Fortum Värme, which is a joint venture and is accounted for using the equity method.

EUR million	2016	2015	Change 16/15
Sales	1,424	1,187	20%
- heat sales	449	423	6%
- power sales	648	682	-5%
- other sales	327	83	294%
Comparable EBITDA	238	209	14%
Comparable operating profit	112	108	4%
of which Electricity Sales	44	55	-20%
Operating profit	145	105	38%
Share of profits from associates and joint ventures	76	59	29%
Comparable net assets (at period-end)	3,052	2,182	40%
Comparable return on net assets, %	7.5	7.9	-5%
Capital expenditure and gross investments in shares	927	128	624%
Number of employees	2,314	1,417	63%

In August, Fortum finalised the acquisition of Ekokem Corporation. The transaction was originally announced in May 2016. Ekokem has been integrated as a business area into the City Solutions division and has been consolidated into Fortum Group from the end of August 2016.

In 2016, sales increased to EUR 1,424 (1,187) million, mainly due to the consolidation of DUON and Ekokem. Heat sales volumes of the City Solutions segment amounted to 8.7 (7.8) TWh. Power sales volumes from CHP production totalled 2.8 (2.5) TWh during the same period.

Comparable EBITDA increased, and totalled EUR 238 (209) million. Comparable operating profit was EUR 112 (108) million. The main drivers for the improvement were the consolidations of DUON and Ekokem. The full year result was burdened by an unfavourable fuel mix and the lower achieved power price. In addition, the use of more accurate consumption estimates had a one-off, positive impact on electricity sales in 2015.

Operating profit of EUR 145 (105) million was affected mainly by sales gains, Ekokem transaction costs and the IFRS accounting treatment (IAS 39) of derivatives totalling EUR 33 (-3) million (▸ *Note 5*).

The share of profits from associated companies and joint ventures totalled EUR 76 (59) million, including mainly the share of profit from Fortum Värme (▸ *Note 20*).

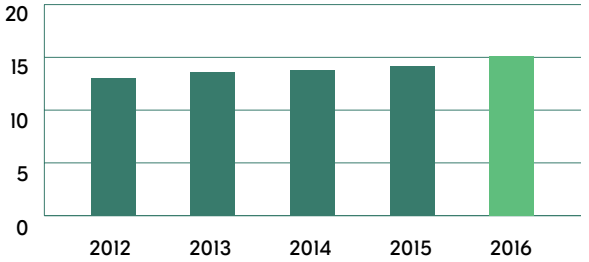
Heat sales by country

TWh	2016	2015	Change 16/15
Finland	3.6	3.1	16%
Poland	3.6	3.4	6%
Other countries	1.5	1.2	25%
Total	**8.7**	**7.8**	**12%**

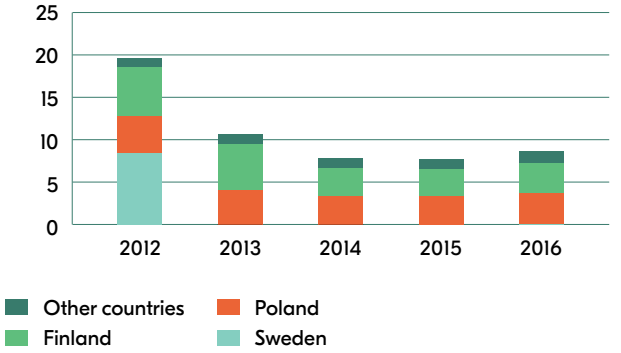
Power sales

TWh	2016	2015	Change 16/15
CHP	2.8	2.5	12%
Electricity Sales	12.3	14.2	-13%
Total	**15.1**	**16.7**	**-10%**

Electricity Sales in City Solutions segment, TWh



Heat sales by country, TWh



Russia

The Russia segment comprises power and heat generation and sales in Russia. The segment also includes Fortum's over 29% holding in TGC-1, which is an associated company and is accounted for using the equity method.

EUR million	2016	2015	Change 16/15
Sales	896	893	0%
- power sales	691	661	5%
- heat sales	199	228	-13%
- other sales	6	4	50%
Comparable EBITDA	312	267	17%
Comparable operating profit	191	201	-5%
Operating profit	226	203	11%
Share of profits from associates and joint ventures	38	32	19%
Comparable net assets (at period-end)	3,284	2,561	28%
Comparable return on net assets, %	8.0	8,2	-2%
Capital expenditure and gross investments in shares	201	285	-29%
Number of employees	3,745	4,126	-9%

After the completion of the multi-year investment programme in March 2016, Fortum has 2,268 MW of new capacity i.e. generation capacity built after 2007, which under the Russian Capacity Supply Agreement (CSA – "new capacity") receives guaranteed payments for a period of 10 years after the commissioning of each new unit.

The received capacity payments vary depending on the age, location, type and size of the plant, as well as on seasonality and availability. The CSA payments can also vary somewhat annually, as they are linked to Russian Government long-term bonds with 8 to 10 years' maturity. In early 2016, the System Administrator of the wholesale market published data on the weighted average cost of capital (WACC) and the consumer price index (CPI) for 2015, which was used to calculate the capacity price on CSA in 2016. The CSA payments were revised upwards accordingly to reflect the higher bond rates. In addition, the regulator will review the guaranteed CSA payments by re-examining earnings from the electricity-only market three and six years after the commissioning of a unit, and may revise the CSA payments accordingly.

All of Fortum's capacity generation built prior to 2008 (CCS – "old capacity"), totalling 2,214 MW in December 2016, was allowed to participate in the Competitive Capacity Selection for 2016, and the majority of Fortum's plants were selected. The volume of Fortum's installed capacity not selected in the auction totalled 175 MW, for which Fortum has obtained forced mode status, i.e. it is receiving payments for the capacity.

In 2016, the Russia segment's power sales volumes amounted to 29.5 (29.4) TWh and heat sales volumes totalled 20.6 (25.4) TWh. Electricity volumes increased mainly due to the commissioning of two new units in Chelyabinsk. The divestment of the Tobolsk CHP plant in February 2016 decreased the growth impact on both electricity and heat volumes.

The Russia segment's comparable EBITDA was EUR 312 (267) million. Comparable operating profit was EUR 191 (201) million, including CSA provision releases of EUR 2 (52) million. The positive effect came from operationally good performance and high utilisation rates in the power plants, the commissioning of new units as well as from the higher received CSA payments following the adjustments of the WACC component in the CSA prices. The Russian rouble had a negative effect of EUR 13 million.

Operating profit was EUR 226 (203) million, including sales gains of EUR 35 (1) million (▸ *Note 5*).

The share of profits from associated companies and joint ventures totalled EUR 38 (32) million (▸ *Note 20)*. The operating profit (EBIT) for the whole Russia segment, which includes the share of TGC-1, totalled RUB 19.5 billion in 2016, including a sales gain RUB 2.6 billion on the sale of Tobolsk.

Fortum started receiving capacity payments under the Russian Capacity Supply Agreement (CSA) for Chelyabinsk GRES unit 2 as of 1 March 2016. Fortum's extensive investment programme in Russia that started in 2008 was completed during 2016, as the final unit of the programme started its commercial operation.

Key electricity, capacity and gas prices for Fortum Russia

	2016	2015	Change 16/15
Electricity spot price (market price), Urals hub, RUB/MWh	1,054	1,047	1%
Average regulated gas price, Urals region, RUB/1,000 m^3	3,614	3,488	4%
Average capacity price for CCS "old capacity", tRUB/MW/month [1)]	140	149	-6%
Average capacity price for CSA "new capacity", tRUB/MW/month [1)]	815	641	27%
Average capacity price, tRUB/MW/month	481	359	34%
Achieved power price for Fortum in Russia, RUB/MWh	1,734	1,555	12%
Achieved power price for Fortum in Russia, EUR/MWh [2)]	23.5	22.5	4%

1) Capacity prices paid for the capacity volumes, excluding unplanned outages, repairs and own consumption.

2) Translated using average exchange rate.

Discontinued operations (Distribution)

EUR million	2016	2015
Sales	-	274
- distribution network transmission	-	229
- regional network transmission	-	40
- other sales	-	7
Comparable EBITDA	-	163
Comparable operating profit	-	114
Operating profit	-	4,395
Capital expenditure and gross investments in shares	-	44

The table above includes the Swedish electricity distribution business for January-May 2015.

Fortum has had no distribution business since June 2015, when it completed the divestment of its Swedish electricity distribution business. The transaction concluded the divestment of Fortum's Distribution segment, a process that began in 2013.

Capital expenditure, divestments and investments in shares

EUR million	2016	2015
Capital expenditure		
Intangible assets	3	5
Property, plant and equipment	588	577
Total continuing operations	**591**	**582**
Gross investments in shares		
Subsidiaries	813	1
Associated companies	17	27
Available for sale financial assets	14	15
Total continuing operations	**844**	**43**

See also ▸ *Note 19.2* Capital expenditure.

Fortum expects to start the supply of power and heat from new power plants and to upgrade existing plants as follows:

	Type	Electricity capacity MW	Heat capacity MW	Supply starts
Generation				
Loviisa, Finland	Nuclear	6		Q4 2017
Several hydro plants in Sweden and Finland	Hydro	10		End 2017
City Solutions				
Zabrze, Poland	CHP	75	145	2018
Russia				
Ulyanovsk	Wind	35		2017
Other				
Bhadla, India	Solar	70		2017
Karnataka, India	Solar	100		2017
Solberg, Sweden	Wind	75 [1)]		2018

1) Skellefteå Kraft AB (SKAB) is participating in the project with a 50% (37.5 MW) share.

Generation

Through its interest in Teollisuuden Voima Oyj (TVO), Fortum is participating in the building of Olkiluoto 3 (OL3), a 1,600-MW nuclear power plant unit in Finland. The plant's start of commercial electricity production is expected to take place in late 2018, according to the plant supplier AREVA-Siemens Consortium. TVO has withdrawn a EUR 300 million shareholder loan from the total EUR 600 million commitments. Fortum's share of the EUR 300 million withdrawal is approximately EUR 75 million. Fortum's remaining commitment for OL3 is EUR 75 million (▸ *Note 22*).

City Solutions

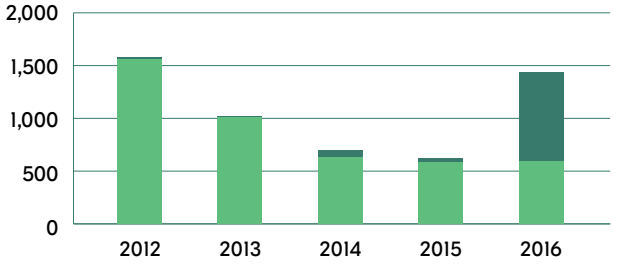
In February, Fortum agreed to sell its 51.4% shareholding in the Estonian natural gas import, sales and distribution company AS Eesti Gaas. Fortum finalised the transaction in March 2016.

In March, Fortum completed the acquisition of 93.35% of the shares in the Polish electricity and gas sales company Grupa DUON S.A. In April, Fortum announced that it had purchased the remaining shares through a mandatory squeeze-out procedure, after which the extraordinary meeting of shareholders of Grupa DUON S.A. decided to delist the company from the Warsaw Stock Exchange.

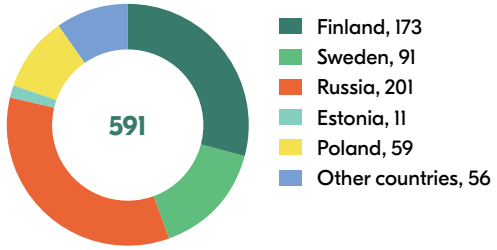
In May, Fortum signed an agreement with the four biggest owners of Ekokem Corporation, representing approximately 81% of the shares, to acquire their shareholding in the company for approximately EUR 470 million. This corresponded to a debt- and cash-free purchase price of approximately EUR 700 million for 100% of the company, as Fortum made a tender offer to all remaining shareholders at the same price (EUR 165 per share). Fortum obtained the required competition clearances in July. Having reached the necessary ownership thresholds, Fortum has started a minority redemption process. At the end of 2016, Fortum's total ownership was approximately 98%.

In December, Fortum finalised the acquisition of 100% of Turebergs Recycling AB's shares from Turebergs Åkeri AB with an enterprise value of up to approximately EUR 11 million. The main business of Turebergs Recycling is environmental construction, recycling and processing of bottom ash from waste-to-energy plants.

Capital expenditure and gross investments in shares continuing operations, EUR million



Capital expenditure continuing operations by country, EUR million



Russia

In February, Fortum sold its 100% shareholding in its Russian subsidiary OOO Tobolsk CHP. OOO Tobolsk CHP owns and operates the combined heat and power plant in the city of Tobolsk in Western Siberia.

Other

In January, Fortum won the bid in a reverse auction in India for a 70-MW solar project with a fixed tariff of 4.34 INR/kWh (about 60 EUR/MWh) for 25 years. In April, Fortum signed the Power Purchase Agreement with NTPC, India's largest utility.

In February, Fortum acquired a 75-MW wind farm project. The Solberg site, located in Västernorrland County in northern Sweden, is fully-permitted and construction-ready. In April, Fortum made a final investment decision on the project together with Skellefteå Kraft AB (SKAB), which is participating in the project with a 50% share.

In April, Fortum won the bid in a reverse auction in India for a 100-MW solar project. The solar power plant will be built in Karnataka with a fixed tariff of 4.79 INR/kWh for 25 years.

In November, Fortum acquired three wind power projects from the Norwegian company Nordkraft. The transaction consists of the Nygårdsfjellet wind farm, which is already operational, as well as the fully -permitted Ånstadblåheia and Sørfjord projects. Fortum and Nordkraft agreed on co-operating on the construction and operation of the wind farms. Fortum is preparing for the construction of the Ånstadblåheia and Sørfjord projects, expected to be commissioned in 2018 and 2019. When built the total installed capacity of the three wind farms would be approximately 170 MW. The acquisitions were finalised in early January 2017.

Group personnel

	2016	2015
Number of employees, 31 December	8,108	7,835
Average number of employees	7,994	8,009
Total amount of employee benefits, EUR million	334	351

Fortum's operations are mainly based in the Nordic countries, Russia and the Baltic Rim area. The total number of employees at the end of 2016 was 8,108 (7,835).

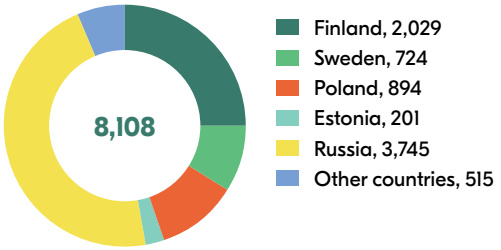
At the end of 2016, the Generation segment had 979 (1,341) employees; City Solutions 2,314 (1,417); Russia 3,745 (4,126); and Other 1,070 (951). Generation's number of employees decreased, mainly due to the reorganisation of the Group; City Solution's increased, mainly due to the acquisitions of DUON and Ekokem; Russia's decreased, due to the divestment of Tobolsk, and Other increased, due to the reorganisation of the Group. The headcount has also increased in new business areas, such as M&A and Solar & Wind Development, Technology and New Ventures as well as Nuclear Services, while it has decreased in the power plant operations and maintenance due to partnerships.

In addition, as Fortum revised its organisation during 2016 to align with its new strategy the organisational change focused on job rotation and giving opportunities to young talents to enable them to gain demanding and visible positions.

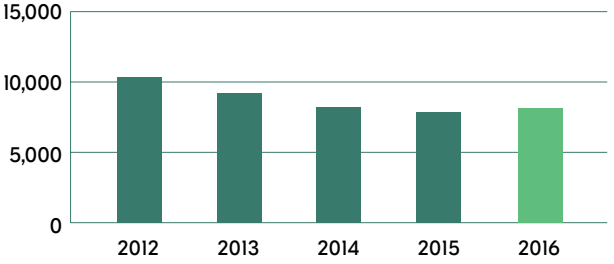
In autumn 2016, the "Energise Your Day" wellbeing programme was launched in Finland. The Energise Your Day wellbeing programme encourages employees to maintain and improve their overall wellbeing and offers ideas and tools for self-management, stress management, recovery, nutrition and physical activity. The wellbeing programme started with a questionnaire and the response rate was almost 80%. After completing the questionnaire, the employees receive tailored suggestions on how to improve their wellbeing; the programme also offers lectures and personal counselling. The programme will be rolled out to other countries in 2017.

For further details of Group personnel see ▸ *Note 11* Employee benefits.

Number of employees by country, 31 December 2016



Number of employees, 31 December 2016



Research and development

Sustainability is at the core of Fortum's strategy and, alongside Fortum's current businesses, the company is carefully exploring and developing new sources of growth within renewable energy production.

Fortum's goal is to be at the forefront of energy technology and application development. To accelerate innovation and the commercialisation of new offerings, Fortum strengthens its in-house innovation and digitalisation efforts and builds partnerships with leading global suppliers, promising technology companies and research institutions. Fortum makes direct and indirect investments in start-ups with promising new innovations that focus on connectivity, have disruptive potential and accelerate the transition towards a circular economy. Fortum also invests in technologies that support better utilisation of the current asset base, and can create new markets and products for Fortum. The company is continuously looking for emerging clean energy solutions and for solutions that increase resource and system efficiency.

During 2016, Fortum's R&D focused on new urban, rural and industrial business concept studies as well as on the sustainability, quality and handling of mixed biofuels and biofuel availability. Another very important area is how to increase energy system flexibility throughout the energy value chain, from energy production to consumers as well as customer solutions. As part of this study Fortum developed a virtual power plant pilot in order to optimise the system by using household water heaters as well as household solar panels together with battery storage.

In nuclear R&D, a key objective is to enable growth of the nuclear services business. In 2016, focus was also on future nuclear technologies like Small Modular Reactors, and on further development of the safety and efficiency of Fortum's nuclear power plants. Virtual Reality was developed for control room validation and radiation safety training purposes. The NURES product for purification of radioactive liquids was further developed to ensure our competitiveness.

In 2016, Fortum also invested in a Finnish biorefining technology company (Chempolis Oy) specialised in providing innovative and sustainable carbon-neutral biorefining technologies for the biomass, energy, oil, paper, alcohol, sugar and chemical industries. Fortum is a significant user of biomass in its own operations, and it has promoted the importance of resource efficiency in the use of biomass and common sustainability criteria for biomass. The company believes that biomass could be used more efficiently for creating higher value products. Fortum also invested in the Swedish solar technology company, Exeger Sweden AB (Publ). The company is specialised in developing and producing novel printable solar cells for use in consumer electronics, on buildings and in other applications.

The Group reports its R&D expenditure on a yearly basis. In 2016, Fortum's R&D expenditure was EUR 52 (47) million, or 1.4% (1.4%) of sales.

EUR million	2016	2015	Change 16/15
R&D expenditure, EUR million	52	47	11%
R&D expenditure, % of sales	1.4	1.4	0%

Sustainability

Fortum strives for balanced management of economic, social and environmental responsibility in the company's operations. Fortum's sustainability targets consist both of Group-level key indicators and division-level indicators.

The Group-level sustainability targets emphasise Fortum's role in society and measure not only environmental and safety targets, but also Fortum's reputation, customer satisfaction, employee wellbeing, and the security of production of power and heat. At the beginning of 2016, the Group-level target-setting was changed by taking work wellbeing, measured as a percentage of sickness-related absences, as a new Group target. In terms of specific carbon dioxide emissions (gCO_2/kWh), Fortum focuses on measuring Group-level specific emissions from total energy production.

The achievement of the sustainability targets is monitored in monthly, quarterly and annual reporting. Sustainability target-setting and follow-up, as well as the approval of Fortum's Sustainability Policy, and the review of Fortum's Sustainability Reporting, are included in the working order of the Board of Directors. Complete data on Fortum's sustainability performance is published in Fortum's Sustainability Report.

Fortum sustainability targets and performance

	Target	2016	Five-year average
Reputation index, based on One Fortum Survey	72.0	72.5	
Customer satisfaction index (CSI), based on One Fortum Survey	level good, 70–74	67–79	
Specific CO_2 emissions from total energy production (electricity and heat) as a five-year average, g/kWh	< 200	184	188
Energy-efficiency improvement by year 2020, base line year 2012, GWh/a	> 1,400	1,372	
Major EHS incidents, no.	≤ 23	22	
Energy availability of CHP plants, %	> 95	97.4	
Total recordable injury frequency (TRIF) for own personnel	≤ 2.5	1.9	
Lost workday injury frequency (LWIF) for own personnel	≤ 1.0	1.0	
Lost workday injury frequency (LWIF) for contractors	≤ 3.0	3.0	
Number of serious occupational accidents	≤ 8	13	
Sickness-related absences, %	≤ 2.4	2.4	

The company is listed on the Nasdaq Helsinki exchange and is included in the STOXX Global ESG Leaders, OMX GES Sustainability Finland, and ECPI® indices. Fortum is also ranked in category A- and as the top Nordic company in the utilities sector in the annual CDP (formerly the Carbon Disclosure Project) rating 2016, and it has received a Prime Status (B-) rating by the German oekom research AG.

In 2016, integration of Ekokem and Duon operations into Fortum's sustainability approach and data compilation systems were started. Sustainability information relating to DUON's operations is included in sustainability reporting from 1 April 2016 and Ekokem's operations from 1 September 2016.

Economic responsibility

For Fortum, economic responsibility means competitiveness, performance excellence and market-driven production, which create long-term value for our stakeholders and enable profitable growth. Satisfied customers are key to Fortum's success. Fortum aims to manage its supply chain in a responsible manner.

Fortum's goal is to achieve excellent financial performance in strategically selected core areas through strong competence and responsible ways of operating. Fortum measures financial performance with return on capital employed (target: 10%) and capital structure (target: comparable net debt/EBITDA around 2.5). In addition, Fortum has used the applicable Global Reporting Initiative (GRI) G4 indicators for reporting economic responsibility as of 1 January 2014.

Targets for reputation and customer satisfaction are monitored annually. Company reputation among the key stakeholders in the One Fortum Survey in 2016 improved to 72.5 points (on a scale of 1-100 points) and exceeded the target of 72.0 points. The Group target (70-74 points) for customer satisfaction was achieved in all business areas except electricity sales for business customers.

Fortum expects its business partners to act responsibly and to comply with the Fortum Code of Conduct and the Fortum Supplier Code of Conduct. Fortum assesses the performance of its business partners with supplier qualification and supplier audits. In 2016, Fortum audited 13 (9) suppliers in China, India, Russia, Poland, Latvia, Lithuania and Finland. In September 2016, Fortum signed a contract with an external service provider for conducting supplier sustainability audits.

Fortum as a tax payer

Fortum supports social development and wellbeing of the areas of operations by e.g. paying taxes. The tax benefits Fortum produces to society include not only corporate income taxes borne EUR 48 (106) million but also several other taxes. In 2016, Fortum's taxes borne were EUR 365 (413) million. Taxes borne include corporate income taxes, production taxes, employment taxes, taxes on property and cost of indirect taxes. Production taxes include also taxes paid through electricity purchased from associated companies.

In addition, Fortum administers and collects different taxes on behalf of governments and authorities. Such taxes include e.g. VAT, excise taxes on power consumed by customers, payroll taxes and withholding taxes. The amount of taxes collected by Fortum was EUR 376 (352) million.

Environmental responsibility

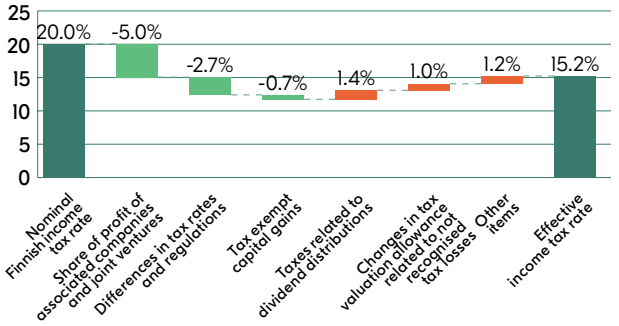
Fortum's aim is to provide its customers with environmentally benign products and services. Circular economy, resource and energy efficiency, and maximising the added value of waste and biomass are key priorities in Fortum's environmental approach. In addition, climate change mitigation, and the reduction of environmental impacts are emphasised in Fortum's environmental responsibility. The company's know-how in CO_2-free hydro and nuclear power production and in energy-efficient combined heat and power production, investments in solar and wind power, as well as solutions for sustainable cities play a key role in this.

Fortum's Group-level environmental targets are related to CO_2 emissions, energy efficiency, and major environmental, health and safety (EHS) incidents. At the end of 2016, 99.9% of Fortum's power and heat production worldwide had ISO 14001 certification.

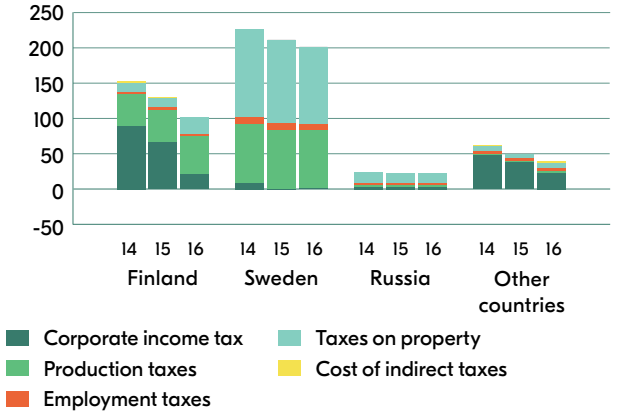
Fortum's climate target over the next five years is for total specific CO_2 emissions from both electricity and heat production in all countries to be below 200 g/kWh. The target is calculated as a five-year average. At the end of 2016, the total specific CO_2 emissions from energy production were at 188 (191) g/kWh, which is better than the target level.

Fortum's total CO_2 emissions in 2016 amounted to 18.6 (19.2) million tonnes (Mt), of which 2.7 (2.1) Mt were within the EU's emissions trading scheme (ETS). The estimate for Fortum's free emissions allowances in 2016 is 1.0 Mt.

Effective income tax rate break down



Taxes borne by country, EUR million



Fortum's total CO_2 emissions (million tonnes, Mt)	2016	2015	Change 16/15
Total emissions	18.6	19.2	-3%
Emissions subject to ETS	2.7	2.1	29%
Free emission allocation	1.0	1.3	-23%
Emissions in Russia	15.5	17.0	-9%

By 2020, Fortum's target is to achieve energy savings of more than 1,400 GWh annually, compared to 2012. At the end of 2016, about 1,372 GWh had been achieved. Among the projects executed in 2016 were nuclear plant refurbishments in Finland, hydropower plant refurbishments in Finland and Sweden, and gas turbine plant refurbishments in Russia.

Fortum's target was fewer than 23 major EHS incidents annually. In 2016, 22 (18) major EHS incidents took place in Fortum's operations: the incidents included 11 non-compliances with environmental permits, seven fires, one leak and three explosions. These incidents did not have significant environmental or financial impacts.

Social responsibility

Fortum's social responsibility emphasises the secure supply of electricity and heat, creating solutions for sustainable cities, operational and occupational safety, employee wellbeing, as well as ethical business operations and compliance with regulations. At the end of 2016, OHSAS 18001 certification covered 99.9% of Fortum's power and heat production worldwide.

The average energy availability of Fortum's CHP plants in 2016 was 97.4% (96.4%), clearly above the annual target level of 95%.

The total recordable injury frequency (TRIF) for Fortum employees in 2016 was 1.9 (1.6) per one million working hours, which is better than the Group-level frequency target (≤ 2.5). Fortum's target for the lost-workday injury frequency (LWIF) for own personnel was 1.0 and it was achieved (1.1). The lost-workday injury frequency for contractors was 3.0 (2.7), which is at the set target level. The number of serious occupational accidents was 13 (14).

Implementation of the agreed actions to improve contractor safety will continue with a specific focus on contractor safety and the integration of the Ekokem and Duon operations. As of 1 January 2017, Fortum has changed the definition of the severity of work-related accidents and is now focusing on the consequences or potential consequences of an accident rather than the length of the sick-leave. The Group target for 2017 is ≤ 5 severe accidents. By 2020 our target is to reduce severe accidents to zero.

The percentage of sickness-related absences in 2016 was 2.4 (2.4), which is at the target level.

Changes in Fortum's Management

In February 2016, Fortum announced that it will reorganise its corporate structure effective 1 April 2016. The target of the new organisation is to enable the implementation of the company's new vision and strategy, which were announced on 3 February 2016. The new organisation comprises three business divisions: Generation, City Solutions, and Russia. In addition, two development units focusing on growing new businesses have been established: M&A and Solar & Wind Development, and Technology and New Ventures. The new organisation will also have four staff functions: Finance; Legal; Strategy, People and Performance; and Corporate Affairs and Communications.

Fortum's Executive Management Team, as of 1 April 2016:

Pekka Lundmark, President and CEO
Matti Ruotsala, Deputy CEO until his planned retirement in summer 2017
Timo Karttinen, CFO
Tiina Tuomela, Executive Vice President, Generation
Markus Rauramo, Executive Vice President, City Solutions
Alexander Chuvaev, Executive Vice President, Russia
Per Langer, Senior Vice President, Technology and New Ventures
Kari Kautinen, Senior Vice President, M&A and Solar & Wind Development
Sirpa-Helena Sormunen, General Counsel
Risto Penttinen, Senior Vice President, Strategy, People and Performance
Arto Räty, Senior Vice President, Corporate Affairs and Communications

All members of the Executive Management Team report to the President and CEO, except for the General Counsel, who reports administratively to the CFO.

Events after the balance sheet date

On 27 January 2017, Fortum's Nomination Board submitted its proposals to the Annual General Meeting 2017 that the Board would consists of eight (8) members and that the following persons be elected to the Board of Directors for a term ending at the end of the Annual General Meeting 2018: to be re-elected Ms Sari Baldauf as Chairman, and as members, Mr Heinz-Werner Binzel, Ms Eva Hamilton, Mr Kim Ignatius, Mr Tapio Kuula and Mr Veli-Matti Reinikkala. To be elected as new members; Mr Matti Lievonen as Deputy Chairman and as member Ms Anja McAlister.

In addition, the Shareholders' Nomination Board will propose that the annual fees paid for the term remain unchanged and to be as follows: Chairman: EUR 75,000, Deputy Chairman: EUR 57,000, and members: EUR 40,000. The Chairman of the Audit and Risk Committee, if he/she is not simultaneously acting as Chairman or Deputy Chairman of the Board: EUR 57,000/year.

Outlook

Key drivers and risks

Fortum's financial results are exposed to a number of economic, strategic, political, financial and operational risks.

One of the key factors influencing Fortum's business performance is the wholesale price of electricity in the Nordic region. The key drivers behind the wholesale price development in the Nordic region are the supply-demand balance, the prices of fuel and CO_2 emissions allowances, and the hydrological situation.

The continued uncertainty in the global and European economies has kept the outlook for economic growth unpredictable. The overall economic uncertainty impacts commodity and CO_2 emissions allowance prices, and this could maintain downward pressure on the Nordic wholesale price of electricity. In Fortum's Russian business, the key drivers are economic growth, the rouble exchange rate, regulation around the

heat business, and further development of electricity and capacity markets. In all regions, fuel prices and power plant availability also impact profitability. In addition, increased volatility in exchange rates due to financial turbulence could have both translation and transaction effects on Fortum's financials, especially through the Russian rouble and Swedish krona.

In the Nordic countries, the regulatory and fiscal environment for the energy sector has also added risks for utility companies. The main strategic risk is that the regulatory and market environment develops in a way that we have not been able to foresee and prepare for. In response to these uncertainties, Fortum has analysed and assessed a number of future energy market and regulation scenarios including the impact of these on different generation forms and technologies. As a result, Fortum's strategy was renewed in 2016 to include broadening the base of revenues and diversification into new businesses, technologies and markets.

For further details on Fortum's risks and risk management, see the ▸ *Risk management* section of the Operating and financial review and ▸ *Note 3* Financial risk management.

Nordic market

Despite macroeconomic uncertainty, electricity is expected to continue to gain a higher share of total energy consumption. Electricity demand in the Nordic countries is expected to grow by approximately 0.5% on average, while the growth rate for the next few years will largely be determined by macroeconomic developments in Europe, and especially in the Nordic countries.

During 2016, oil and coal prices increased, while the price of CO_2 emission allowances (EUA) declined. The price of electricity for the upcoming twelve months appreciated in the Nordic area as well as in Germany, and both are now on higher levels than at the end of 2015.

In mid-January 2017, the quotation for coal (ICE Rotterdam) for the remainder of 2016 was around USD 74 per tonne and for CO_2 emission allowances for 2017 around EUR 5 per tonne. The Nordic system electricity forward price in Nasdaq Commodities for the rest of 2017 was around EUR 26 per MWh and for 2018 around EUR 23 per MWh. In Germany, the electricity forward price for the rest of 2017 was around EUR 34 per MWh and for 2018 around EUR 30 per MWh. Nordic water reservoirs were about 9 TWh below the long-term average and 19 TWh below the corresponding level in 2016.

Generation

The Generation segment's achieved Nordic power price typically depends on such factors as the hedge ratios, hedge prices, spot prices, availability and utilisation of Fortum's flexible production portfolio, and currency fluctuations. Excluding the potential effects from changes in the power generation mix, a 1 EUR/MWh change in the Generation segment's Nordic power sales achieved price will result in an approximately EUR 45 million change in Fortum's annual comparable operating profit. In addition, the comparable operating profit of the Generation segment will be affected by the possible thermal power generation volumes and its profits.

As a result of the nuclear stress tests in the EU, the Swedish nuclear safety authority (SSM) has decided to propose new regulations for Swedish nuclear reactors. The process is ongoing. Fortum emphasises that maintaining a high level of nuclear safety is the highest priority, but considers EU-level harmonisation of nuclear safety requirements to be of continued importance.

The Swedish Government increased the nuclear waste fund fee from approximately 0.022 to approximately 0.04 SEK/kWh for the 2015–2017 period. The impact on Fortum is approximately EUR 25 million annually. The process to review the Swedish nuclear waste fees is done in a three-year cycle. The Swedish Nuclear Fuel and Waste Management Co (SKB) will update the new technical plan in early 2017 for SSM to review. The final decision on the new nuclear waste fees will be made by the Swedish Government in December 2017. However, as a result of the decision on early closure of nuclear power plants, the Swedish Radiation Safety Authority, SSM, recalculated the waste fees for the Oskarshamn and Ringhals power plants.

In September 2016 the Swedish government presented the budget proposal for the coming years; One of the key elements was the proposal that taxation of different energy production forms should be more equal and the tax burden of nuclear and hydro should be taken to the level of other production technologies. The budget states that the nuclear capacity tax will be reduced to 1,500 SEK/MW per month from 1 July 2017 and abolished on 1 January 2018. In 2017, the tax is estimated to decrease by approximately EUR 32 million to EUR 52 million due to the tax decrease and by another EUR 5 million due to the premature closure of Oskarshamn 1 in the middle of the year. In 2018, there is no capacity tax.

A decision was also made to decrease the hydropower real-estate tax over a four-year period beginning in 2017, from todays 2.8% to 0.5%. The real-estate tax on hydro will, as stated in the government's budget, be reduced in four steps: in January 2017 to 2.2%; in January 2018 to 1.6%; in January 2019 to 1.0%; and in January 2020 to 0.5%. In 2017, the tax is estimated to decrease by approximately EUR 20 million to approximately EUR 95 million.

In addition to the decrease in the tax rate, the hydropower real-estate tax values, which are linked to electricity prices, will be updated starting in 2019. The real-estate tax values are updated every six years. With the current low electricity prices the tax values in 2019 will be clearly lower than today. The process for renewing existing hydro permits will also be reformed.

The tax reductions will be financed through a higher electricity consumption tax that will mainly affect households. Electricity-intensive industries will be exempt.

In October 2016, the Swedish Energy Agency presented a concrete proposal on how to increase the production of renewable electricity by 18 TWh in 2020–2030 within the electricity certificate system, as part of the Energy Agreement. The government is expected to decide on the proposal in late March 2017.

In 2015, OKG AB decided to permanently discontinue electricity production at Oskarshamn unit 1 and to start decommissioning after the permission for service operation has been granted by the relevant Swedish authorities. The date for discontinued production and the start of decommissioning has been set to 30 June 2017. Oskarshamn unit 2, which has been out of operation since June 2013 due to an extensive safety modernisation, will stay out of operation. The closing processes are estimated to take several years.

City Solutions

In May, the Finnish Government decided to increase the tax on heating fuels by EUR 90 million annually from 2017 onwards. The negative impact on Fortum is estimated to be approximately EUR 5 million per year.

Russia

The Russia segment's new capacity generation built after 2007 under the Russian Capacity Supply Agreement (CSA) is a key driver for earnings growth in Russia, as it is expected to bring income from new volumes sold and also to receive considerably higher capacity payments than the old capacity. Fortum will receive guaranteed capacity payments for a period of 10 years from the commissioning of a plant. The received CSA payment will vary depending on the age, location, size and type of the plants, as well as on seasonality and availability. CSA payments can vary somewhat annually because they are linked to Russian Government long-term bonds with 8 to 10 years' maturity. In addition, the regulator will review the earnings from the electricity-only market three years and six years after the commissioning of a unit and could revise the CSA payments accordingly.

The Competitive Capacity Selection for generation built prior to 2008 (CCS) takes place annually. The long-term CCS for 2017–2019 was held at the end of 2015, and the long-term CCS for 2020 was held in September 2016. The majority of Fortum's plants were selected. The volume of Fortum's installed "old" capacity not selected in the auction totalled 175 MW (out of 2,214 MW), for which Fortum has obtained forced mode status, i.e. it will receive payments for the capacity.

In December 2016, a bill draft containing the main principles of the heat reform, approved by the Russian Government in 2014, passed its first reading in the Russian Parliament. The draft contradicts the Roadmap in some crucial points, e.g. it does not include the requirement of the price liberalisation across the whole country. Instead it requires the consent of both the regional and the local authorities before starting the reform in certain pilot regions. If implemented, the reform should provide heat market liberalisation in 5 or 10 years, depending on the Government-imposed criteria.

The targeted operating profit (EBIT) level of RUB 18.2 billion in the Russia segment is expected to be reached during 2017–2018. The segment's profits are impacted by changes in power demand, gas prices and other regulatory developments. Economic sanctions, the currency crisis, oil prices and the inflation have impacted overall demand. As a result, gas prices and electricity prices have not developed favourably as expected. The Russian annual average gas price growth was 3.6% in 2016. Fortum estimates the Russian annual average gas price growth to be 2.0% in 2017.

The euro-denominated result level will be volatile due to the translation effect. The income statements of non-euro subsidiaries are translated into the Group reporting currency using average exchange rates. The Russia segment's result is also impacted by seasonal volatility caused by the nature of the heat business, with the first and last quarter being clearly the strongest.

Capital expenditure and divestments

Fortum currently expects its capital expenditure, excluding acquisitions, to be approximately EUR 800 million in 2017. The annual maintenance capital expenditure is estimated to be below EUR 300 million in 2017, well below the level of depreciation.

Taxation

The effective corporate income tax rate for Fortum in 2017 is estimated to be 19–21%, excluding the impact of the share of profits of associated companies and joint ventures, non-taxable capital gains and non-recurring items.

Hedging

At the end of 2016, approximately 60% of Generation's estimated Nordic power sales volume was hedged at EUR 30 per MWh for the 2017 calendar year and approximately 35% at EUR 26 per MWh for the 2018 calendar year.

The reported hedge ratios may vary significantly, depending on Fortum's actions on the electricity derivatives markets. Hedges are mainly financial contracts, most of them Nasdaq Commodities forwards.

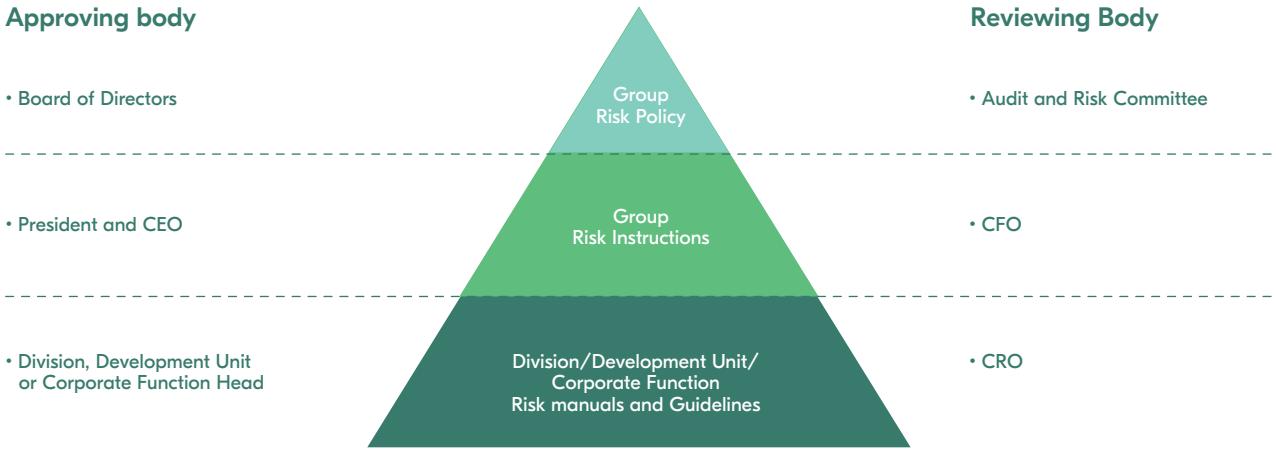
Risk management

Risk management framework and objectives

Fortum's Risk Management framework is comprised of the Group Risk Policy and supporting documents. The Group Risk Policy includes an overview of Fortum's risk management systems consisting of the general principles of risk management and the main features of the risk management process. The objective of the risk management framework and processes is to;

- support the development of the Group strategy,
- support strategy execution,
- support the achievement of agreed targets within acceptable risk levels so that the Group's ability to meet financial commitments is not compromised,
- ensure the understanding of material risks and uncertainties affecting Fortum's earnings, and
- ensure understanding and support the prevention of accidents that can have a severe effect on the health and safety of employees or third parties, and from incidents that can have a material impact on Fortum's assets, reputation or the environment.

Corporate Risk Policy Structure



Risk management organisation

The main principle is that risks are managed at source meaning that each Division, Development Unit and Corporate Function Head is responsible for managing risks that arise within their business operations. However, in order to take advantage of synergies, certain risks are managed centrally. For example, Group Treasury is responsible for managing financial risks and information security risk are managed by Corporate Security. The Audit and Risk Committee (ARC) is responsible for monitoring the efficiency of the company's risk management systems and for annually reviewing the material risks and uncertainties. Corporate Risk Management, a function headed by the Chief Risk Officer (CRO) reporting to the CFO, provides instructions and tools which support the Group in running an efficient risk management process. Corporate Risk Management is responsible for assessing and reporting maturity of risk management in Divisions, Development Units and Corporate Functions and for providing independent monitoring and reporting of material risk exposures to Group Management and the Board. Risk control functions and controllers in the business monitor and report risks to the CRO according to instructions and approved models.

Risk management process

Fortum's risk management process is designed to support the achievement of agreed targets by ensuring that risk management activities are consistent with the general principles of risk management and that risks are monitored and followed-up in a prudent manner. The main features of risk management process consist of event identification, risk assessment, risk response and risk control. Identification is carried out according to a structured process and risks are assessed in terms of impact and likelihood according to a Group-common methodology. Impact is assessed in monetary terms, but also in terms of health and safety, the environment and reputation where applicable. Risk response actions are defined and implemented by the business and operational management and can include to avoid, mitigate, transfer or absorb the risk. Risk control processes, which include monitoring and reporting of risks, are designed to support compliance with approved instructions, manuals and guidelines and to ensure that risk exposures remain within approved limits and mandates.

Fortum's Board of Directors annually approves the Group Risk Policy and the CEO annually approves Group Risk Instruction covering commodity market and fuel risks, counterparty credit risks, financial risks and operational risks. There are also other Group policies and instructions covering e.g. sustainability and information security risks which are aligned with the Group Risk Policy. Risk mandates or limits are defined for commodity market and fuel risks, counterparty credit risks and financial risks.

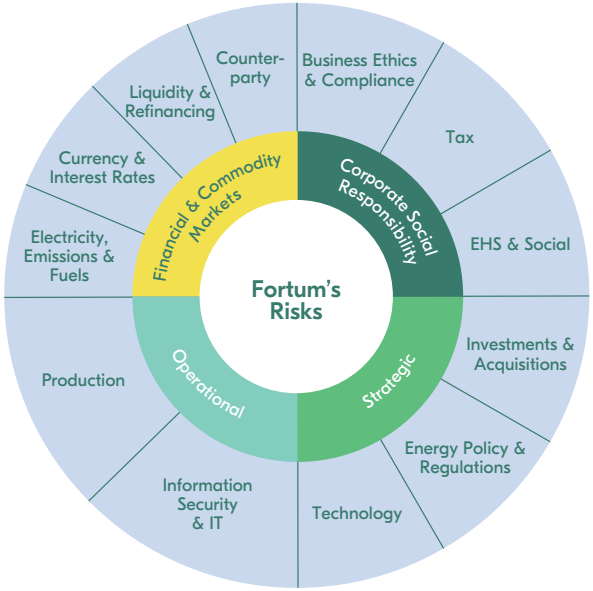
Risk factors

Strategic risks

The main strategic risk is that the regulatory and market environment develops in way that we have not been able to foresee and prepare for. In response to these uncertainties, Fortum has analysed and assessed a number of future energy market and regulation scenarios including the impact of these to different generation forms and technologies. As a result, Fortum's strategy was renewed in 2016 to include broadening the base of revenues and diversification into new businesses, technologies and markets.

Risks which could hinder Fortum in executing this strategy have been identified as part of the strategy development and led to, among other things, the creation of the five must-win battles. Risks include an inability to identify and carry out successful investments and acquisitions with the related project and integration risks, inability to manage and respond to changes in energy policy and the regulatory environment, and inability to manage and respond to changes in technology.

Fortum Risk Map



Investment and acquisition risks

Fortum's strategy includes growth of operations, including in new businesses, technologies and geographies, and any future investment or acquisition entails risk, including:

- increased overall operating complexity and requirements for management, personnel and other resources;
- the need to understand the value drivers and their uncertainties in investments or potential acquisition targets;
- the need to understand and manage the new markets and different cultural and compliance requirements;
- the need to understand and manage subcontractor risks and related sustainability and safety issues.

These risks are managed as part of the investment process which is being further developed to improve how we identify and assess opportunities and how we integrate new businesses.

Energy policy and regulation risks

The energy business is subject to energy policies and regulations, and Fortum's strategy has been developed based on scenarios of the future development of the regulatory environment in both existing and potential new businesses and market areas. The overall complexity and possible changes to regulations in the various countries and regions pose a risk if we are not able to identify and manage them efficiently.

Fortum maintains an active dialogue with the bodies involved in the development of laws and regulations in order to manage these risks and proactively participate in the development of the energy policy and regulatory framework.

Nordic/EU

Fortum's strategy in the power sector is based on a market-driven development, which would mean more interconnections and competition supported by policy harmonization. Even if the Nordic power market has a long tradition of harmonization, national policies vary considerably when it comes to generation (e.g. taxation, permitting and subsidies) as well as consumption (e.g. unbundling, taxation and market model) indicating that risks are also national. Potential risks within the policy framework include;

1) the electricity market model where the EU is currently discussing capacity remuneration mechanisms that could change the market model,
2) targets for future climate change mitigation where the specific details of targets for CO_2 emissions, renewables and energy efficiency for 2030 are under discussion,
3) renewable energy where the Commission aims at presenting a legislative proposal on sustainability criteria for solid biomass at the end of 2016 and,
4) the implementation of the Water Framework Directive in Sweden with potential effects on capacity and costs related to hydro power production.

The inter-linkage of these issues as well as national measures such as taxation create uncertainty and changes in policies in one area could undermine the effects of policy changes in other areas.

As part of the Circular Economy package, the EU waste legislation will set more ambitious recycling targets for waste. This will have a market impact, but possibly also a tax impact, on the amounts of non-recyclable waste that can be used for energy production. The implementation of EU's heating and cooling strategy through energy efficiency and renewable energy directives will likely give policy direction towards better-functioning heat markets and district heating systems. However, heating and cooling, being local businesses, are primarily subject to local legislation and regulations and thereby treated very differently in different countries.

Russia

Russia is exposed to political, economic and social uncertainties and risks resulting from changes in regulation, legislation, economic and social upheaval and other similar factors. The current economic sanctions may be enlarged and/or extended having direct and indirect impacts on the business environment. The main policy-related risks in Russia are linked to the development of the whole energy sector, part of which, like the wholesale power market, is liberalised while other parts, like gas, heat, and retail electricity, are not. The wholesale power market deregulation in Russia has been implemented to a large extent according to original plans. However, regulated sectors are inherently always exposed to a risk of regulatory changes which could affect Fortum's operations.

Technology risks

Fortum's strategy includes developing or acquiring new technologies. Fortum's R&D activities focus on the development of the energy system towards a future solar economy. Fortum is, for example, developing circular economy, bioeconomy and other renewable energy concepts as well as innovative solutions for its customers. New technologies expose Fortum to new types of risks such as risks related to intellectual property rights and viability of technologies. Technology risks are managed primarily through developing a diversified portfolio of projects consisting of different technologies.

Corporate social responsibility

Corporate social responsibility and sustainable development are integral parts of Fortum's strategy. Fortum gives balanced consideration to economic, environmental and social responsibility. Changes to laws, regulations and the business environment can pose a risk if not identified and managed effectively. Same applies to changes of views of our main stakeholders. In order to foresee and manage these risks, Fortum endorses a number of international voluntary charters, standards and guidelines in the area of sustainability, conducts stakeholder surveys annually and has defined internal policies and instructions of how to conduct business. Corporate Sustainability unit assesses sustainability risks related to the Group's operations annually. Risks identified by Corporate Sustainability are assessed by Divisions and mitigation actions are defined.

Environmental, health and safety and social risks

Operating power and heat generation plants involves use, storage and transportation of fuels and materials that can have adverse effects on the environment and expose personnel to safety risks. Assessment of environmental risks and preparedness to operate in exceptional and emergency situations follows the requirements set in ISO 14001 standard. The same approach based on the requirements set in OHSAS 18001 standard applies to risks related to occupational health and safety and actions in emergency situations.

Environmental, health and safety (EHS) risks as well as social risks related to Fortum's supply chain are evaluated through supplier qualification, internal and external audits and risk assessments. Corrective and preventive actions are implemented when necessary. EHS related risks together with social risks arising in investments are evaluated in accordance with Fortum's Investment Evaluation and Approval Procedure. Environmental risks and liabilities in relation to past actions have been assessed and provisions have been made for future remedial costs.

Tax risk

Fortum operates in a number of countries and is therefore exposed to changes in taxation and how tax authorities interpret tax laws. Changes in the international fiscal environment have created a tax environment that is leading to new or increased taxes and new interpretations of existing tax laws. This has led to challenges for Fortum and how its operations are taxed as the predictability and visibility around taxes has decreased.

Fortum's tax policy aims to identify simple and cost-efficient solutions to manage taxes in a sustainable manner. Artificial or other aggressive solutions are not used and legality and honesty are seen as a high value together with transparent and open information. Fortum is continuously following the development of tax related issues and their impact on the Group and maintains an active dialogue with tax authorities in unclear cases. Tax-related issues are communicated both internally and externally. Fortum's tax footprint is published annually.

Business ethics and compliance risks

Fortum's operations are subject to laws, rules and regulations set forth by the relevant authorities, exchanges, and other regulatory bodies in all markets in which Fortum operates. Fortum's ability to operate in certain countries may be affected by future changes to local laws and regulations.

Fortum has an established Code of Conduct to enhance the understanding of the importance of business ethics for all Fortum employees, contractors and partners. The supplier code of conduct sets sustainability requirements for suppliers of goods and services.

Fortum systematically identifies, assesses, mitigates and reports compliance risks including risks related to sustainability and business ethics. Internal controls are implemented to minimise the possibilities of unauthorised activities or non-compliance with Group policies and instructions.

Financial risks

Market risk

Fortum's business is exposed to fluctuations in prices and availability of commodities used in the production and sales of energy products. The main exposure is toward electricity prices and volumes, prices of emissions and prices and availability of fuels. Fortum hedges its exposure to commodity market risks in accordance with annually approved Hedging Guidelines, Strategies and Mandates. For further information on hedge ratios, exposures, sensitivities and outstanding derivatives contracts, see ▸ *Note 3* Financial risk management.

Electricity price risks

In competitive markets, such as in the Nordic region, the price is determined as the balance between supply and demand. The short-term factors affecting electricity prices and volumes on the Nordic market include hydrological conditions, temperature, CO_2 allowance prices, fuel prices, economic development and the import/export situation.

Electricity price risks are hedged by entering into electricity derivatives contracts, primarily on the Nasdaq Commodities power exchange. Hedging strategies are continuously evaluated as electricity and other commodity market prices, the hydrological balance and other relevant parameters change. In Russia, electricity prices and capacity sales are the main sources of market risk. The electricity price is highly correlated with the gas price and prices are fixed through bilateral agreements limiting exposure. In India, the electricity price received from solar production are fixed through long term power-purchasing agreements.

Emission and environmental value risks

The European Union has established an emissions trading scheme to reduce the amount of CO_2 emissions. In addition to the emissions trading scheme, there are other trading schemes in environmental values in place in Sweden, Norway and Poland. Part of Fortum's power and heat generation is subject to requirements of these schemes. There is currently no trading scheme in Russia for emissions or other environmental values.

The main factor influencing the prices of CO_2 allowances and other environmental values is the supply and demand balance. Fortum hedges its exposure to these prices and volumes through the use of CO_2 forwards and environmental certificates.

Fuel price and volume risks

Power and heat generation requires use of fuels that are purchased on global or local markets. The main fuels used by Fortum are natural gas, uranium, coal, various biomass-based fuels and waste. The main risk factor for fuels that are traded on global markets such as coal and natural gas, is the uncertainty in price. Prices are largely affected by demand and supply imbalances that can be caused by, for example, increased demand growth in developing countries, natural disasters or supply constraints in countries experiencing political or social unrest. For fuels traded on local markets, such as bio-fuels, the volume risk in terms of availability of the raw material of appropriate quality is more significant as there may be a limited number of suppliers. Due to the sanctions and economic development in Russia, the risks related to imported fuels from Russia have increased.

In the Nordic market, exposure to fuel prices is limited due to Fortum's flexible generation capacity which allows for switching between different fuels according to prevailing market conditions. In some cases, the fuel price risk can be transferred to the customer. The remaining exposure to fuel price risk is mitigated through fixed- price physical delivery contracts or derivative contracts. The main fuel source for heat and power generation in Russia is natural gas. Natural gas prices are partially regulated, so the price risk exposure is limited.

Liquidity and refinancing risks

The power and heat business is capital intensive and Fortum has a regular need to raise financing. Fortum maintains a diversified financing structure in terms of debt maturity profile, debt instruments and geographical markets. Fortum manages liquidity and refinancing risks through a combination of cash positions and committed credit facility agreements with its core banks.

After the Distribution divestments, Fortum has a large cash position. The credit risk of this position has been mitigated by diversifying the deposits to high-credit quality financial institutions and issuers of corporate bonds.

Currency and interest rate risks

Fortum's debt portfolio consists of interest-bearing liabilities and derivatives on a fixed- and floating-rate basis with differing maturity profiles. Fortum manages the duration of the debt portfolio through use of different types of financing contracts and interest rate derivative contracts such as interest rate swaps.

Fortum's currency exposures are divided into transaction exposures (foreign exchange exposures relating to contracted cash flows and balance sheet items where changes in exchange rates will have an impact on earnings and cash flows) and translation exposure (foreign exchange exposure that arises when profits and balance sheets in foreign entities are consolidated at the Group level). The main principle is that all material transaction exposures should be hedged while translation exposures are not hedged, or are hedged selectively. The main translation exposures toward the EUR/RUB and EUR/SEK are monitored continuously. When these currencies are weak they affect Fortum's profit level and equity when translating results and net assets to euros.

Counterparty risks

Fortum is exposed to counterparty risk whenever there is a contractual arrangement with an external counterparty including customers, suppliers, partners, banks and trading counterparties.

Credit risk exposures relating to financial derivative instruments are often volatile. Although the majority of commodity derivatives are cleared through exchanges, derivatives contracts are also entered into directly with external counterparties. Such contracts are limited to high-credit-quality counterparties active on the financial or commodity markets.

Due to the financing needs and management of liquidity, Fortum has counterparty credit exposure to a number of banks

and financial institutions. This includes exposure to the Russian financial sector in terms of deposits with financial institutions as well as to banks that provide guarantees for suppliers and contracting parties. Deposits in Russia have been concentrated to the most creditworthy state-owned or controlled banks. Limits with banks and financial institutions are monitored so that exposures can be adjusted as ratings or the financial situation changes, and Fortum is following the development of economic sanctions against Russia as part of the monitoring process.

Credit risk exposures relating to customers is spread across a wide range of industrial counterparties, small businesses and private individuals over a range of geographic regions. The majority of exposure is to the Nordic market, Poland and Russia. The risk of non-payment in the electricity and heat sales business in Russia is higher than in the Nordic market.

In order to manage counterparty credit risk, Fortum has routines and processes to identify, assess and control exposure. Credit checks are performed before entering into commercial obligations and exposure limits are set for all larger individual counterparties. Creditworthiness is monitored through the use of internal and external sources so that mitigating actions can be taken when needed. Mitigating actions include demanding collateral, such as guarantees, managing payment terms and contract length, and the use of netting agreements.

Operational risks

Operational risks are defined as the negative effects resulting from inadequate or failed internal processes, systems or equipment, or from external events. Process-related risks are assessed and controls for the most relevant risks are defined and implemented as part of the internal controls framework. Equipment and system risks are primarily managed through monitoring and maintenance planning.

Production risks

CHP

CHP production involves the use, storage and transportation of fuels. Leakage of fuels and contamination of the surrounding environment could lead to clean-up costs and third-party liabilities. An explosion or fire at a production facility could cause damages to the plant or third-parties and lead to possible business interruption. These risks are mitigated by condition monitoring, preventive maintenance and other operational improvements as well as competence development of personnel operating the plants.

Hydro power

Operational events at hydro power generation facilities can lead to physical damages, business interruptions, and third-party liabilities. A long-term program is in place for improving the surveillance of the condition of dams and for securing the discharge capacity in extreme flood situations. In Sweden, third-party liabilities from dam failures are strictly the plant owner's responsibility. Together with other hydro power producers, Fortum has a shared dam liability insurance program in place that covers Swedish dam failure liabilities up to SEK 10,000 million.

Nuclear power

Fortum owns the Loviisa nuclear power plant, and has minority interests in two Finnish and two Swedish nuclear power companies. At the Loviisa power plant, the assessment and improvement of nuclear safety is a continuous process performed under the supervision of the Radiation and Nuclear Safety Authority of Finland (STUK).

Third-party liability relating to nuclear accidents is strictly the plant operator's responsibility and must be covered by insurance. As the operator of the Loviisa power plant, Fortum has a statutory liability insurance policy of 686M SDR (Special Drawing Right) and the same type of insurance policies are in place for the operators where Fortum has a minority interest.

Under the Finnish law, Fortum bears full legal and financial responsibility for the management and disposal of nuclear waste produced by the Loviisa power plant. In both Finland and Sweden, Fortum bears partial responsibility, proportionate to the ownership share, for the costs of the management and disposal of nuclear waste produced by co-owned nuclear power plants. The future costs of the final disposal of spent fuel, the management of low and intermediate-level radioactive waste and nuclear power plant decommissioning are provided for by state-established funds in Finland and Sweden to which nuclear power plant operators make annual contributions.

Information security and IT risks

Fortum's business operations are dependent on well-functioning IT and information management systems and processes. Due to the nature of the business, large amounts of data are processed, often in real-time, and used for decision-making and in internal and external communication and reporting. Securing information and availability of the systems are essential for Fortum. Information security risks, including cyber security and privacy, are managed centrally by Corporate Security. Group instructions and procedures set requirements for managing and mitigating information risks.

IT functions in the business, support functions and outsourcing partners are responsible for identifying and mitigating operational IT security related risks as well as managing IT security incidents. IT functions are also responsible for IT service continuity.

Fortum share and shareholders

Fortum Corporation's shares have been listed on Nasdaq Helsinki since 18 December 1998. The trading code is FORTUM (until 25 January 2017: FUM1V). Fortum Corporation's shares are in the Finnish book entry system maintained by Euroclear Finland Ltd which also maintains the official share register of Fortum Corporation.

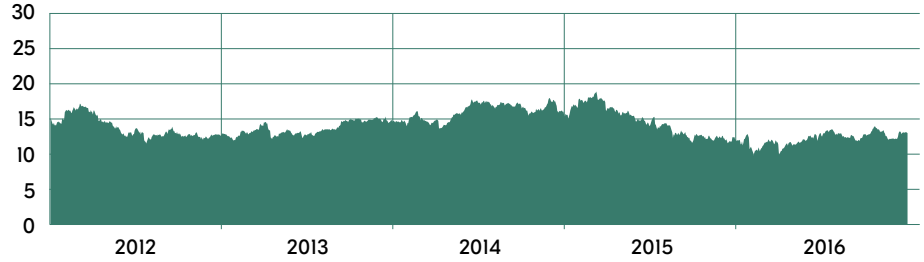
Share key figures

EUR	2016	2015	2014
Earnings per share			
Continuing operations	0.56	-0.26	1.22
Discontinued operations	-	4.92	2.33
Total Fortum	0.56	4.66	3.55
Cash flow per share total Fortum	0.70	1.55	1.98
Cash flow per share, continuing operations	0.70	1.38	1.38
Equity per share	15.15	15.53	12.23
Dividend per share	1.10 [1)]	1.10	1.10
Extra dividend per share	-	-	0.20
Payout ratio, %	196.4 [1)]	23.6	36.6
Dividend yield, %	7.5 [1)]	7.9	7.2

1) Board of Directors' proposal for the Annual General Meeting 4 April 2017.

For full set of share Key figures 2007–2016, see the section ▸ *Key figures* in the Financial Statements.

Market capitalisation, EUR billion



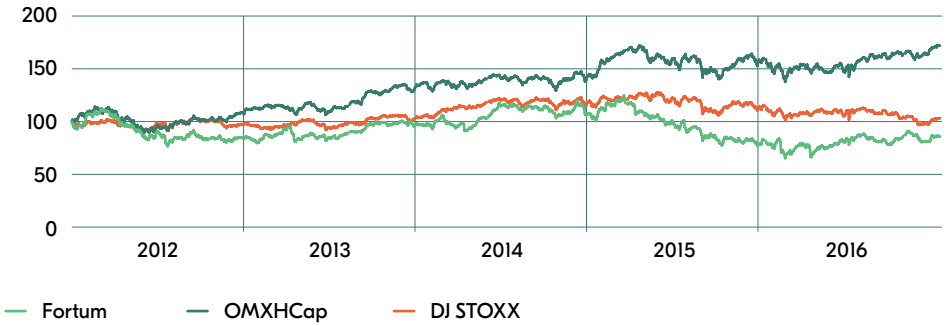
Shareholders value, share price performance and volumes

Fortum's mission is to deliver excellent value to its shareholders. Fortum's share price has depreciated approximately 14% during the last five years, while Dow Jones European Utility Index has increased 4%. During the same period NASDAQ Helsinki Cap index has increased 72%. During 2016 Fortum's share price appreciated approximately 5%, while Dow Jones European Utility index decreased 10% and NASDAQ Helsinki Cap index increased 8%.

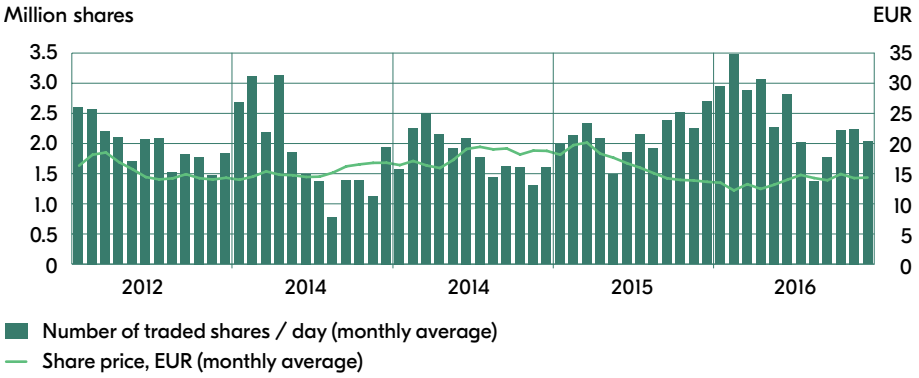
In 2016, a total of 611.6 million (2015: 541.9) Fortum Corporation shares, totalling EUR 8,295 million, were traded on the Nasdaq Helsinki. The highest quotation of Fortum Corporation shares during 2016 was EUR 15.74, the lowest EUR 10.99, and the volume-weighted average EUR 13.57. The closing quotation on the last trading day of the year 2016 was EUR 14.57 (2015: 13.92). Fortum's market capitalisation, calculated using the closing quotation of the last trading day of the year, was EUR 12,944 million (2015: 12,366).

In addition to the Nasdaq Helsinki, Fortum shares were traded on several alternative market places, for example at Boat, BATS Chi-X and Turquoise, and on the OTC market as well. In 2016, approximately 63% (2015: 58%) of Fortum's shares were traded on markets other than the Nasdaq Helsinki Ltd.

Share quotations, index 100 = quote on 2 January 2012



Fortum share trading



Share capital

Fortum has one class of shares. By the end of 2016 a total of 888,367,045 shares had been issued. Each share entitles the holder to one vote at the Annual General Meeting. All shares entitle holders to an equal dividend. At the end of 2016 Fortum Corporation's share capital, paid in its entirety and entered in the trade register, was EUR 3,046,185,953.00.

Shareholders

At the end of 2016, the Finnish State owned 50.76% of the company's shares. The Finnish Parliament has authorised the Government to reduce the Finnish State's holding in Fortum Corporation to no less than 50.1% of the share capital and voting rights.

The proportion of nominee registrations and direct foreign shareholders was 28.1 % (2015: 25.5%).

Shareholders, 31 December 2016

Shareholders	No. of shares	Holding %
Finnish State	450,932,988	50.76
The State Pension Fund	8,300,000	0.93
Ilmarinen Mutual Pension Insurance Company	7,976,986	0.90
The Finnish Social Insurance Institution	7,030,896	0.79
Kurikan Kaupunki	6,203,500	0.70
Elo Mutual Pension Insurance Company	4,545,000	0.51
Varma Mutual Pension Insurance Company	4,250,167	0.48
Schweizerische Nationalbank	2,928,762	0.33
The Local Government Pensions Institution	2,568,955	0.29
Society of Swedish Literature in Finland	1,716,375	0.19
OP-Henkivakuutus Ltd.	1,380,412	0.16
OP-Delta Mutual Fund	1,285,000	0.14
SEB Gyllenberg Finlandia Fund	1,231,135	0.14
Aktia Capital Mutual Fund	1,200,000	0.14
Nominee registrations and direct foreign ownership [1)]	246,298,728	27.72
Other shareholders in total	140,518,141	15.82
Total number of shares	**888,367,045**	**100.00**

1) Excluding Schweizerische Nationalbank.

By shareholder category	% of total amount of shares
Finnish shareholders	
Corporations	1.54
Financial and insurance institutions	1.99
General government	55.93
Non-profit organisations	1.64
Households	10.85
Non-Finnish shareholders	28.05
Total	**100.00**

Breakdown of share ownership, 31 December 2016

Number of shares owned	No. of shareholders	% of shareholders	No. of shares	% of total amount of shares
1—100	35,840	27.18	2,042,557	0.23
101—500	52,093	39.50	13,980,902	1.57
501—1,000	21,143	16.03	15,629,845	1.76
1,001—10,000	21,552	16.34	56,285,821	6.34
10,001—100,000	1,144	0.87	25,650,795	2.89
100,001—1,000,000	85	0.06	24,348,358	2.74
1,000,001—10,000,000	21	0.02	55,084,687	6.20
over 10,000,000	4	0.00	450,932,988	50.76
	131,882	**100.00**	**643,955,953**	**72.49**
In the joint book-entry account and in special accounts on 31 December			73,616	0.01
Nominee registrations			244,337,476	27.50
Total			**888,367,045**	**100.00**

Management interests 31 December 2016

At the end of 2016, the President and CEO and other members of the Fortum Management Team owned 315,653 shares (2015: 347,478) representing approximately 0.04% (2015: 0.04%) of the total shares in the company.

A full description of the shareholdings and interests in long-term incentive schemes of the President and CEO and other members of the Fortum Executive Management Team is shown in ▸ *Note 11* Employee benefits.

Authorisations from the Annual General Meeting 2016

In 2016, the Annual General Meeting decided to authorise the Board of Directors to decide on the repurchase and disposal of the company's own shares up to a maximum number of 20,000,000 shares, which corresponds to approximately 2.25 per cent of all the shares in the company. The authorisation is effective for a period of 18 months from the resolution of the General Meeting. The authorisation had not been used by the end of 2016.

Dividend policy

The dividend policy ensures that shareholders receive a fair remuneration for their entrusted capital, supported by the company's long-term strategy that aims at increasing earnings per share and thereby the dividend. When proposing the dividend, the Board of Directors looks at a range of factors, including the macro environment, balance sheet strength as well as future investment plans. Fortum Corporation's target is to pay a stable, sustainable and over time increasing dividend, in the range of 50–80% of earnings per share, excluding one-off items.

Dividend distribution proposal

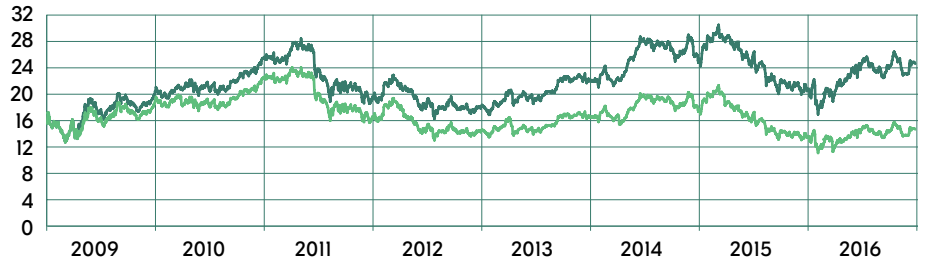
The distributable funds of Fortum Oyj as at 31 December 2016 amounted to EUR 5,203,674,879.03 including the profit of the financial period 2016 of EUR 779,867,542.66. After the end of the financial period there have been no material changes in the financial position of the Company.

The Board of Directors proposes to the Annual General Meeting that a dividend of EUR 1.10 per share be paid for 2016.

Based on the number of registered shares as at 1 February 2017 the total amount of dividend proposed to be paid is EUR 977,203,749.50. The Board of Directors proposes that the remaining part of the distributable funds will be retained in shareholders' equity.

The Annual General Meeting will be held on 4 April 2017 at 14:00 EET at Finlandia Hall in Helsinki.

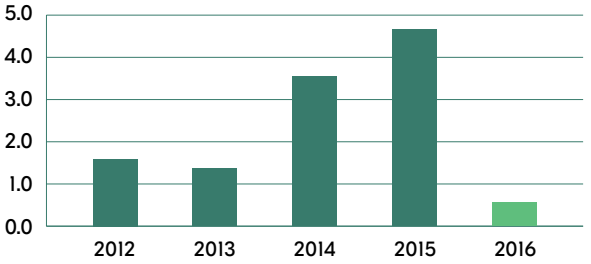
Total shareholder return, EUR



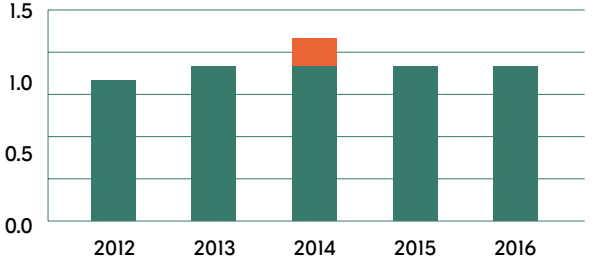
— Fortum's share price, (EUR 14.57)

— Fortum's total shareholder return, EUR 24.52 (dividends reinvested)

Earnings per share total Fortum, EUR



Dividend per share, EUR



The dividend for 2016 represents the Board of Directors' proposal for the Annual General Meeting in April 2017.
Fortum paid extra dividend of EUR 0.20 per share for the financial year that ended 31 Dec 2014.

Consolidated income statement

EUR million	Note	2016	2015
Sales	5	3,632	3,459
Other income	9	34	38
Materials and services	10	-1,830	-1,515
Employee benefits	11	-334	-351
Depreciation and amortisation	5, 18, 19	-373	-346
Other expenses	9	-485	-477
Comparable operating profit	5	**644**	**808**
Items affecting comparability	6, 7	-11	-958
Operating profit	5	**633**	**-150**
Share of profit of associates and joint ventures	5, 20	131	20
Interest expense	12	-169	-203
Interest income	12	30	51
Fair value gains and losses on financial instruments	12	-2	-18
Other financial expenses - net	12	-29	-4
Finance costs - net	12	**-169**	**-175**
Profit before income tax		**595**	**-305**
Income tax expense	13	-90	78
Profit for the period from continuing operations		**504**	**-228**
Profit for the period from discontinuing operations	14	**0**	**4,369**
Profit for the period		**504**	**4,142**
Attributable to:			
Owners of the parent		496	4,138
Non-controlling interests		8	4
		504	**4,142**
Earnings per share for profit attributable to the equity owners of the company (EUR per share) [1]	15		
Total Fortum		0.56	4.66
Continuing operations		0.56	-0.26
Discontinued operations		-	4.92

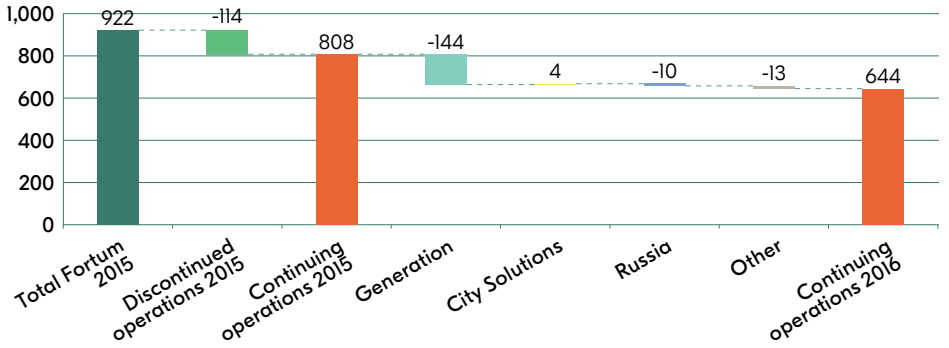
1) As Fortum currently has no dilutive instruments outstanding, diluted earnings per share is the same as basic earnings per share.

EUR million	Note	2016	2015
Comparable operating profit		**644**	**808**
Impairment charges	7	27	-918
Capital gains and other		38	22
Changes in fair values of derivatives hedging future cash flow	8	-65	-78
Nuclear fund adjustment	5	-11	16
Items affecting comparability	5, 6	**-11**	**-958**
Operating profit		**633**	**-150**

Early closure of nuclear units in Sweden in 2015

The decision made by the Extraordinary shareholders' meeting of OKG AB to close Oskarshamn nuclear power plant units 1 and 2 in Sweden impacted the 2015 net result attributable to the owners of the parent by EUR -729 million. The impact is recognised on several rows of the income statement, but the major part is included in Impairment charges, in Items effecting comparability. See further information in ▸ *Note 7* Effects from early closure of unit 1 and 2 in OKG AB.

Comparable operating profit, EUR million



Consolidated statement of comprehensive income

EUR million	Note	2016	2015
Profit for the period		**504**	**4,142**
Other comprehensive income			
Items that may be reclassified to profit or loss in subsequent periods:			
Cash flow hedges			
Fair value gains/losses in the period		-142	124
Transfers to income statement		-85	-48
Transfers to inventory/fixed assets		-10	-6
Deferred taxes		51	-14
Net investment hedges			
Fair value gains/losses in the period		-2	-8
Deferred taxes		0	2
Exchange differences on translating foreign operations	3.6	342	-191
Share of other comprehensive income of associates and joint ventures	20	-9	3
Other changes		0	3
		145	**-135**
Items that will not be reclassified to profit or loss in subsequent periods:			
Actuarial gains/losses on defined benefit plans	32	-7	76
Actuarial gains/losses on defined benefit plans in associates and joint ventures	32	12	0
		5	**76**
Other comprehensive income for the period from continuing operations, net of deferred taxes		150	-59
Other comprehensive income for the period from discontinued operations, net of deferred taxes		-	0
Total comprehensive income for the year		**654**	**4,082**
Total comprehensive income attributable to:			
Owners of the parent		639	4,081
Non-controlling interests		15	1
		654	**4,082**

Components of Consolidated statement of comprehensive income (OCI) are items of income and expense that are recognized in equity and not recognized in the consolidated income statement. They include unrealized items, such as fair value gains and losses on financial instruments hedging future cash flows. These items will be realized in the Consolidated income statement when the underlying hedged items is recognized. OCI also includes gains and losses on fair valuation on available for sale financial assets, actuarial gains and losses from defined benefit plans, items on comprehensive income in associated companies and translation differences.

Fair valuation of cash flow hedges mainly relates to electricity prices in future cash flows. When electricity price is higher (lower) than the hedging price, the impact on equity is negative (positive).

Translation differences from translation of foreign entities, mainly RUB and SEK.

See information on defined benefit plans in ▸ *Note 32* Pension obligations.

Consolidated balance sheet

EUR million	Note	31 Dec 2016	31 Dec 2015
ASSETS			
Non-current assets			
Intangible assets	18	467	222
Property, plant and equipment	19	9,930	8,710
Participations in associates and joint ventures	20	2,112	1,959
Share in State Nuclear Waste Management Fund	30	830	810
Other non-current assets	21	113	93
Deferred tax assets	29	66	80
Derivative financial instruments	3	415	509
Long-term interest-bearing receivables	22	985	773
Total non-current assets		**14,918**	**13,157**
Current assets			
Inventories	23	233	231
Derivative financial instruments	3	130	355
Short-term interest-bearing receivables	22	395	0
Tax receivables	29	290	124
Trade and other receivables	24	844	698
Deposits and securities (maturity over three months)		3,475	4,913
Cash and cash equivalents		1,679	3,289
Liquid funds	25	5,155	8,202
Total current assets		**7,046**	**9,610**
Total assets		**21,964**	**22,767**

EUR million	Note	31 Dec 2016	31 Dec 2015
EQUITY			
Equity attributable to owners of the parent			
Share capital	26	3,046	3,046
Share premium		73	73
Retained earnings		10,369	10,507
Other equity components		-29	168
Total		**13,459**	**13,794**
Non-controlling interests	27	84	69
Total equity		**13,542**	**13,863**
LIABILITIES			
Non-current liabilities			
Interest-bearing liabilities	28	4,468	4,965
Derivative financial instruments	3	262	290
Deferred tax liabilities	29	616	483
Nuclear provisions	30	830	810
Other provisions	31	116	81
Pension obligations	32	76	65
Other non-current liabilities	33	179	168
Total non-current liabilities		**6,546**	**6,863**
Current liabilities			
Interest-bearing liabilities	28	639	1,042
Derivative financial instruments	3	396	121
Trade and other payables	34	841	879
Total current liabilities		**1,876**	**2,042**
Total liabilities		**8,422**	**8,904**
Total equity and liabilities		**21,964**	**22,767**

Consolidated statement of changes in total equity

EUR million	Note	Share capital	Share premium	Retained earnings		Other equity components			Owners of the parent	Non-controlling interests	Total equity
				Retained earnings and other funds	Translation of foreign operations	Cash flow hedges	Other OCI items	OCI items associated companies and joint ventures			
BS Total equity 31 December 2015		**3,046**	**73**	**12,663**	**-2,156**	**74**	**67**	**27**	**13,794**	**69**	**13,863**
Net profit for the period				496					496	8	504
Translation differences					339	-2	1	-3	335	7	342
Other comprehensive income				1		-186	-10	3	-192		-192
Total comprehensive income for the period				497	339	-188	-9	0	639	15	654
Cash dividend	15			-977					-977		-977
Other				3					3	-1	2
BS Total equity 31 December 2016		**3,046**	**73**	**12,186**	**-1,817**	**-115**	**58**	**27**	**13,459**	**84**	**13,542**
Total equity 31 December 2014		**3,046**	**73**	**9,676**	**-1,968**	**19**	**-5**	**22**	**10,864**	**71**	**10,935**
Net profit for the period				4,138					4,138	4	4,142
Translation differences					-189	-1	-1	2	-188	-3	-191
Other comprehensive income				0		55	73	3	132		132
Total comprehensive income for the period				4,139	-189	54	72	5	4,081	1	4,082
Cash dividend	15			-1,155					-1,155		-1,155
Other				3					3	-2	1
BS Total equity 31 December 2015		**3,046**	**73**	**12,663**	**-2,156**	**74**	**67**	**27**	**13,794**	**69**	**13,863**

Translation differences

Translation of financial information from subsidiaries in foreign currency is done using average rate for the income statement and end rate for the balance sheet. The exchange rate differences occurring from translation to EUR are booked to equity. Translation differences impacted equity attributable to owners of the parent company with EUR 335 million during 2016 (2015: -188). Translation differences are mainly related to RUB and SEK. Part of this translation exposure has been hedged and the foreign currency hedge result, amounting to EUR 5 million (2015: 8), is included in the other OCI items.

For information regarding exchange rates used, see ▸ *Note 1* Accounting policies. For information about translation exposure see ▸ *Note 3.6* Interest rate risk and currency risk.

Cash flow hedges

The impact on equity attributable to owners of the parent from fair valuation of cash flow hedges, EUR -188 million (2015: 54), mainly relates to cash flow hedges hedging electricity price for future transactions. When electricity price is lower/higher than the hedging price, the impact on equity is positive/negative.

Consolidated cash flow statement

EUR million	Note	2016	2015
Cash flow from operating activities			
Profit for the period from continuing operations		**504**	**-228**
Adjustments:			
Income tax expenses		90	-78
Finance costs - net		169	175
Share of profit of associates and joint ventures		-131	-20
Depreciation and amortisation		373	346
Operating profit before depreciations (EBITDA)		**1,006**	**196**
Items affecting comparability		11	958
Net release of CSA provision		-2	-52
Comparable EBITDA		**1,015**	**1,102**
Non-cash flow items		-49	-15
Interest received		39	52
Interest paid		-214	-263
Dividends received		54	52
Realised foreign exchange gains and losses		110	292
Income taxes paid		-216	-65
Other items		-18	43
Funds from operations		**723**	**1,199**
Change in working capital		-102	29
Net cash from operating activities, continuing operations		**621**	**1,228**
Net cash from operating activities, discontinued operations		**-**	**154**
Total net cash from operating activities		**621**	**1,381**
Cash flow from investing activities			
Capital expenditures	5, 18, 19	-599	-527
Acquisitions of shares		-695	-43
Proceeds from sales of fixed assets		10	28
Divestments of shares		39	27
Shareholder loans to associated companies and joint ventures		-117	481
Change in other interest-bearing receivables		-340	-1
Net cash used in investing activities, continuing operations		**-1,701**	**-35**
Net cash used in investing activities, discontinued operations		**-**	**6,303**
Total net cash used in investing activities		**-1,701**	**6,268**

EUR million	Note	2016	2015
Cash flow before financing activities		**-1,080**	**7,650**
Cash flow from financing activities			
Proceeds from long-term liabilities		32	37
Payments of long-term liabilities		-934	-956
Change in short-term liabilities		-97	-84
Dividends paid to the owners of the parent	15	-977	-1,155
Other financing items		-8	-2
Net cash used in financing activities, continuing operations		**-1,984**	**-2,160**
Net cash used in financing activities, discontinued operations		**-**	**0**
Total net cash used in financing activities		**-1,984**	**-2,160**
Total net increase(+)/decrease(-) in liquid funds		**-3,064**	**5,490**
Liquid funds at the beginning of the year		**8,202**	**2,766**
Foreign exchange differences in liquid funds		18	-54
Liquid funds at the end of the period	25	**5,155**	**8,202**

Realised foreign exchange gains and losses relate mainly to financing of Fortum's Russian and Swedish subsidiaries and the fact that the Group's main external financing currency is EUR. The foreign exchange gains and losses arise from rollover of foreign exchange contracts hedging these internal loans as major part of the forwards are entered into with short maturities i.e. less than twelve months.

Capital expenditures in cash flow do not include not yet paid investments. Capitalised borrowing costs are presented in interest paid.

Change in net debt

EUR million	2016	2015
Net debt 1 January	**-2,195**	**4,217**
Foreign exchange rate differences	-70	89
EBITDA	1,006	4,640
Paid net financial costs, taxes and adjustments for non-cash and divestment items	-283	-3,330
Change in working capital	-102	71
Capital expenditures	-599	-592
Acquisitions	-695	-43
Divestments	49	6,217
Proceeds from interest-bearing receivables relating to divestments	0	207
Shareholder loans to associated companies	-117	481
Change in other interest-bearing receivables	-340	-1
Dividends	-977	-1,155
Other financing activities	-8	-2
Net cash flow (- increase in net debt)	-2,065	6,493
Fair value change of bonds, amortised cost valuation, acquired debt and other	152	-8
Net debt 31 December	**-48**	**-2,195**

Additional cash flow information for continuing operations

Change in working capital

EUR million	2016	2015
Change in interest-free receivables, decrease(+)/increase(-)	-54	-121
Change in inventories, decrease(+)/increase(-)	14	24
Change in interest-free liabilities, decrease(+)/increase(-)	-62	126
CF Total	**-102**	**29**

Fortum is hedging electricity production and retail portfolios mainly with derivatives in Nasdaq OMX Commodities Europe. For these transactions Nasdaq requires collaterals. In 2016 Nasdaq moved from bank guarantees to cash collaterals due to EMIR requirements. The cash collaterals are included in the short-term interest-bearing receivables, see ▸ *Note 22* Interest-bearing receivables.

In the end of 2016 Nasdaq's market making for forwards ended and the trading moved from forwards with cash collaterals to futures with daily cash settlements. In Fortum's cash flow the daily cash settlements for futures are shown as change in working capital whereas the changes in cash collaterals for forwards are in change of interest-bearing receivables. The Nasdaq futures settlements had a negative impact in working capital (Change in interest-free receivables) of EUR 139 million in 2016.

Capital expenditure in cash flow

EUR million	Note	2016	2015
Capital expenditure	5, 18, 19	591	582
Change in not yet paid investments, decrease(+)/increase(-)		24	-11
Capitalised borrowing costs		-16	-44
CF Total		**599**	**527**

Capital expenditures for intangible assets and property, plant and equipment were in 2016 EUR 591 million (2015: 582). Capital expenditure in cash flow in 2016 EUR 599 million (2015: 527) is including payments related to capital expenditure made in previous year i.e. change in trade payables related to investments EUR 24 million (2015: -11) and excluding capitalised borrowing costs EUR -16 million (2015: -44), which are presented in interest paid.

See also information about the investments by segments and countries in ▸ *Note 5* Segment reporting and the investment projects by segment in ▸ *Note 19.2* Capital expenditure.

Acquisition of shares in cash flow

Acquisition of shares, net of cash acquired, amounted to EUR 695 million during 2016 (2015: 43) including mainly shares in Ekokem Corporation of EUR 553 million and Grupa DUON S.A of EUR 98 million. For further information see ▸ *Note 40* Acquisitions and disposals.

Divestment of shares in cash flow

EUR million	Note	2016	2015
Proceeds from sales of subsidiaries, net of cash disposed	40	6	0
Proceeds from sales of associates and joint ventures	20, 40	34	27
CF Total		**39**	**27**

Gross divestment of shares, EUR 161 million (2015: 27), includes not yet received sales price of EUR 131 million (2015: 0) relating to divestment of shares in OOO Tobolsk CHP. For further information see ▸ *Note 22* Interest-bearing receivables and ▸ *Note 40* Acquisitions and disposals.

1 Accounting policies

1.1 Basic information

Fortum Corporation (the Company) is a Finnish public limited liability company with its domicile in Espoo, Finland. Fortum's shares are traded on Nasdaq Helsinki.

The operations of Fortum Corporation and its subsidiaries (together the Fortum Group) focus on the Nordic and Baltic countries, Russia and Poland. Fortum's activities cover generation and sale of electricity, generation, distribution and sale of heat, and energy- related expert services.

These financial statements were approved by the Board of Directors on 1 February 2017.

1.2 Basis of preparation

The consolidated financial statements of the Fortum Group have been prepared in accordance with International Financial Reporting Standards (IFRS) and IFRIC Interpretations as adopted by the European Union. The financial statements also comply with Finnish accounting principles and corporate legislation.

The consolidated financial statements have been prepared under the historical cost convention, except for available for sale financial assets, financial assets and financial liabilities (including derivative instruments) at fair value through profit and loss and items hedged at fair value.

1.2.1 Income statement presentation

In the Consolidated income statement Comparable operating profit-key figure is presented to better reflect the Group's business performance when comparing results for the current period with previous periods.

Items affecting comparability are disclosed as a separate line item. The following items are included in "Items affecting comparability":

- impairment charges and related provisions (mainly dismantling);
- capital gains, transaction costs and other;
- effects from fair valuations of derivatives hedging future cash flows which do not obtain hedge accounting status according to IAS 39. The major part of Fortum's cash flow hedges obtain hedge accounting where fair value changes are recorded in equity;
- effects from accounting of Fortum's part of the State Nuclear Waste Management Fund where the assets cannot exceed the related liabilities according to IFRIC5.

Comparable operating profit is used for financial target setting, follow up and allocation of resources in the group's performance management.

On 15 April 2015 Fortum published a stock exchange release regarding the IFRS 5 restatement of income statement and cash flow for 2014. As described in the release, Distribution segment is treated as discontinued operations from the first quarter interim report 2015 onwards. More information on the impact of the reclassification can be found in ▸ *Note 14* Discontinued operations and ▸ *Note 40* Acquisitions and disposals.

1.2.2 Classification of current and non-current assets and liabilities

An asset or a liability is classified as current when it is expected to be realised in the normal operating cycle or within twelve months after the balance sheet date or it is classified as financial assets or liabilities held at fair value through profit or loss. Liquid funds are classified as current assets.

All other assets and liabilities are classified as non-current assets and liabilities.

1.3 Principles for consolidation

The consolidated financial statements comprise of the parent company, subsidiaries, joint ventures and associated companies.

The Fortum Group was formed in 1998 by using the pooling-of-interests method for consolidating Fortum Power and Heat Oy and Fortum Oil and Gas Oy (the latter demerged to Fortum Oil Oy and Fortum Heat and Gas Oy 1 May 2004). In 2005 Fortum Oil Oy (current Neste Oyj) was separated from Fortum by distributing 85% of its shares to Fortum's shareholders and by selling the remaining 15%. This means that the acquisition cost of Fortum Power and Heat Oy and Fortum Heat and Gas Oy has been eliminated against the share capital of the companies. The difference has been entered as a decrease in shareholders' equity.

1.3.1 Subsidiaries

Subsidiaries are defined as companies in which Fortum has control. Control exists when Fortum is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

The acquisition method of accounting is used to account for the acquisition of subsidiaries. The cost of an acquisition is measured as the aggregate of fair value of the assets given and liabilities incurred or assumed at the date of exchange, plus costs directly attributable to the acquisition. Identifiable assets acquired and liabilities assumed in a business combination are measured initially at their fair values at the acquisition date, irrespective of the extent of any minority interest. The excess of the cost of acquisition over the fair value of the Group's share of the identifiable net assets acquired is recorded as goodwill. If the cost of acquisition is less than the fair value of the net assets of the subsidiary acquired, the difference is recognised directly in the income statement.

Subsidiaries are fully consolidated from the date on which control is transferred to the Group and are no longer consolidated from the date that control ceases.

Intercompany transactions, balances and unrealised gains on transactions between Group companies are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Where necessary, subsidiaries' accounting policies have been changed to ensure consistency with the policies the Group has adopted.

The Fortum Group subsidiaries are disclosed in ▸ *Note 42* Subsidiaries by segment on 31 December 2016.

1.3.2 Associates

Associated companies are entities over which the Group has significant influence but not control, generally accompanying a shareholding of between 20% and 50% of the voting rights. The Group's interests in associated companies are accounted for using the equity method of accounting.

1.3.3 Joint ventures

Joint ventures are arrangement in which the Group has joint control. Joint ventures are accounted for using the equity method of accounting.

1.3.4 Non-controlling interests

Non-controlling interests in subsidiaries are identified separately from the equity of the owners of the parent company. The non-controlling interests are initially measured at the non-controlling interests' proportionate share of the fair value of the acquiree's identifiable net assets. Subsequent to acquisition, the carrying amount of non-controlling interests is the amount of those interests at initial recognition plus the non-controlling interests' share of subsequent changes in equity.

1.3.5 Assets held for sale and discontinued operations

Non-current assets (or disposal groups) classified as held for sale are valued at the lower of their carrying amount and fair value less costs to sell if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. These classification criteria do not include non-current assets to be abandoned or those that have been temporarily taken out of use. An impairment loss (or subsequent gain) reduces (or increases) the carrying amount of the non-current assets or disposal groups. The assets are not depreciated or amortised. Interest or other expenses related to these assets are recognised as before the classification as held for sale.

Discontinued operations represent a separate major line of business that either has been disposed of or is classified as held for sale. Assets and liabilities attributable to the discontinued operations must be clearly distinguishable from the other consolidated entities in terms of their operations and cash flows. In addition, the reporting entity must not have any significant continuing involvement in the operations classified as a discontinued operation.

1.4 Foreign currency transactions and translation

1.4.1 Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The consolidated financial statements are presented in euros, which is the Company's functional and presentation currency.

1.4.2 Transactions and balances

Transactions denominated in foreign currencies are translated using the exchange rate at the date of the transaction. Receivables and liabilities denominated in foreign currencies outstanding on the closing date are translated using the exchange rate quoted on the closing date. Exchange rate differences have been entered in the income statement. Net conversion differences relating to financing are entered under financial income or expenses, except when deferred in equity as qualifying cash flow hedges. Translation differences on available for sale financial assets are included in Other equity components section of the equity.

1.4.3 Group companies

The income statements of subsidiaries, whose measurement and reporting currencies are not euros, are translated into the Group reporting currency using the average exchange rates for the year based on the month-end exchange rates, whereas the balance sheets of such subsidiaries are translated using the exchange rates on the balance sheet date. On consolidation, exchange differences arising from the translation of the net investment in foreign entities, and of borrowings and other currency instruments designated as hedges of such investments, are taken to equity. When a foreign operation is sold, such exchange differences are recognised in the income statement as part of the gain or loss on sale. Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate.

The balance sheet date rate is based on the exchange rate published by the European Central Bank for the closing date. The average exchange rate is calculated as an average of each month's ending rate from the European Central Bank during the year and the ending rate of the previous year.

The key exchange rates applied in the Fortum Group accounts

	Currency	Average rate 2016	Average rate 2015	Balance sheet date rate 31 Dec 2016	Balance sheet date rate 31 Dec 2015
Sweden	SEK	9.4496	9.3414	9.5525	9.1895
Norway	NOK	9.2888	8.9953	9.0863	9.6030
Poland	PLN	4.3659	4.1909	4.4103	4.2639
Russia	RUB	73.8756	69.0427	64.3000	80.6736

1.4.4 Associates and joint ventures

The Group's interests in associated companies and joint ventures are accounted for by the equity method. Associates and joint ventures, whose measurement and reporting currencies are not euro, are translated into the Group reporting currency using the same principles as for subsidiaries, see ▸ *1.4.3* Group companies.

1.5 Other accounting policies

Fortum describes the other accounting principles in conjunction with the relevant note information. The table below lists the significant accounting policies and the note where they are presented as well as the relevant IFRS standard.

Accounting principle	Note		IFRS standard
Segment reporting	5.	Segment reporting	IFRS 8
Revenue recognition	5. 24.	Segment reporting and Trade and other receivables	IAS 18
Government grants	19.	Property, plant and equipment	IAS 20
Share-based payments	11.	Employee benefits	IFRS 2
Income taxes	29.	Income taxes in balance sheet	IAS 12
Joint arrangements	20.	Participations in associated companies and joint ventures	IFRS 11, IAS 28, IFRS 12
Investments in associates	20.	Participations in associated companies and joint ventures	IAS 28, IFRS 12
Other shares and participations	16.	Financial assets and liabilities by categories	IAS 32, IAS 36, IAS 39
Intangible assets	18.	Intangible assets	IAS 38
Tangible assets	19.	Property, plant and equipment	IAS 16, IAS 36, IAS 40
Leasing	36.	Lease commitments	IAS 17
Inventories	23.	Inventories	IAS 2
Earnings per share	15.	Earnings and dividend per share	IAS 33
Pensions and similar obligations	32.	Pension obligations	IAS 19
Decommissioning obligation	30.	Nuclear related assets and liabilities	IFRIC 5
Provisions	31.	Other provisions	IAS 37
Contingent liabilities	37.	Pledged assets and contingent liabilities	IAS 37
Financial instruments	16. 17.	Financial assets and liabilities by categories and Financial assets and liabilities by fair value hierarchy	IAS 32, IAS 39, IFRS 7
Liquid funds	25.	Liquid funds	IAS 7
Borrowings	28.	Interest-bearing liabilities	IAS 39

1.6 New accounting principles

1.6.1 New IFRS standards adopted from 1 Jan 2016

Fortum has adopted the following new or amended standards on 1 January 2016:

Standard	Nature of change	Impact	Date of adoption
Narrow-scope yearly amendments	The amendments primarily remove inconsistencies, provide additional guidance and clarify wording of standards. There are separate transitional provisions for each standard.	The amendments do not have a material impact on Fortum's financial statements.	1 January 2016

1.6.2 Adoption of new IFRS standards from 1 Jan 2017 or later

Fortum will apply the following new or amended standards and interpretations starting from 1 January 2017 or later:

Standard	Nature of change	Impact	Date of adoption
IFRS 9 Financial instruments	New standard. The standard has new requirements for the classification and measurement of financial assets and liabilities and hedge accounting and it will replace IAS 39 and IFRS 7. Additionally, it introduces a new impairment model for expected credit losses.	During the gapping and design phase of the project Fortum has identified the key changes and made initial interpretations/design solutions in the areas of: • Classification and measurement of financial assets • Impairment model using expected credit loss method ("ECL") • Hedge accounting • Some of the areas considered are: • Fortum expects to have a wider possibility to apply hedge accounting and thereby reduce volatility in the income statement. • Fortum is currently evaluating the expected impact of adopting the ECL model for impairment of financial assets. • Fortum has decided to use the transition relief for not to restate the comparative information at the date of initial application.	1 January 2018
IFRS 15 Revenue from contracts with Customers	New standard. The standard focuses on revenue recognition models and will replace IAS 11 and IAS 18.	The IFRS 15 impact analysis is on-going and will be completed during 2017. Analysis include: • Identification and assessment of Fortum's revenue streams, • Determining key areas of potential differences between old and new revenue recognition principles and • Reviewing of sample contracts. Based on the analysis completed so far no material changes have been identified. As Fortum's operations do not include significant long-term sales contracts or projects, no material impact from the new standard is expected. Assessment is on-going and additional information on the implementation will be given during 2017 as the project progresses. Fortum will use the transition relief for not to restate the comparative information at the date of initial application.	1 January 2018
IFRS 16 Leases	New standard regarding lease accounting that will replace IAS 17. The new lease standard will result in almost all leases being recognised on the balance sheet, as the distinction between operating and finance lease is removed.	Fortum is currently assessing the impact of the new rules.	1 January 2019

2 Critical accounting estimates and judgements

The preparation of IFRS consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities existing at the balance sheet date as well as the reported amounts of revenues and expenses during the reporting period.

Estimates and judgements are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Actual results and timing may differ from these estimates.

The table below is listing the areas where management's accounting estimates and judgements are most critical to reported results and financial position. The table is also showing where to find more information about above-mentioned estimates and judgements.

Critical accounting estimates and judgements	Note
Assigned values and useful lives for intangible assets and property, plant and equipment acquired in a business combination	18. Intangible assets
Assumptions related to impairment testing of property, plant and equipment and intangible assets as well as associated companies and joint ventures	19. Property, plant and equipment
Judgement used when assessing the nature of Fortum's interest in its investees and when considering the classification of Fortum's joint arrangements as well as commitments arising from these arrangements	20. Participations in associated companies and joint ventures 7. Effects from early closure of nuclear units in Sweden
Assumptions and estimates regarding future tax consequences	29. Income taxes in balance sheet 38. Legal actions and official proceedings
Assumptions made to determine long-term cash flow forecasts of estimated costs for provision related to nuclear production	30. Nuclear related assets and liabilities
Assumptions made when estimating provisions	31. Other provisions
Assumptions used to determine future pension obligations	32. Pension obligations

3 Financial risk management

Risk management objectives, principles and framework including governance, organisation and processes as well as description of risks i.e. strategic, financial and operational risks are described in the Risk management part in the Operating and financial review (OFR).

3.1 Commodity market risks

Fortum's business is exposed to fluctuations in prices and availability of commodities used in the production and sales of energy products. The main exposure is toward electricity prices and volumes, prices of emissions and prices and availability of fuels. Fortum hedges its exposure to commodity market risks in accordance with annually approved Hedging Guidelines, Strategies and Mandates.

3.2 Electricity price risk

Electricity price risk is hedged by entering into electricity derivatives contracts, primarily on the Nordic power exchange, Nasdaq Commodities. The main objective of hedging is to reduce the effect of electricity price volatility on earnings. Hedging strategies cover several years in the short to medium term and are executed within approved mandates. These hedging strategies are continuously evaluated as electricity and other commodity market prices, the hydrological balance and other relevant parameters change.

In Russia, electricity prices and capacity sales are the main sources of market risk. The electricity price is highly correlated with the gas price and prices are fixed through bilateral agreements limiting exposure.

Fortum's sensitivity to electricity market price is dependent on the hedge level for a given time period. As per 31 December 2016, approximately 60% of the Generation Segment's estimated Nordic power sales volume was hedged for the calendar year 2017 and approximately 35% for the calendar year 2018. Assuming no changes in generation volumes, hedge ratios or cost structure a 1 EUR/MWh change in the market price of electricity would affect Fortum's 2017 comparable operating profit by approximately EUR 18 million and for 2018 by approximately EUR 29 million. The volume used in this sensitivity analysis is 45 TWh which includes the electricity generation sold to the spot market in Sweden and Finland in the Generation Segment without minority owner's shares of electricity or other pass-through sales, and excluding the volume of Fortum's coal-condensing generation. This volume is heavily dependent on price level, the hydrological situation, the length of annual maintenance periods and availability of power plants. Sensitivity is calculated only for electricity market price movements. Hydrological conditions, temperature, CO_2 allowance prices, fuel prices and the import/export situation all affect the electricity price on short-term basis and effects of individual factors cannot be separated.

3.2.1 Sensitivity arising from financial instruments according to IFRS 7

Sensitivity analysis shows the sensitivity arising from financial electricity derivatives as defined in IFRS 7. These derivatives are used for hedging purposes within Fortum. Sensitivities are calculated based on 31 December 2016 (31 December 2015) position. Positions are actively managed in the day-to-day business operations and therefore the sensitivities vary from time to time. Sensitivity analysis includes only the market risks arising from derivatives i.e. the underlying physical electricity sales and purchase are not included. Sensitivity is calculated with the assumption that electricity forward quotations in NASDAQ OMX Commodities Europe and in EEX would change 1 EUR/MWh for the period Fortum has derivatives.

Sensitivity according to IFRS 7

+/- 1 EUR/MWh change in electricity forward quotations, EUR million	Effect	2016	2015
Effect on Profit before income tax	-/+	18	5
Effect on Equity	-/+	27	28

3.2.2 Electricity derivatives

The tables below disclose the Group's electricity derivatives used mainly for hedging electricity price risk. The fair values represent the values disclosed in the balance sheet.

See also ▸ *Note 16* Financial assets and liabilities by categories for accounting principles and basis for fair value estimations and ▸ *Note 8* Fair value changes of derivatives and underlying items in income statement.

Electricity derivatives by instrument 2016

	Volume, TWh				Fair value, EUR million		
	Under 1 year	1–5 years	Over 5 years	Total	Positive	Negative	Net
Electricity derivatives	24	21	0	45	491	711	-220
Total					**491**	**711**	**-220**
Netting against electricity exchanges [1)]					-335	-335	0
Total					**156**	**376**	**-220**

Electricity derivatives by instrument 2015

	Volume, TWh				Fair value, EUR million		
	Under 1 year	1–5 years	Over 5 years	Total	Positive	Negative	Net
Electricity derivatives	77	57	0	134	583	502	82
Total	**77**	**57**	**0**	**134**	**583**	**502**	**82**
Netting against electricity exchanges [1)]					-292	-292	0
Total					**291**	**209**	**82**

1) Receivables and liabilities against electricity exchanges arising from standard derivative contracts with same delivery period are netted.

Maturity analysis of commodity derivatives

Amounts in the table are fair values.

	2016				2015			
EUR million	Under 1 year	1–5 years	Over 5 years	Total	Under 1 year	1–5 years	Over 5 years	Total
Electricity derivatives assets	88	67	1	**156**	156	133	2	**291**
Electricity derivatives liabilities	238	136	2	**376**	83	124	3	**209**
Other commodity derivatives, assets	18	4	0	**22**	16	5	0	**22**
Other commodity derivatives, liabilities	18	3	0	**21**	12	6	0	**18**

3.3 Fuel price risks

Exposure to fuel prices is limited to some extent due to Fortum's flexible generation capacity, which allows for switching between different fuels according to prevailing market conditions. In some cases, the fuel price risk can be transferred to the customer. The remaining exposure to fuel price risk is mitigated through fixed-price physical delivery contracts or financial hedges, such as coal, gas and oil derivatives included in the table above as part of "Other commodity derivatives".

3.4 Emission allowance price and volume risk

Part of Fortum's power and heat generation is subject to requirements of emission trading schemes. Fortum hedges its exposure to these prices and volumes through the use of CO_2 futures. Most of these CO_2 futures are own use contracts valued at cost and some are treated as derivatives in the accounts included in the table above as part of "Other commodity derivatives".

3.5 Liquidity and refinancing risk

Fortum's business is capital intensive and the Group has a diversified loan portfolio mainly consisting of long-term financing denominated in EUR and SEK. Long-term financing is primarily raised by issuing bonds under Fortum's Euro Medium Term Note programme as well as through bilateral and syndicated loan facilities from a variety of different financial institutions.

Financing is primarily raised on parent company level and distributed internally through various internal financing arrangements. For example Fortum's Russian operations are mainly financed via intra group internal long term RUB denominated loans. The internal RUB loan receivables are hedged via external forward contracts offsetting the currency exposure for the internal lender. On 31 December 2016, 96% (2015: 97%) of the Group's total external financing was raised by the parent company Fortum Oyj.

On 31 December 2016, the total interest-bearing debt was EUR 5,107 million (2015: 6,007) and the interest-bearing net debt was EUR -48 million (2015: -2,195).

Fortum manages liquidity and refinancing risks through a combination of cash positions and committed credit facility agreements with its core banks. The Group shall at all times have access to cash, marketable securities and unused committed credit facilities including overdrafts, to cover all loans maturing within the next twelve-month period. However, cash/marketable securities and unused committed credit facilities shall always amount to at least EUR 500 million.

On 31 December 2016, loan maturities for the coming twelve-month period amounted to EUR 639 million (2015: 1,042). Liquid funds amounted to EUR 5,155 million (2015: 8,202) and the total amount of committed credit facilities amounted to EUR 1,963 million (2015: 2,215) of which EUR 1,963 million (2015: 2,215) was undrawn.

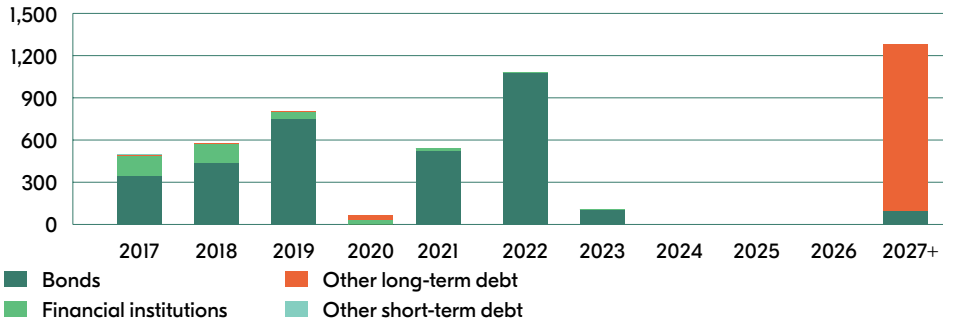
Maturity of interest-bearing liabilities

EUR million	2016
2017	639
2018	582
2019	803
2020	69
2021	539
2022 and later	2,475
Total	**5,107**

Liquid funds, major credit lines and debt programmes 2016

EUR million	Total facility	Drawn amount	Available amount
Liquid funds			
Cash and cash equivalents			1,679
Deposits and securities over 3 months			3,475
Total			**5,155**
of which in Russia (OAO Fortum)			105
Committed credit lines			
EUR 1,750 million syndicated credit facility	1,750	-	1,750
Bilateral overdraft facilities	213	-	213
Total	**1,963**	**-**	**1,963**
Debt programmes (uncommitted)			
Fortum Corporation, CP programme EUR 500 million	500	-	500
Fortum Corporation, CP programme SEK 5,000 million	523	-	523
Fortum Corporation, EMTN programme EUR 8,000 million	8,000	3,329	4,671
Total	**9,023**	**3,329**	**5,694**

Loan maturities per loan type, EUR million



In addition Fortum has received EUR 135 million based on Credit Support Annex agreements with several counterparties.

This amount has been booked as a short-term liability. See also ▸ *Note 28* Interest bearing liabilities.

Liquid funds, major credit lines and debt programmes 2015

EUR million	Total facility	Drawn amount	Available amount
Liquid funds			
Cash and cash equivalents			3,289
Bank deposits over 3 months			4,913
Total			**8,202**
of which in Russia (OAO Fortum)			76
Committed credit lines			
EUR 2,000 million syndicated credit facility	2,000	-	2,000
Bilateral overdraft facilities	215	-	215
Total	**2,215**	**-**	**2,215**
Debt programmes (uncommitted)			
Fortum Corporation, CP programme EUR 500 million	500	-	500
Fortum Corporation, CP programme SEK 5,000 million	544	-	544
Fortum Corporation, EMTN programme EUR 8,000 million	8,000	4,094	3,906
Total	**9,044**	**4,094**	**4,950**

Liquid funds amounted to EUR 5,155 million (2015: 8,202), including OAO Fortum's bank deposits amounting to EUR 103 million (2015: 72).

See also ▸ *Note 25* Liquid funds.

Maturity analysis of interest-bearing liabilities and derivatives

Amounts disclosed below are non-discounted expected cash flows (future interest payments and amortisations) of interest-bearing liabilities and interest rate and currency derivatives.

	2016				2015			
EUR million	Under 1 year	1–5 years	Over 5 years	Total	Under 1 year	1–5 years	Over 5 years	Total
Interest-bearing liabilities	765	2,307	2,601	5,673	1,208	2,412	3,168	6,788
Interest rate and currency derivatives liabilities	2,255	1,119	20	3,394	2,879	1,286	66	4,231
Interest rate and currency derivatives recievables	-2,131	-1,291	-27	-3,449	-3,026	-1,438	-80	-4,544
Total	**889**	**2,136**	**2,594**	**5,619**	**1,061**	**2,260**	**3,154**	**6,475**

Interest-bearing liabilities include loans from the State Nuclear Waste Management Fund and Teollisuuden Voima Oyj of EUR 1,094 million (2015: 1,074). These loans are renewed yearly and the related interest payments are calculated for ten years in the table above.

For further information regarding loans from the State Nuclear Waste Management Fund and Teollisuuden Voima Oyj, see ▸ *Note 30* Nuclear related assets and liabilities.

3.6 Interest rate risk and currency risk

3.6.1 Interest rate risk

Fortum risk policy states that the average duration of the debt portfolio shall always be kept within a range of 12 and 36 months and that the flow risk i.e. changes in interest rates shall not affect the net interest payments of the Group by more than EUR 50 million for the next rolling 12-month period. Within these mandates, strategies are evaluated and developed in order to find an optimal balance between risk and financing cost.

On 31 December 2016, the average duration of the debt portfolio (including derivatives) was 1.7 years (2015: 2.0). Approximately 59% (2015: 54%) of the debt portfolio was on a floating rate basis or fixed rate loans maturing within the next 12-month period. The effect of one percentage point change in interest rates on the present value of the debt portfolio was EUR 87 million on 31 December 2016 (2015: 117). The flow risk, measured as the difference between the base case net interest cost estimate and the worst-case scenario estimate for Fortum's debt portfolio for the coming 12 months, was EUR 3 million (2015: 6).

The average interest rate for the portfolio consisting mainly of EUR and SEK loans was 2.1% at the balance sheet date (2015: 2.6%). Part of the external loans EUR 805 million (2015: 641) have been swapped to RUB and the average interest cost for these loans, including cost for hedging the RUB, was 11.4% at the balance sheet date (2015: 12.8%). The average interest rate on loans and derivatives on 31 December 2016 was 3.5% (2015: 3.7%). Average cumulative interest rate on loans and derivatives for 2016 was 3.5% (2015: 3.9%).

The average interest rate on deposits and securities excluding Russian deposits on 31 December 2016 was -0.01% (2015: 0.1%). Liquid funds held by OAO Fortum amounted to EUR 105 million (Dec 31 2015: 76) and the average interest rate for this portfolio was 9.0% at the balance sheet date.

3.6.2 Currency risk

Fortum's policy is to hedge major transaction exposures to avoid exchange differences in the profit and loss statement. These exposures are mainly hedged with forward contracts.

Translation exposures in the Fortum Group are generally not hedged as the majority of these assets are considered to be long-term strategic holdings. In Fortum this means largely entities operating in Sweden, Russia, Norway and Poland, whose base currency is not euro.

The currency risk relating to transaction exposures is measured using Value-at-Risk (VaR) for a one-day period at 95% confidence level. Translation exposures relating to net investments in foreign entities are measured using a five-day period at 95% confidence level. The limit for transaction exposure is VaR EUR 5 million. On 31 December 2016 the open transaction and translation exposures were EUR 2 million (2015: 0) and EUR 7,213 million (2015: 7,292) respectively. The VaR for the transaction exposure was EUR 0 million (2015: 0) and VaR for the translation exposure was EUR 96 million (2015: 130).

Group Treasury's transaction exposure

	2016			2015		
EUR million	Net position	Hedge	Open	Net position	Hedge	Open
RUB	677	-677	0	477	-477	0
SEK	532	-531	1	81	-81	0
PLN	226	-226	0	165	-165	0
NOK	-72	72	0	-71	71	0
INR	116	-116	0	-	-	-
USD	-98	98	0	-36	36	0
Other	-20	20	0	-19	19	0
Total	**1,361**	**-1,359**	**2**	**597**	**-597**	**0**

Transaction exposure is defined as already contracted or forecasted foreign exchange dependent items and cash flows. Transaction exposure is divided into balance sheet exposure and cash flow exposure. Balance sheet exposure reflects currency denominated assets and liabilities for example loans, deposits and accounts receivable/payable in currencies other than the company's base currency. Cash flow exposure reflects future forecasted or contracted currency flows in foreign currency deriving from business activities such as sales, purchases or investments. Net conversion differences from transaction

exposure are entered under financial income or expense when related to financial items or when related to accounts receivable/payable entered under items included in operating profit. Conversion differences related to qualifying cash flow hedges are deferred to equity.

Fortum's policy is to hedge balance sheet exposures in order to avoid exchange rate differences in the income statement. The Group's balance sheet exposure mainly relates to financing of non-euro subsidiaries and the fact that the Group's main external financing currency is EUR. For derivatives hedging this balance exposure Fortum does not apply hedge accounting, because they have a natural hedge in the income statement.

Contracted cash flow exposures shall be hedged to reduce volatility in future cash flows. These hedges normally consist of currency derivative contracts, which are matched against the underlying future cash flow according to maturity. Fortum has currency cash flow hedges both with and without hedge accounting treatment under IFRS. Those currency cash flow hedges, which do not qualify for hedge accounting are mainly hedging electricity derivatives. Unrealised hedges create volatility in the operating profit.

Group Treasury's translation exposure

	2016			2015		
EUR million	Net Investment	Hedge	Open	Net Investment	Hedge	Open
RUB	2,603	-132	2,471	1,997	-167	1,830
SEK	4,747	-837	3,910	5,390	-471	4,919
NOK	410	-	410	337	-	337
PLN	282	-	282	162	-	162
Other	141	-	141	45	-	45
Total	**8,183**	**-970**	**7,213**	**7,930**	**-638**	**7,292**

Translation exposure position includes net investments in foreign subsidiaries and associated companies. On consolidation, exchange differences arising from the translation of the net investment in foreign entities are taken to equity. The net effect of exchange differences on equity attributable to equity holders mainly from RUB and SEK was EUR 335 million in 2016 (2015: -188). Part of this translation exposure has been hedged and the foreign currency hedge result amounted to EUR 5 million in 2016 (2015: 8).

Interest rate and currency derivatives by instrument 2016

	Notional amount				Fair value		
	Remaining lifetimes						
EUR million	Under 1 year	1–5 years	Over 5 years	Total	Positive	Negative	Net
Forward foreign exchange contracts	6,443	252		6,695	26	130	-103
Interest rate swaps	259	2,718	1,105	4,082	269	127	142
Interest rate and currency swaps	29	800		829	71	5	66
Total	**6,731**	**3,770**	**1,105**	**11,606**	**366**	**261**	**105**
Of which long-term					343	121	222
Of which short-term					23	140	-117

Interest rate and currency derivatives by instrument 2015

	Notional amount				Fair value		
	Remaining lifetimes						
EUR million	Under 1 year	1–5 years	Over 5 years	Total	Positive	Negative	Net
Forward foreign exchange contracts	8,777	295	-	9,072	81	13	68
Interest rate swaps	1,050	2,213	1,934	5,197	303	162	141
Interest rate and currency swaps	417	827	-	1,244	167	9	158
Total	**10,244**	**3,335**	**1,934**	**15,513**	**551**	**184**	**367**
Of which long-term					369	152	217
Of which short-term					182	32	150

3.7 Credit risk

Fortum is exposed to credit risk whenever there is a contractual obligation with an external counterparty.

Credit risk exposures relating to financial derivative instruments are often volatile. Although the majority of commodity derivatives are cleared through exchanges, derivatives contracts are also entered into directly with external counterparties. Such contracts are limited to high-credit-quality counterparties active on the financial or commodity markets. Currency and interest rate derivative counterparties are limited to investment grade banks and financial institutions. ISDA Master agreements, which include netting clauses and in some cases Credit Support Annex agreements, are in place with most of these counterparties. Commodity derivative counterparties are limited to those considered of high creditworthiness. Master agreements, such as ISDA, FEMA and EFET, which include netting clauses, are in place with the majority of the counterparties.

Due to the financing needs and management of liquidity, Fortum has counterparty credit exposure to a number of banks and financial institutions. This includes exposure to the Russian financial sector in terms of deposits with financial institutions as well as to banks that provide guarantees for suppliers and contracting parties. Deposits in Russia have been concentrated to the most creditworthy state-owned or controlled banks. Limits with banks and financial institutions are monitored so that exposures can be adjusted as ratings or the financial situation changes, and Fortum is following the development of economic sanctions against Russia as part of the monitoring process.

Credit risk relating to customers is spread across a wide range of industrial counterparties, small businesses and private individuals over a range of geographic regions. The majority of exposure is to the Nordic market, Poland and Russia. The risk of non-payment in the electricity and heat sales business in Russia is higher than in the Nordic market.

3.7.1 Credit quality of major financial assets

Amounts disclosed below are presented by counterparties for interest-bearing receivables including bank deposits and derivative financial instruments recognised as assets.

	2016		2015	
EUR million	Carrying amount	of which past due	Carrying amount	of which past due
Investment grade receivables				
Deposits, commercial papers and cash in bank accounts	4,663	-	7,521	-
Fair values of interest rate and currency derivatives	366	-	549	-
Fair values of electricity and other commodity derivatives	5	-	17	-
Total investment grade receivables	**5,034**	**-**	**8,087**	**-**
Energy exchange receivables				
Fair value of derivatives on NASDAQ OMX Commodities Europe	61	-	52	-
Fair value of derivatives on European Energy Exchange AG	1	-	-	-
Total energy exchange receivables	**62**	**-**	**52**	**-**
Associated companies and joint venture receivables				
Loan receivables	886	-	773	-
Fair values of interest rate and currency derivatives	0	-	1	-
Fair values of electricity and other commodity derivatives	14	-	38	-
Total associated companies and joint venture receivables	**900**	**-**	**812**	**-**
Other receivables				
Investments in commercial papers	275	-	563	-
Russian deposits with non-investment grade banks	103	-	65	-
Restricted cash mainly given as collateral for commodity exchanges	360	-	0	-
Divested shares of OOO Tobolsk	131	-	0	-
Loan and other interest bearing receivables	3	-	1	-
Fair values of electricity and other commodity derivatives	96	-	205	-
Total other receivables	**968**	**-**	**834**	**-**
Total	**6,964**	**-**	**9,785**	**-**

The following tables indicate how bank deposits, commercial papers and fair values of derivatives are distributed by rating class.

Deposits and Securities

EUR million	2016	2015
Counterparties with external credit rating from Standard & Poor's and/or Moody's Investment grade ratings		
AAA	-	-
AA+/AA/AA-	995	1,201
A+/A/A-	3,437	4,820
BBB+/BBB/BBB-	231	1,501
Total investment grade ratings	**4,663**	**7,521**
BB+/BB/BB-	103	92
B+/B/B-	-	-
Below B-	-	-
Non-investment grade ratings	**103**	**92**
Counterparties without external credit rating from Standard & Poor's and/or Moody's		
Government or municipality	-	34
Fortum Rating 5 - Lowest Risk	275	301
Fortum Rating 4 - Low Risk	-	114
Fortum Rating 3 - Normal Risk	-	83
Fortum Rating 2 - High Risk	-	-
Fortum Rating 1 - Highest Risk	-	-
No rating	-	4
Total non-rated counterparties	**275**	**536**
Total	**5,040**	**8,149**

In addition, cash in other bank accounts totalled EUR 115 million on 31 December 2016 (2015: 53).
See ▸ *Note 25* Liquid funds.

Interest rate and currency derivatives

EUR million	2016 Receivables	2016 Netted amount [1]	2015 Receivables	2015 Netted amount [1]
Counterparties with external credit rating from Standard & Poor's and/or Moody's Investment grade ratings				
AAA	-	-	-	-
AA+/AA/AA-	11	-	66	21
A+/A/A-	259	76	353	133
BBB+/BBB/BBB-	96	31	131	28
Total investment grade ratings	**366**	**107**	**549**	**182**
Total associated companies and joint ventures	**0**	**0**	**1**	**1**
Counterparties without external credit rating from Standard & Poor's and/or Moody's	**0**	**0**	-	-
Total	**366**	**107**	**551**	**183**

1) The netted amount includes the cash received in accordance with Credit Support Annex agreements EUR 135 million (2015: 202).

Electricity, coal, gas and oil derivatives and CO_2 emission allowances treated as derivatives

EUR million	2016 Receivables	2016 Netted amount	2015 Receivables	2015 Netted amount
Counterparties with external credit rating from Standard & Poor's and/or Moody's Investment grade ratings				
AAA	-	-	-	-
AA+/AA/AA-	0	0	0	0
A+/A/A-	4	3	13	5
BBB+/BBB/BBB-	1	0	4	2
Total investment grade ratings	**5**	**3**	**17**	**7**
Non-investment grade ratings				
BB+/BB/BB-	1	0	7	7
B+/B/B-	-	-	-	-
Below B-	-	-	-	-
Total non-investment grade ratings	**1**	**0**	**7**	**7**
Total associated companies and joint ventures	**14**	**7**	**38**	**19**

EUR million	2016 Receivables	2016 Netted amount	2015 Receivables	2015 Netted amount
Counterparties without external credit rating from Standard & Poor's and/or Moody's				
Government or municipality	0	0	1	1
Fortum Rating 5 - Lowest risk	34	28	54	51
Fortum Rating 4 - Low risk	39	29	76	71
Fortum Rating 3 - Normal risk	22	19	67	65
Fortum Rating 2 - High risk	0	0	0	0
Fortum Rating 1 - Highest risk	0	0	0	0
No rating	0	0	0	0
Total non-rated counterparties	**95**	**77**	**198**	**188**
Total	115	87	260	221

For derivatives, the receivable is the sum of the positive fair values, i.e. the gross amount. Netted amount includes negative fair values where a valid netting agreement is in place with the counterparty. When the netted amount is less than zero, it is not included. In cases where a parent company guarantee is in place, the exposure is shown on the issuer of the guarantee.

All counterparties for currency and interest rate derivatives and the majority of counterparties for bank deposits have an external rating from Standard & Poor's and/or Moody's credit agencies. The above rating scale is for Standard & Poor's rating categories. For those counterparties only rated by Moody's, the rating has been translated to the equivalent Standard and Poor's rating category. For counterparties rated by both Standard & Poor's and Moody's, the lower of the two ratings is used.

In the commodity derivatives and commercial paper market, there are a number of counterparties not rated by Standard & Poor's or Moody's. For these counterparties, Fortum assigns an internal rating. The internal rating is based on external credit ratings from other credit agencies. The rating from Soliditet is used for Finnish, Norwegian and Swedish counterparties and for other counterparties the rating from Dun & Bradstreet is used. Governments and municipal companies are typically not rated, and are shown separately. This rating category does not include companies owned by governments or municipalities. Counterparties that have not been assigned a rating by the above listed credit agencies are in the "No rating" category.

4 Capital risk management

Fortum wants to have a prudent and efficient capital structure which at the same time allows the implementation of its strategy. Maintaining a strong balance sheet and the flexibility of the capital structure is a priority. The Group monitors the capital structure based on Comparable net debt to EBITDA ratio. Net debt is calculated as interest-bearing liabilities minus liquid funds. EBITDA is calculated by adding back depreciation and amortisation to operating profit, whereas Comparable EBITDA is calculated by deducting items affecting comparability and the net release of CSA provision from EBITDA. Fortum's comparable net debt to EBITDA target is around 2.5.

The dividend policy ensures that shareholders receive a fair remuneration for their entrusted capital, supported by the company's long-term strategy that aims at increasing earnings per share and thereby the dividend. When proposing the dividend, the Board of Directors looks at a range of factors, including the macro environment, balance sheet strength as well as future investment plans. Fortum Corporation's target is to pay a stable, sustainable and over time increasing dividend, in the range of 50–80% of earnings per share, excluding one-off items.

Fortum's long-term credit ratings were unchanged. Standard & Poor's rating is BBB+ and the short-term rating A-2. The outlook is stable. Fitch Ratings long-term Issuer Default Rating (IDR) and senior unsecured rating is BBB+ and the short-term IDR is F2 with a stable outlook.

Net debt/EBITDA ratios

EUR million	Note	2016	2015
Interest-bearing liabilities	28	5,107	6,007
BS Less: Liquid funds	25	5,155	8,202
Net debt		**-48**	**-2,195**
Operating profit		633	4,245
Add: Depreciation and amortisation		373	395
EBITDA, total Fortum		**1,006**	**4,640**
Less: Items affecting comparability		-11	3,323
Less: Net release of CSA provision		2	52
Comparable EBITDA, total Fortum		**1,015**	**1,265**
Comparable net debt/EBITDA, total Fortum		**0.0**	**-1.7**

5 Segment reporting

ACCOUNTING POLICIES

REVENUE RECOGNITION

Revenue comprises the fair value consideration received or receivable at the time of delivery of products and/or upon fulfilment of services. Revenue is shown net of rebates, discounts, value-added tax and selective taxes such as electricity tax. Revenue is recognised as follows:

SALE OF ELECTRICITY, HEAT, COOLING AND RECYCLED MATERIALS

Sale of electricity, heat and cooling as well as sale of recycled materials is recognised at the time of delivery. The sale to industrial and commercial customers and to end-customers is recognised based on the value of the volume supplied, including an estimated value of the volume supplied to customers between the date of their last meter reading and year-end.

Physical energy sales and purchase contracts are accounted for on accrual basis based on expected purchase, sale and usage requirements.

CONNECTION FEES

Fees paid by the customer when connected to the gas, heat or cooling network are recognised as income to the extent that the fee does not cover future commitments. If the connection fee is linked to the contractual agreement with the customer, the income is recognised over the period of the agreement with the customer.

Fees paid by the customer when connected to district heating network in Finland were refundable until 2013. These connection fees have not been recognised in the income statement and are included in other liabilities in the balance sheet.

SALE OF WASTE TREATMENT SERVICES

Revenue from waste treatment services is recognised over time, when the underlying treatment is performed.

CONTRACT REVENUE

Contract revenue is recognised under the percentage of completion method to determine the appropriate amount to recognise as revenue and expenses in a given period. The stage of completion is measured by reference to the contract costs incurred up to the closing date as a percentage of total estimated costs for each contract.

NETTING AND INTER-SEGMENT TRANSACTIONS

Generation segment sells its production to Nord Pool and Electricity Sales in City Solutions buys its electricity from Nord Pool. Eliminations of sales include eliminations of sales and purchases with Nord Pool that are netted on group level on an hourly basis and posted either as revenue or cost depending on if Fortum is a net seller or net buyer during any particular hour. Inter-segment sales, expenses and results for the different business segments are affected by intra-group deliveries, which are eliminated on consolidation. Inter-segment transactions are based on commercial terms.

5.1 Fortum's business structure

Fortum has reorganised its operating structure as of 1 April 2016. The business divisions are: Generation (mainly the former Power and Technology); City Solutions (mainly the former Heat, Electricity Sales and Solutions); Russia, and Other, which includes the two development units, M&A and Solar & Wind Development, Technology and New Ventures as well as the shareholding in the associated company Hafslund ASA and corporate functions.

5.2 Segment structure in Fortum

Fortum discloses segment information in a manner consistent with internal reporting to Fortum's Board of Directors and to Fortum Executive Management led by the President and CEO. Fortum has segments based on type of business operations, combined with one segment based on geographical area. After the reorganisation of operations, Fortum's reportable segments under IFRS are the business divisions Generation, City Solutions and Russia. Because of the minor financial impact of the reorganisation, the comparable segment information for 2015 has not been restated. Swedish Distribution business was sold in 2015 and after that the Distribution segment was treated as discontinued operations. As Discontinued operations are disclosed on one line, the segment information presented in this note relates to the continuing operations only and thus excludes discontinued operations. That information is presented in ▸ *Note 14* Discontinued operations.

5.3 Definitions for segment information

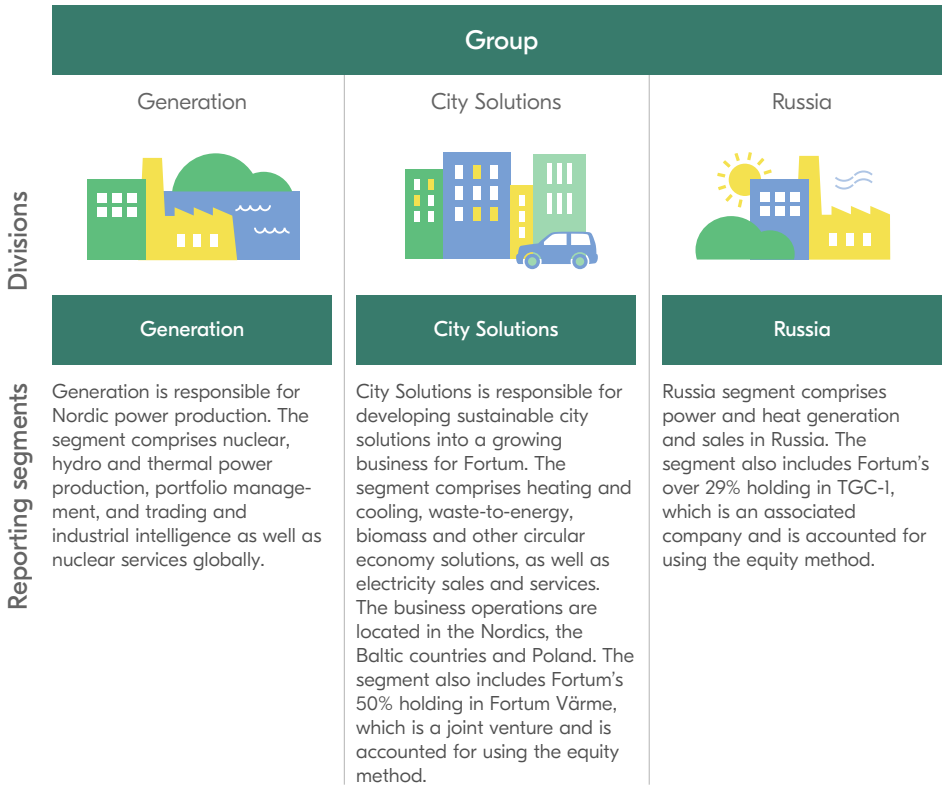
Fortum's segment information discloses the financial measurements used in financial target setting and forecasting, management's follow up of financial performance and allocation of resources in the group's performance management process. These measurements, such as Comparable operating profit and Comparable return on net assets, have been used consistently since 2005.

Items affecting comparability are disclosed separately in Fortum's income statement to support the understanding of business performance when comparing results between periods. Items classified as Items affecting comparability include accounting effects from valuation according to IFRS that are not arising from the performance of the business operations. Such items include fair valuation of financial derivatives hedging future cash-flows where hedge accounting is not applied according to IAS 39 and effects from the accounting of Fortum's part of the Finnish Nuclear Waste Fund where the asset in the balance sheet cannot exceed the related provisions according to IFRIC interpretation 5.

The business performance of the operations cannot be compared from one period to another without adjusting for one-time items relating to capital gains, major impairment related items and transaction costs arising from acquisitions. Therefore such items have also been treated as Items affecting comparability. From 2016 onwards transaction costs arising from acquisitions are included in capital gains and other within items affecting comparability. According to IFRS 3 (revised) transaction costs are recognised in the income statement.

Consolidation by segment is based on the same principles as for the Group as a whole. See definition of the segment information in ▸ ***Definitions of key figures***.

Below is the description of the reportable segments:



5.4 Segment information

Income statement

EUR million	Note	Generation [1]		City Solutions [1]		Russia		Other		Total	
		2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
External sales		1,643	1,639	1,429	1,200	896	893	49	39	4,016	3,771
Internal sales		15	83	-5	-13	0	0	72	75	82	145
Netting of Nord Pool transactions [2]										-384	-336
Eliminations [2]										-82	-122
IS Sales		**1,657**	**1,722**	**1,424**	**1,187**	**896**	**893**	**121**	**114**	**3,632**	**3,459**
Comparable EBITDA		**527**	**680**	**238**	**209**	**312**	**267**	**-61**	**-53**	**1,015**	**1,102**
Net release of CSA provision	31					2	52			2	52
IS Depreciation and amortisation		-110	-118	-126	-101	-123	-117	-15	-10	-373	-346
IS Comparable operating profit		**417**	**561**	**112**	**108**	**191**	**201**	**-76**	**-63**	**644**	**808**
Impairment charges	6	27	-915	0	-3	0	0	0	0	27	-918
Capital gains and other	6	1	18	0	3	35	1	2	0	38	22
Changes in fair values of derivatives hedging future cash-flow	6, 8	-96	-76	33	-4	0	1	-2	1	-65	-78
Nuclear fund adjustment	6, 30	-11	16							-11	16
IS Items affecting comparability	6	-79	-958	33	-3	35	2	0	1	-11	-958
IS Operating profit		**338**	**-396**	**145**	**105**	**226**	**203**	**-76**	**-62**	**633**	**-150**
IS Share of profit of associated companies and joint ventures	20, 30	-34	-111	76	59	38	32	51	40	131	20
IS Finance costs - net										-169	-175
IS Income taxes										-90	78
IS Profit for the year										**504**	**-228**

1) Sales, both internal and external, include effects from realised hedging contracts. Effect on sales can be negative or positive depending on the average contract price and realised spot price.

2) Netting and eliminations include eliminations of internal sales for continuing operations and netting of Nord Pool transactions. Sales and purchases with Nord Pool, EUR -384 million, are netted on Group level on an hourly basis and posted either as revenue or cost depending on if Fortum is a net seller or net buyer during any particular hour.

Assets and liabilities

EUR million	Generation		City Solutions		Russia		Other		Total	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Non-interest-bearing assets	6,206	6,391	2,948	1,929	2,967	2,347	321	135	12,442	10,802
BS Participations in associated companies and joint ventures	711	758	573	559	436	316	392	346	2,112	1,979
Eliminations									-28	-43
Total segment assets	**6,917**	**7,150**	**3,521**	**2,488**	**3,402**	**2,663**	**713**	**481**	**14,526**	**12,738**
Interest-bearing receivables									1,380	773
BS Deferred tax assets									66	80
Other assets									838	974
BS Liquid funds									5,155	8,202
Total assets									**21,964**	**22,767**
Segment liabilities	**1,102**	**1,219**	**469**	**306**	**119**	**102**	**223**	**222**	**1,913**	**1,849**
Eliminations									-28	-43
Total segment liabilities									**1,885**	**1,806**
BS Deferred tax liabilities									616	483
Other liabilities									814	608
Total liabilities included in capital employed									**3,315**	**2,898**
Interest-bearing liabilities									5,107	6,007
BS Total equity									13,542	13,863
Total equity and liabilities									**21,964**	**22,767**

Investments/Divestments

EUR million	Note	Generation		City Solutions		Russia		Other		Total	
		2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Gross investments in shares	20, 40	**7**	**16**	**815**	**23**	**0**	**0**	**22**	**4**	**844**	**43**
Capital expenditure	18, 19	**196**	**187**	**112**	**105**	**201**	**285**	**83**	**6**	**591**	**582**
of which capitalised borrowing costs		3	3	1	0	10	41	2	0	16	44
Gross divestments of shares	40	**0**	**0**	**34**	**27**	**127**	**0**	**0**	**0**	**161**	**27**

Comparable return on net assets

	Comparable net assets by segments, EUR million		Comparable return on net assets, %	
	2016	2015	2016	2015
Generation	5,815	5,931	6.9	9.5
City Solutions	3,052	2,182	7.5	7.9
Russia	3,284	2,561	8.0	8.2
Other	489	258	-6.4	-8.5

Fortum is disclosing Comparable net assets instead of Net assets from 2016 onwards.

Employees

	Generation		City Solutions		Russia		Other		Total	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Number of employees 31 Dec	979	1,341	2,314	1,417	3,745	4,126	1,070	951	8,108	7,835
Average number of employees	1,064	1,389	2,043	1,458	3,814	4,180	1,073	983	7,994	8,009

5.5 Group-wide disclosures

The Group's operating segments operate mainly in the Nordic countries, Russia, Poland and other parts of the Baltic Rim area. Generation operates mainly in Finland and Sweden, whereas City Solutions operates in all of these geographical areas except Russia. Other countries are mainly Latvia and Lithuania. The home country is Finland.

The information below is disclosing sales by product area as well as sales by the country in which the customer is located. Assets, capital expenditure and personnel are reported where the assets and personnel are located. Participations in associates and joint ventures are not divided by location since the companies concerned can have business in several geographical areas.

External sales by product area

EUR million	2016	2015
Power sales excluding indirect taxes	2,587	2,582
Heating sales	648	651
Other sales	398	226
IS Total	**3,632**	**3,459**

Heating sales include sale of delivered heat and transmission of heat.

Due to the large number of customers and the variety of its business activities, there is no individual customer whose business volume is material compared with Fortum's total business volume.

Sales by market area based on customer location

EUR million	2016	2015
Nordic	2,258	2,172
Russia	899	895
Poland	355	213
Estonia	61	75
Other countries	59	103
IS Total	**3,632**	**3,459**

The Nordic power production is not split by countries since Nordic power production is mainly sold through Nord Pool.

Capital expenditure by location

EUR million	2016	2015
Finland	173	156
Sweden	91	87
Russia	201	285
Poland	59	37
Estonia	11	11
Other countries	56	7
Total	**591**	**582**

Segment assets by location

EUR million	2016	2015
Finland	3,958	3,051
Sweden	4,341	4,559
Russia	2,967	2,347
Poland	513	350
Estonia	196	196
Other countries and eliminations	439	256
Non-interest bearing assets	**12,414**	**10,759**
BS Participations in associates and joint ventures	2,112	1,979
Total	**14,526**	**12,738**

Number of employees on 31 December by location

	2016	2015
Finland	2,029	1,959
Sweden	724	618
Russia	3,745	4,126
Poland	894	586
Estonia	201	214
Other countries	515	332
Total	**8,108**	**7,835**

6 Items affecting comparability

EUR million	2016	2015
Impairment charges	27	-918
Capital gains and other	38	22
Changes in fair values of derivatives hedging future cash flow	-65	-78
Nuclear fund adjustments	-11	16
IS Total	**-11**	**-958**

Items affecting comparability are not included in Comparable operating profit. Comparable operating profit is presented to better reflect the Group's business performance when comparing results for the current period with previous periods. Items affecting comparability are disclosed separately in Fortum's income statement as it is deemed necessary for the purposes of understanding the financial performance when comparing the results.

Impairment charges and capital gains

EUR million	Segment	Country	2016	2015
Impairment charges				
Impact from early closure of units 1 and 2 in OKG AB	Generation	Sweden	22	-794
Teollisuuden Voima Oyj's decision to discontinue the Olkiluoto 4 project	Generation	Finland		-15
Dismantling provision for the Finnish coal-fired power plant Inkoo and impairment loss for Fortum's share of the Finnish coal-fired power plant Meri-Pori and other related items	Generation	Finland	5	-106
Other impairment charges	City Solutions			-3
Total			**27**	**-918**
Capital gains and other				
OOO Tobolsk CHP, subsidiary	Russia	Russia	35	
AS Eesti Gaas, 51% ownership	City Solutions	Estonia	11	
Transaction costs from Ekokem acquisition	City Solutions	Finland	-12	
Other non-recurring items			4	22
Total			**38**	**22**

Fair value changes on derivatives

Changes in the fair values of financial derivative instruments hedging future cash flows that do not qualify for hedge accounting are recognised in items affecting comparability. This is done to improve the understanding of the financial performance when comparing results from one period to another.

Nuclear waste management fund adjustment

Nuclear fund adjustment includes effects from the accounting principle of Fortum's part of the State Nuclear Waste Management Fund where the assets in the balance sheet cannot exceed the nuclear related provisions according to IFRIC 5. As long as the Fund is overfunded from an IFRS perspective, the effects to the operating profit from this adjustment will be positive if the provisions increase more than the Fund and negative if actual value of the fund increases more than the provisions.

For more information regarding disposals of shares, see ▸ *Note 40* Acquisitions and disposals.

For more information regarding impact from early closure of units 1 and 2 in OKG AB, see ▸ *Note 7* Effects from early closure of nuclear units in Sweden.

For more information regarding fair value changes of derivatives, see ▸ *Note 8* Fair value changes of derivatives and underlying items in income statement

For more information regarding nuclear waste management, see ▸ *Note 30* Nuclear related assets and liabilities.

7 Effects from early closure of nuclear units in Sweden

The financial impacts of the decision made in the Extraordinary shareholder's meeting of OKG AB (OKG) on 14 October 2015 to close early units 1 and 2 in Oskarshamn are recognised as Impairment charges, included in Items affecting comparability. E.ON is the majority owner of OKG and E.ON did unilaterally decide on the closing of units. The closing process will take several years and Fortum will monitor the impacts.

OKG is a non-profit making company and sells produced electricity at production costs to its owners in proportion to the ownership. OKG is funded entirely by its shareholders. Fortum's part of the funding is recognised as long-term interest bearing receivables, which are increased when OKG needs additional funds and decreased when OKG invoices Fortum for the produced electricity.

OKG's impairment charges in Fortum's income statement

EUR million	2016	2015
Comparable operating profit	**0**	**0**
Items affecting comparability - Impairment charges	22	-794
Operating profit	**22**	**-794**
Share of profit/loss of associates and joint ventures	0	-116
Profit before income tax	**22**	**-910**
Income tax expenses	-5	175
Profit for the period from continuing operations	**17**	**-735**
Attributable to:		
Owners of the parent	17	-729
Non-controlling interests	0	-5

Earnings per share effect was EUR -0.82 per share in 2015.

In 2016 OKG updated the provisions made in 2015 resulting a positive impact of EUR 22 million included in items affecting comparability for 2016.

Items affecting comparability for 2015 included EUR -566 million which mainly relates to write-down of existing assets in OKG and a provision of EUR -228 million, which relates to additional future costs due to the early closure of units 1 and 2 as well as to future committed investments. These future costs and investments will have an impact on Fortum's net cash when they occur. The total amount of EUR -794 million was netted against the shareholder loans to OKG. The main part of the netted amount has already been invoiced to Fortum. The remaining part will be invoiced when the costs occur.

Share of profit/loss in associates and joint ventures includes the impairment of IFRS adjustments related to units 1 and 2 for OKG in Fortum's consolidated financial statements, mainly related to write-down of asset retirement obligations and capitalised borrowing costs. These adjustments are recognised net of taxes. The asset retirement obligation represents the future costs for decommissioning of the nuclear power plant. The initial net present value of the provision for decommissioning (at the time of commissioning the nuclear power plant) has been included in the investment cost and is depreciated over the estimated operating time of the nuclear power plant.

Income tax expenses relates to the items affecting comparability.

8 Fair value changes of derivatives and underlying items in income statement

Fair value changes in operating profit presented below are arising from financial derivatives hedging future cash flows where hedge accounting is not applied according to IAS 39 and the ineffectiveness from cash flow hedges.

Fair value changes of currency derivatives in net financial expenses are arising mainly from balance sheet hedges without hedge accounting status according to IAS 39, because they are natural hedges of loans and receivables. Fair value change of interest rate hedges without hedge accounting is EUR -9 million (2015: -9). The net effect of fair value changes of hedging derivative and hedged bonds are EUR 0 million (2015: 0).

EUR million	2016	2015
In operating profit		
Fair value changes from derivatives not getting hedge accounting status		
Electricity derivatives	-43	-69
Currency derivatives	2	-6
Coal, gas and CO_2 derivatives	-2	-5
Ineffectiveness from cash flow hedges	-23	0
Total effect in operating profit	**-65**	**-79**
In finance costs		
Exchange gains and losses on loans and receivables	143	-50
Fair value changes of derivatives not getting hedge accounting status		
Cross currency interest rate derivatives	12	-12
Foreign currency derivatives	-156	63
Rate difference on forward contracts	7	-9
Currency derivatives	-137	42
Interest rate derivatives	-9	-9
Fair value change of hedging derivatives in fair value hedge relationship	11	-13
Fair value change of hedged items in fair value hedge relationship	-11	13
Total [1)]	**-146**	**33**
Total effect in finance costs	**-3**	**-17**
Total effect on profit before income tax	**-68**	**-96**

1) Including fair value gains and losses on financial instruments and exchange gains and losses on derivatives.

9 Other income and other expenses

ACCOUNTING POLICIES

OTHER INCOME

Revenue from activities outside normal operations is reported in other income. This includes recurring items such as rental income and non-recurring items such as insurance compensation.

RESEARCH AND DEVELOPMENT COSTS

Research and development costs are recognised as expense as incurred and included in other expenses in the income statement. If development costs will generate future income, they are capitalised as intangible assets and depreciated over the period of the income streams.

9.1 Other income

EUR million	2016	2015
Rental income	11	10
Insurance compensation	2	1
Other items	22	26
IS Total	**34**	**38**

9.2 Other expenses

EUR million	2016	2015
Operation and maintenance costs	94	70
Property taxes	145	150
IT and telecommunication costs	51	54
Other items	195	203
IS Total	**485**	**477**

The major components recorded in other expenses are the external operation and maintenance costs of power and heat plants. Property taxes include taxes relating to directly owned hydropower production EUR 118 million (2015: 126). Other items includes expenses relating to properties and other operative expenses.

Principal auditors fees

EUR million	2016	2015
Audit fees	1.3	1.3
Audit related assignments	0.2	0.3
Tax assignments	0.0	0.0
Total	**1.5**	**1.6**

Deloitte & Touche Oy is the appointed auditor until the next Annual General Meeting, to be held in 2017. Audit fees include fees for the audit of the consolidated financial statements, review of the interim reports as well as the fees for the audit of Fortum Oyj and its subsidiaries. Audit related assignments include fees for assurance of sustainability reporting and other assurance and associated services related to the audit. Tax assignments include fees for tax advice services.

10 Materials and services

EUR million	2016	2015
Materials	1,216	958
Materials purchased from associated companies and joint ventures	540	513
Transmission costs	38	30
External services	37	15
IS Total	**1,830**	**1,515**

Materials consists mainly of coal, gas and nuclear fuels used for producing power and heat.

Materials purchased from associated companies consist of nuclear and hydropower purchased at production cost (including interest costs and production taxes) and purchased steam.

Total materials and services include production taxes EUR 141 million (2015: 133), of which nuclear related capacity and property taxes EUR 81 million (2015: 82) and hydro power related property taxes EUR 15 million (2015: 14). Taxes related to nuclear and hydro production include taxes paid through purchases from associated companies.

See ▸ *Note 20* Participations in associated companies and joint ventures.

11 Employee benefits

EUR million	2016	2015
Wages and salaries	248	246
Pensions		
Defined contribution plans	25	25
Defined benefit plans	4	5
Social security costs	38	42
Share-based incentives [1)]	2	19
Other employee costs	17	15
IS Total	**334**	**351**

1) Share-based incentives decreased in 2016 due to the lower earnings outcome from settled plans as well as lower RUB rate. In 2015 share-based incentives included a one-time cost due to shortening of the accounting period over which the LTI costs are accrued. For more information see ▸ *11.2* Share-based long-term incentives below.

The compensation package for Fortum employees consists of salaries, fringe benefits, short-term incentives, profit sharing paid to the Personnel Fund and share-based long-term incentives.

The remuneration policy is determined by the Board of Directors. The Nomination and Remuneration Committee of the Board of Directors discusses, assesses and makes recommendations and proposals to the Board of Directors on the remuneration policy, remuneration of the President and CEO and the Fortum Executive Management and company-wide incentive arrangements for senior management and key personnel as well as monitors these plans annually. Additionally, the Committee contributes to the Group's nomination issues by proposing to the Board of Directors any nominations regarding the members of Fortum Executive Management.

For further information on pensions see ▸ *Note 32* Pension obligations.

11.1 Short-term incentives (STI)

Fortum's STI programme is designed to support the achievement of the company's financial and other relevant targets on an annual basis. All employees are covered by the programme or alternatively by a business specific or a comparable local variable pay arrangement.

The Board of Directors determines the performance criteria and award levels for the Fortum Executive Management. The target incentive opportunity is 20% and the maximum incentive opportunity is 40% of the annual base salary. The awards for the members of the Fortum Executive Management are based on the achievement of divisional targets, Group financial performance as well as individual targets. The performance criteria used are agreed upon in a performance discussion held at the beginning of the year. The Board of Directors assesses the performance of the President and CEO and the members of the Fortum Executive Management on a regular basis.

Awards for other employees are based on a combination of Group, divisional, functional and personal targets. The targets are set in annual performance discussions held at the beginning of the year. Awards under the STI programme are paid solely in cash.

11.2 Share-based long-term incentives (LTI)

The purpose of Fortum's share-based long-term incentive programme is to support the delivery of sustainable, long-term performance, align the interests of management with those of shareholders and assist in committing and retaining key individuals.

Fortum's LTI programme provides participants with the opportunity to earn company shares. Subject to the decision of the Board of Directors, a new LTI plan commences annually. The Board of Directors approves the Fortum management members and key individuals entitled to participate in each annually commencing LTI plan. Participation in the LTI plan precludes the individual from being a member in the Fortum Personnel Fund.

Each LTI plan begins with a three-year earnings period, during which participants may earn share rights if the performance criteria set by the Board of Directors are fulfilled. If the minimum performance criteria are not exceeded, no shares will be awarded. If performance is exceptionally good and the targets approved by the Board of Directors are achieved, the combined gross value of all variable compensation cannot exceed 120% of the person's annual salary in any calendar year. After the earnings period has ended and the relevant taxes and other employment-related expenses have been deducted, participants are paid the net balance in the form of shares.

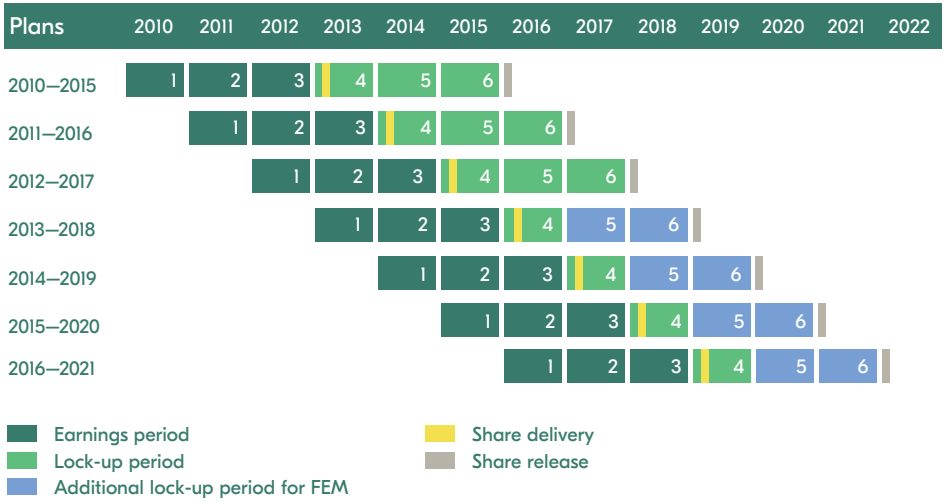
For LTI plans commencing in 2013 onwards, any shares awarded to Fortum Executive Management members are subject to a three-year lock-up period. Subject to a decision by the Board of Directors, the lock-up period can be reduced to one year for those Fortum Executive Management members whose aggregate ownership of Fortum shares is greater than or equal to their annual salary. For other participants the lock-up period is one year. For LTI plans commencing prior to 2013, the lock-up period is three years for all participants. The shares are released from the lock-up after publishing of the Company's financial results for the last calendar year of the lock-up period, provided that the participant remains employed by the Group. If the value of the shares decreases or increases during the lock-up period, the participant will carry the potential loss or gain.

The share plans under the LTI arrangement are accounted for as partly cash- and partly equity-settled arrangements. The portion of the earned reward that the participants receive in shares is accounted for as an equity settled transaction, and the portion of the earned reward settled in cash covering the tax and other charges, is accounted for as cash settled transaction. For participants receiving cash only, the total arrangement is accounted for as cash-settled transaction. The reward is recognised as an expense during the earning period with a corresponding increase in the liabilities and for the transactions settled in shares in the equity. The social charges related to the arrangement payable by the employer are accrued as a liability. The LTI liability including social charges at the end of the year 2016 was EUR 19 million (2015: 20), including EUR 5 million (2015: 5) recorded in equity.

The increase in the LTI costs for 2015 was mainly caused by an adjustment arising from the shortening of the accounting period as well as other smaller adjustments. Costs from the total plans were previously accrued over four or six-year period depending on the participant. In 2015 Fortum changed the accounting method and the LTI costs are allocated over three years. The terms of the LTI arrangements were not changed and the total cost for LTI plans was not increased. The change impacts only the allocation of costs over the years. The shorter accounting period allocates the costs more appropriately to the earning period.

At present, approximately 120 managers, all of whom have been elected by the Board of Directors, are participants in at least one of the six on-going annual LTI plans (plans 2011–2016, 2012–2017, 2013–2018, 2014–2019, 2015–2020 and 2016–2021).

Long-term incentive programme



Shares granted

	Plan 2013–2018	Plan 2012–2017	Plan 2011–2016
Grant date	12 Feb 2016	13 Feb 2015	14 Feb 2014
Grant price, EUR	12.18	19.96	16.62
Number of shares granted	152,200	126,515	101,753
Number of shares subsequently forfeited or released from lock-up	-9,877	-35,422	-51,003
Number of shares under lock-up at the end of the year 2016	142,323	91,093	50,750

In addition to the shares granted above, share rights have been granted to participants that will receive cash payments instead of shares after the lock-up period. The gross amount of share rights outstanding at the end of the year 2016 for plan 2013–2018 was 117,265, for plan 2012–2017 89,641 and for plan 2011–2016 53,495 share rights.

11.3 Fortum Personnel Fund

The Fortum Personnel Fund (for employees in Finland only) has been in operation since year 2000. The Board of Directors determines the criteria for the fund's annual profit-sharing bonus. Persons included in Fortum's long-term incentive schemes are not eligible to be members of this fund. Members of the personnel fund are the permanent and fixed-term employees of the Group. The membership of employees joining the company starts at the beginning of the next month after the employment relationship has been ongoing for five months. An employee is entitled to make withdrawals right from the beginning of the membership. The membership in the fund terminates when the member has received his/her share of the fund in full.

The profit-sharing received by the fund is distributed equally between the members. Each employee's share is divided into a tied amount and an amount available for withdrawal. It is possible to transfer a maximum of 15% of capital from the tied amount to the amount available for withdrawal each year.

The amount available for withdrawal (maximum 15% of the tied amount) is decided each year by the council of the fund and it is paid to members who want to exercise their withdrawal rights.

The fund's latest financial year ended at 30 April 2016 and the fund then had a total of 2,112 members (2015: 2,170). At the end of April 2016 Fortum contributed EUR 0.6 million (2015: 3.7) to the personnel fund as an annual profit-sharing bonus based on the financial results of 2015. The combined amount of members' shares in the fund was EUR 20 million (2015: 24).

The contribution to the personnel fund is expensed as it is earned.

11.4 The President and CEO and the Fortum Executive Management remuneration

The Fortum Executive Management (FEM) consists of eleven members, including the President and CEO. The following table presents the total remuneration of the President and CEO and the FEM and takes into account the changes in FEM during the year. The expenses are shown on accrual basis.

Management remuneration

	2016		2015			
EUR thousand	Pekka Lundmark, President and CEO 2016	Other FEM members	Pekka Lundmark, President and CEO since 7 Sep 2015	Timo Karttinen, Interim President and CEO until 6 Sep 2015 [3]	Tapio Kuula, President and CEO until 31 Jan 2015 [4]	Other FEM members [5]
Salaries and fringe benefits	982	3,581	305	372	279	3,367
Performance bonuses [1]	248	925	21	15	0	225
Share-based incentives [2]	433	886	114	282	903	4,299
Pensions (statutory)	209	683	55	66	47	705
Pensions (voluntary)	356	769	0	37	25	841
Social security expenses	73	331	17	20	14	280
Total	**2,299**	**7,174**	**513**	**791**	**1,269**	**9,717**

1) Performance bonuses are based on estimated amounts.

2) Share-based incentives decreased in 2016 due to lower earnings outcome from settled plans. In 2015 share-based incentives included a one-time cost due to shortening of the accounting period over which the LTI costs are accrued. For more information see ▸ *11.2* Share-based long-term incentives.

3) Includes the compensation CFO Timo Karttinen received during his position as Fortum's Interim President and CEO during 1 February - 6 September 2015 and as a substitute to the President and CEO in January 2015. Also included is a lump sum payment of EUR 70 thousand for his success in assuming the responsibilities of Interim President and CEO.

4) Share-based incentives includes the gross payment Tapio Kuula received from the share plans commenced in 2012, 2013 and 2014. Mr Kuula received the net amount of the payment as shares, after deducting the taxes and tax-related charges arising from the payment. These shares, totalling 30,271 shares, are under lock-up until the spring 2018.

5) Includes remuneration of CFO Timo Karttinen from 7 September 2015 onwards.

The annual contribution for the President and CEO Pekka Lundmark's pension arrangement is 25% of the annual salary. The annual salary consists of base salary and fringe benefits. The President and CEO's retirement age is 63. In case his assignment is terminated before the retirement age, the President and CEO is entitled to retain the benefits accrued in the arrangement.

The supplementary pension of Timo Karttinen, who served as substitute to the President and CEO during January 2015 and as Fortum's Interim President and CEO during the period from February 1 to September 6 2015, is a defined benefit pension plan, and the final level of pension, together with statutory pension, is equal to 66% of the pensionable salary. The pensionable salary consists of base salary, fringe benefits and bonus.

Tapio Kuula was Fortum's President and CEO until his entitlement to disability pension on 1 February 2015. The voluntary pension arrangement of Mr. Kuula was defined contribution plan and annual contribution for the arrangement was 25% of the annual salary. The annual salary consisted of a base salary, fringe benefits and bonus.

For the other members of the FEM the retirement age varies between 60 and 65. According to group policy all new supplementary pension arrangements are defined contribution plans. For the members of the FEM that have defined contribution arrangements, the maximum pension premium percentage can be 25% of the salary. Members, who have joined Fortum prior 1 January 2009, are participating in defined benefit pension arrangements, where the benefit is 60–66% of the final pensionable salary with the pension provided by an insurance company or Fortum's Pension Fund.

A pension liability of EUR 2,070 thousand (2015: 2,444) related to the defined benefit plans for FEM members has been recognised in the balance sheet. The additional pension arrangement for the President and CEO is a defined contribution pension plan and thus no liability has been recognised in the balance sheet.

In the event that Fortum decides to give notice of termination to the President and CEO, he is entitled to the salary for the notice period (6 months) and a severance pay equal to 12 months' salary. Other FEM members' termination compensation is equal to 6 to 12 months' salary.

Number of shares delivered to the management

The table below shows the number of shares delivered during 2016 and 2015 to the President and CEO and other FEM members under the LTI arrangements. Shares delivered under the plans are subject to a lock-up period under which they cannot be sold or transferred to a third party.

	2016 [4]	2015 [5]
FEM members at 31 December 2016		
Pekka Lundmark (CEO from 7 September 2015)	-	-
Alexander Chuvaev [1]	27,897	21,781
Timo Karttinen	6,399	4,261
Kari Kautinen	4,014	2,956
Per Langer	4,677	3,751
Risto Penttinen (member of FEM from 1 April 2016) [2]	-	N/A
Markus Rauramo	7,383	5,029
Matti Ruotsala	7,443	6,706
Arto Räty (member of FEM from 1 April 2016)	-	N/A
Sirpa-Helena Sormunen	-	-
Tiina Tuomela	3,902	2,648
Former FEM members		
Helena Aatinen (member of FEM until 31 March 2016)	3,188	2,352
Mikael Frisk (member of the FEM until 31 March 2016)	5,028	3,926
Esa Hyvärinen (member of FEM until 31 March 2016)	3,053	2,384
Tapio Kuula (CEO until 31 January 2015) [3]	N/A	30,271
Total	**72,984**	**86,065**

1) Share rights will be paid in cash instead of shares after the three-year lock-up period due to local legislation.

2) Shares delivered before the term in the Fortum Executive Management are not disclosed.

3) Includes the shares Tapio Kuula received in 2015 from the share plans commenced in 2012, 2013 and 2014. The shares are under lock-up until spring 2018.

4) Share delivery based on share plan 2013–2018.

5) Share delivery based on share plan 2012–2017.

11.5 Board of Directors and management shareholding

On 31 December 2016, the members of the Board of Directors owned a total of 208,940 shares (2015: 205,940), which corresponds to 0.02% (2015: 0.02%) of the company's shares and voting rights.

Number of shares held by members of the Board of Directors

	2016	2015
Board members at 31 December 2016		
Sari Baldauf, Chairman	2,300	2,300
Kim Ignatius, Deputy Chairman	2,400	2,400
Minoo Akhtarzand	-	-
Heinz-Werner Binzel	-	-
Eva Hamilton	40	40
Tapio Kuula	201,200	201,200
Veli-Matti Reinikkala	3,000	N/A
Jyrki Talvitie	-	-
Total	**208,940**	**205,940**

The President and CEO and other members of the FEM owned a total of 315,653 shares (2015: 347,478) which corresponds to approximately 0.04% (2015: 0.04%) of the company's shares and voting rights.

Number of shares held by members of the Fortum Executive Management Team

	2016	2015
FEM members at 31 December 2016		
Pekka Lundmark	56,250	56,250
Alexander Chuvaev	14,713	14,713
Timo Karttinen	87,090	80,691
Kari Kautinen	29,246	25,232
Per Langer	29,212	34,535
Risto Penttinen	8,795	N/A
Markus Rauramo	27,847	20,464
Matti Ruotsala	46,509	39,066
Arto Räty	-	N/A
Sirpa-Helena Sormunen	3,000	3,000
Tiina Tuomela	12,991	9,090
Former FEM members		
Helena Aatinen	N/A	3,880
Mikael Frisk	N/A	43,017
Esa Hyvärinen	N/A	17,540
Total	**315,653**	**347,478**

11.6 Board remuneration

The Board of Directors comprises five to eight members who are elected at the Annual General Meeting for a one-year term of office, which expires at the end of the first Annual General Meeting following the election. At the 2016 Annual General Meeting eight members were elected.

The Annual General meeting confirms the yearly compensation for the Board of Directors. Board members are not offered any long-term incentive benefits or participation in other incentive schemes. There are no pension arrangements for the Board members. Social security costs EUR 25 thousand (2015: 22) have been recorded for the fees in accordance with local legislation in respective countries.

Fees for the Board of Directors

EUR thousand	2016	2015
Chairman	75	75
Deputy Chairman	57	57
Chairman of the Audit and Risk Committee [1)]	57	57
Members	40	40

1) If not Chairman or Deputy Chairman simultaneously.

Every member of the Board of Directors receives a fixed yearly fee and additional fees for each meeting attended. A meeting fee of EUR 600 is paid for board and committee meetings. For board members living outside Finland in Europe, the meeting fee is EUR 1,200; for board members living outside Europe, the meeting fee is EUR 1,800. For board and committee meetings held as a telephone conference, the meeting fee is paid as EUR 600 to all members. No fee is paid for decisions made without a separate meeting.

Board members are entitled to travel expense compensation in accordance with the company's travel policy.

Compensation for the Board of Directors

EUR thousand	2016	2015
Board members at 31 December 2016		
Sari Baldauf, Chairman	87	86
Kim Ignatius, Deputy Chairman	70	68
Minoo Akhtarzand	61	61
Heinz-Werner Binzel	61	60
Eva Hamilton (member of the Board from 31 March 2015)	56	43
Tapio Kuula (member of the Board from 31 March 2015)	52	38
Veli-Matti Reinikkala (member of the board from 5 April 2016)	44	-
Jyrki Talvitie	70	66
Former Board members		
Petteri Taalas (member of the board until 5 April 2016)	17	51
Ilona Ervasti-Vaintola (member of the board until 31 March 2015)	N/A	13
Christian Ramm-Schmidt (member of the board until 31 March 2015)	N/A	13
Total	**518**	**499**

12 Finance costs - net

EUR million	Note	2016	2015
Interest expense			
Borrowings		-181	-247
Other interest expense		-4	0
Capitalised borrowing costs	19	16	44
Total		**-169**	**-203**
Interest income			
Loan receivables and deposits		29	49
Other interest income		1	2
Total		**30**	**51**
Fair value gains and losses on financial instruments	8		
Fair value change of interest rate derivatives not getting hedge accounting status		-9	-9
Fair value change of hedging derivatives in fair value hedge relationship		11	-13
Fair value change of hedged items in fair value hedge relationship		-11	13
Rate difference on forward contracts		7	-9
Total		**-2**	**-18**
Exchange gains and losses			
Loans and receivables	8	143	-50
Cross currency interest rate derivatives	8	12	-12
Foreign currency derivatives	8	-156	63
Interest income on share of State Nuclear Waste Management Fund	30	8	10
Unwinding of discount on nuclear provisions	30	-40	-44
Unwinding of discount on other provisions	31, 32	-2	-5
Other financial income		12	38
Other financial expenses		-6	-5
Total		**-29**	**-4**
IS Finance costs - net		**-169**	**-175**

Interest expenses include interest expenses on interest-bearing loans, interest on interest rate and currency swaps and forward points on forward foreign exchange contracts hedging loans and receivables.

Interest income includes EUR 15 million (2015: 15) from shareholders' loans in Finnish and Swedish nuclear companies, EUR 0 million (2015: 12) from Fortum Värme and EUR 12 million (2015: 20) from deposits and commercial papers.

Fair value gains and losses on financial instruments include change in clean price of interest rate and cross currency swaps not getting hedge accounting and fair value changes of interest rate derivatives in hedge relationship and hedged items. Accrued interest on these derivatives is entered in interest expenses of borrowings. Fair value gains and losses include also rate difference from forward contracts hedging loans and receivables without hedge accounting.

Exchange gains and losses includes exchange rate differences arising from valuation of foreign currency loans and receivables and exchange rate differences from forward foreign exchange contracts and interest rate and currency swaps.

Other financial income EUR 12 million (2015: 38) includes compensation from early prepayment of loans by Fortum Värme EUR 0 million (2015: 37).

Fair value changes on interest rate and currency derivatives

EUR million	2016	2015
Interest rate and cross currency swaps		
Interest expenses on borrowings	16	4
Exchange rate difference from derivatives	12	-12
Rate difference in fair value gains and losses on financial instruments [1)]	2	-22
Total fair value change of interest rate derivatives in finance costs - net	**30**	**-30**
Forward foreign exchange contracts		
Interest expenses on borrowings	-62	-79
Exchange rate difference from derivatives	-156	63
Rate difference in fair value gains and losses on financial instruments	7	-9
Total fair value change of currency derivatives in finance costs - net	**-211**	**-25**
Total fair value change of interest and currency derivatives in finance costs - net	**-181**	**-55**

1) Fair value gains and losses on financial instruments include fair value changes from interest rate swaps not getting hedge accounting amounting to EUR -9 million (2015: -9) and fair value change of hedging derivatives in fair value hedge relationship EUR 11 million (2015: -13), totalling EUR 2 million (2015: -22).

13 Income tax expense

13.1 Profit before tax

EUR million	2016	2015
Finnish companies	59	154
Swedish companies	46	-922
Russian companies	202	173
Other companies	289	291
IS Total	**595**	**-305**

Profit before tax split by country represents the respective countries' part of the profit before tax for Fortum Group according to International Financial Reporting Standards (IFRS), i.e. based on the same accounting principles as for the Consolidated Financial Statements. This means that the respective country profits include such items as for example share of profits from associates and effects of accounting for nuclear provisions, which are not included in taxable profits in the local subsidiaries.

13.2 Major components of income tax expense by major countries

EUR million	2016	2015
Current taxes		
Finnish companies	-14	-64
Swedish companies	-1	0
Russian companies	-2	-3
Other companies	-24	-38
Total	**-42**	**-106**
Deferred taxes		
Finnish companies	0	35
Swedish companies	10	193
Russian companies	-36	-30
Other companies	-17	-15
Total	**-42**	**184**
Adjustments recognised for current tax of prior periods		
Finnish companies	-6	-2
Swedish companies	0	1
Russian companies	0	0
Other companies	0	0
Total	**-6**	**-1**
IS Income tax expense	**-90**	**78**

13.3 Income tax rate

The table below explains the difference between the theoretical enacted tax rate in Finland compared to the tax rate in the consolidated income statement.

EUR million	2016	%	2015	%
Profit before tax	595		-305	
Tax calculated at nominal Finnish tax rate	-119	20.0	61	20.0
Differences in tax rates and regulations	16	-2.7	23	7.6
Income not subject to tax	0	0.0	1	0.2
Tax exempt capital gains	4	-0.7	2	0.7
Expenses not deductible for tax purposes	-5	0.8	-2	-0.6
Share of profit of associated companies and joint ventures	30	-5.0	5	1.7
Taxes related to dividend distributions	-8	1.4	-7	-2.2
Changes in tax valuation allowance related to not recognised tax losses	-6	1.0	-1	-0.4
Other items	0	0.0	-1	-0.4
Adjustments recognised for taxes of prior periods	-2	0.3	-3	-1.1
IS Income tax expense	**-90**	**15.2**	**78**	**25.4**

Key tax indicators:

- The weighted average applicable income tax rate for 2016 is 20.2% (2015: 20.2%)
- The effective income tax rate in the income statement for 2016 is 15.2% (2015: 25.4%)
- The comparable effective income tax rate (excluding the share of profits from associates and joint ventures, tax exempt capital gains and tax rate changes) for 2016 is 20.0% (2015: 23.5%)
- The total tax rate and total comparable tax rate (excluding the share of profits from associates and joint ventures and tax exempt capital gains) for 2016 is 40.0% and 47.5% (2015: not applicable).

Share of profit of associated companies and joint ventures during 2016 reduced the effective income tax rate with 5%.

During 2016 entities primarily in Russia and Sweden used a portion of the deferred tax asset relating to tax loss carry forwards.

Other items include tax effects from sales of shares in subsidiaries in Sweden, Russia and in Estonia.

Effective income tax rate and total tax rate are impacted by gains or losses on sale of shares. In many countries like in Finland, Sweden and Netherlands income on capital gains and losses is treated as tax exempt. The purpose of this is to tax the operative income of the company and avoid taxing the same income twice in case of the sale of the shares. Taxation of capital gains or losses is in line with the taxation of dividend income.

Fortum has a material deferred tax liability owing to its investments in non-current assets. These assets are depreciated more rapidly for tax than for accounting purposes resulting in lower current tax payments at the start of an asset's lifetime and higher tax payments at the end of its lifetime. This difference results in a deferred tax liability.

Taxes for the year 2015 were positive as the group was in loss position. This was mainly due to the write-down related to early closure of O1 and O2 units in Oskarshamn in Sweden. Deferred tax asset was recognized on this loss.

When the pre-tax profit is close to null or negative, the total tax rate is not illustrating the tax contribution in an informative way. Therefore we use "not applicable" for total tax rate in 2015.

Fortum has had several tax audits ongoing during 2016. Fortum has received income tax assessments in Sweden for the years 2009–2014 and Belgium for the years 2008–2012. Fortum has appealed all assessments received. Based on legal analysis, no provision has been accounted for in the financial statements related to these tax audits.

13.4 Total taxes

Taxes borne indicate different taxes that Fortum pays for the period. In 2016 Fortum's taxes borne were EUR 365 million (2015: 413). Taxes borne include corporate income taxes (excluding deferred taxes), production taxes, employment taxes, taxes on property and cost of indirect taxes. Production taxes include also production taxes and taxes on property paid through purchased electricity from associated companies. The total tax rate indicates the burden on taxes borne by Fortum from its profit before these taxes. In 2016 the total tax rate is 47.5% (2015: the total tax rate was not applicable because the group is in loss position but taxes borne are still a cost).

In addition, Fortum administers and collects different taxes on behalf of governments and authorities. Such taxes include VAT, and excise taxes on power consumed by customers, payroll taxes and withholding taxes. The amount of taxes collected by Fortum was EUR 376 million (2015: 352).

See also ▸ *Note 29* Income taxes in balance sheet and ▸ *Note 10* Materials and services.

For further information regarding the ongoing tax appeals see ▸ *Note 38* Legal actions and official proceedings.

14 Discontinued operations

There were no items classified as Discontinued operations during 2016.

In March 2015 Fortum signed a binding agreement to sell the Swedish Distribution business. The transaction was completed in June 2015.

After the divestment of the Swedish Distribution business Fortum did not have any distribution operations and therefore Distribution segment has been treated as discontinued operations in 2015 according to IFRS 5 Non-current Assets held for Sale and Discontinued operations. Discontinued operations are disclosed on one line, net of tax, in the face of the income statement. In the cash flow statement the net cash flows attributable to the operating, investing and financing activities of the discontinued operations are disclosed separately.

Discontinued operations include the distribution operations in Fortum, including sales gains from the divestment of Swedish operations in June 2015, and effects from internal sales and purchases have also been included. The net financial costs allocated to discontinued operations are based on the fact that the financing activities and risk management have been centralised on group level and subsidiaries have been funded with intra-group loans. No corporate overhead costs have been allocated to the discontinued operations. The assets relating to Distribution businesses have continued to be depreciated until the businesses were disposed.

Cash flow from discontinued operations include cash flow from distribution operations and allocated taxes, impact from sale of shares in Distribution companies and proceeds from interest-bearing receivables from sold subsidiaries.

Results of discontinued operations

EUR million	2016	2015
Sales	-	243
Other income	-	2
Materials and services	-	-34
Employee benefits	-	-14
Depreciation and amortisation	-	-50
Other expenses	-	-34
Comparable operating profit	**-**	**114**
Changes in fair values of derivatives	-	-1
Capital gains [1)]	-	4,282
Operating profit	**-**	**4,395**
Share of profit/loss of associates and joint ventures	-	0
Finance costs - net	-	-1
Profit before income tax	**-**	**4,393**
Income tax expenses	-	-24
IS Profit for the year from discontinued operations	**-**	**4,369**

1) Including tax exempt gain on sale of shares of Swedish Distribution.

Additional information of discontinued operations

EUR million	2016	2015
Comparable EBITDA	-	163
Capital expenditure	-	44
Gross divestments of shares	-	6,369

Net cash flows attributable to the discontinued operations

EUR million	2016	2015
Net cash from operating activities	-	154
Net cash used in investing activities	-	6,303
Net cash from financing activities	-	0
Total net increase in liquid funds	**-**	**6,457**

For more information see ▸ *Note 40* Acquisitions and disposals.

15 Earnings and dividend per share

ACCOUNTING POLICIES

EARNINGS PER SHARE

Basic earnings per share is calculated by dividing the net profit attributable to the owners of the parent company by the weighted average number of ordinary shares in issue during the year, excluding ordinary shares purchased by the Group and held as treasury shares.

Diluted earnings per share is calculated adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares. For the warrants and stock options a calculation is done to determine the number of shares that could have been acquired at fair value (determined as the average annual market share price of the Fortum share) based on the monetary value of the subscription rights attached to outstanding stock options.

The number of shares calculated as above is deducted from the number of shares that would have been issued assuming the exercise of the stock options. The incremental shares obtained through the assumed exercise of the options and warrants are added to the weighted average number of shares outstanding.

Options and warrants have a dilutive effect only when the average market price of ordinary shares during the period exceeds the exercise price of the options or warrants. Previously reported earnings per share are not retroactively adjusted to reflect changes in price of ordinary shares.

DIVIDENDS

Dividends proposed by the Board of Directors are not recognised in the financial statements until they have been approved by the Company's shareholders at the Annual General Meeting.

15.1 Earnings per share

Earnings per share, basic

	2016	2015
IS Profit attributable to owners of the parent (EUR million)	496	4,138
Weighted average number of shares (thousand)	888,367	888,367
Basic earnings per share (EUR)		
Total Fortum	0.56	4.66
Continuing operations	0.56	-0.26
Discontinued operations	4.92	4.92

As Fortum currently has no dilutive instruments outstanding, diluted earnings per share is the same as basic earnings per share.

15.2 Dividend per share

Dividends proposed by the Board of Directors are not recognised in the financial statements until they have been approved by the Company's shareholders at the Annual General Meeting.

A dividend in respect of 2016 of EUR 1.10 per share, amounting to a total dividend of EUR 977 million based on the amount of shares registered as at 1 February 2017, is to be proposed at the Annual General Meeting on 4 April 2017. These Financial statements do not reflect this dividend.

A dividend for 2015 of EUR 1.10 per share, amounting to a total of EUR 977 million, was decided in the Annual General Meeting on 5 April 2016. The dividend was paid on 14 April 2016.

A dividend for 2014 of EUR 1.10 per share and an extra dividend of EUR 0.20 per share, amounting to a total of EUR 1,155 million, was decided at the Annual General Meeting on 31 March 2015. The dividend and the extra dividend were paid on 14 April 2015.

16 Financial assets and liabilities by categories

ACCOUNTING POLICIES

FINANCIAL ASSETS

The Group classifies its investments in the following categories: financial assets at fair value through profit or loss, loans and receivables and available-for-sale financial assets. The classification depends on the purpose for which the investments were acquired. Management determines the classification of its financial assets at initial recognition and re-evaluates this designation at every reporting date.

FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS

A financial asset is classified in this category if acquired principally for the purpose of selling in the short-term. Derivatives are also categorised as held for trading unless they are designated as hedges. Assets in this category are classified as current assets if they are either held for trading or are expected to be realised within 12 months of the closing date.

LOANS AND RECEIVABLES

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise when the Group provides money, goods or services directly to a debtor. They are included in non-current assets, except for maturities under 12 months after the closing date. These are classified as current assets.

AVAILABLE-FOR-SALE FINANCIAL ASSETS

Available-for-sale financial assets are non-derivatives that are either designated in this category or not classified in any of the other categories. They are included in non-current assets unless there is an intention to dispose of the investment within 12 months of the closing date.

Purchases and sales of investments are recognised on the trade-date – the date on which the Group commits to purchase or sell the asset. Investments are initially recognised at fair value plus transaction costs for all financial assets not carried at fair value through profit or loss. Investments are derecognised when the rights to receive cash flows from the investments have expired or have been transferred and the Group has transferred substantially all risks and rewards of ownership.

Available-for-sale financial assets and financial assets at fair value through profit or loss are subsequently carried at fair value. Loans are carried at amortised cost using the effective interest method. Gains and losses arising from changes in the fair value of the 'financial assets at fair value through

profit or loss' category is included in the income statement in the period in which they arise. Gains and losses arising from changes in the fair value of securities classified as available-for-sale are recognised in equity. When securities classified as available-for-sale are sold or impaired, the accumulated fair value adjustments are included in the income statement.

The fair values of quoted investments are based on current bid prices. If the market for a financial asset is not active (and for unlisted securities), the Group establishes fair value by using valuation techniques. These include the use of recent arm's length transactions, reference to other instruments that are substantially the same, discounted cash flow analysis, and option pricing models refined to reflect the issuer's specific circumstances.

The Group assesses at each closing date whether there is objective evidence that a financial asset or a group of financial assets is impaired. If any such evidence exists for available-for-sale financial assets, the cumulative loss — measured as the difference between the acquisition cost and the current fair value, less any impairment loss on that financial asset previously recognised in profit or loss — is removed from equity and recognised in the income statement.

ACCOUNTING FOR DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES

Within the ordinary course of business the Group routinely enters into sale and purchase transactions for commodities. The majority of these transactions take the form of contracts that were entered into and continue to be held for the purpose of receipt or delivery of the commodity in accordance with the Group's expected sale, purchase or usage requirements. Such contracts are not within the scope of IAS 39. All other net-settled commodity contracts are measured at fair value with gains and losses taken to the income statement.

Derivatives are initially recognised at fair value on the date a derivative contract is entered into and are subsequently re-measured at their fair value. The method of recognising the resulting gain or loss depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. The Group designates certain derivatives as either: 1) hedges of highly probable forecast transactions (cash flow hedges); 2) hedges of the fair value of recognised assets or liabilities or a firm commitment (fair value hedge); or 3) hedges of net investments in foreign operations. The Group documents at the inception of the transaction the relationship between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedge transactions. The Group also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items. Derivatives are divided into non-current and current based on maturity. Only for those electricity derivatives, which have cash flows in different years, the fair values are split between non-current and current assets or liabilities.

CASH FLOW HEDGE

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges are recognised in equity. The gain or loss relating to the ineffective portion is recognised immediately in the income statement. Amounts accumulated in equity are recycled in the income statement in the periods when the hedged item will affect profit or loss (for instance when the forecast sale that is hedged takes place). However, when the forecast transaction that is hedged results in the recognition of a non-financial asset (for example, inventory) or a liability, the gains and losses previously deferred in equity are transferred from equity and included in the initial measurement of the cost of the asset or liability. When a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity is recognised in the income statement when the forecast transaction is ultimately also recognised in the income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately recognised in the income statement.

FAIR VALUE HEDGE

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recorded in the income statement, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk.

If the hedge no longer meets the criteria for hedge accounting, the adjustment to the carrying amount of a hedged item for which the effective interest method is used is amortised to profit or loss for the period to maturity.

NET INVESTMENT HEDGING IN FOREIGN OPERATIONS

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Any gain or loss on the hedging instrument relating to the effective portion of the hedge is recognised in equity; the gain or loss relating to the ineffective portion is recognised immediately in the income statement. Gains and losses accumulated in equity are included in the income statement when the foreign operation is disposed off.

DERIVATIVES THAT DO NOT QUALIFY FOR HEDGE ACCOUNTING

Certain derivative instruments hedging future cash flows do not qualify for hedge accounting. Fair value changes of these financial derivative instruments are recognised in items affecting comparability in the income statement.

Financial assets and liabilities in the tables below are split into categories in accordance with IAS 39. The categories are further split into classes which are the basis for valuing a respective asset or liability. Further information can be found in the Notes mentioned in the table.

Financial assets by categories 2016

		Loans and receivables	Financial assets at fair value through profit and loss				
EUR million	Note	Amortised cost	Hedge accounting, fair value hedges	Non-hedge accounting	Fair value recognised in equity, cash flow hedges	Available-for-sale financial assets	Total financial assets
Financial instruments in non-current assets							
Other non-current assets	21	55				58	113
Derivative financial instruments	3						
Electricity derivatives				67	1		68
Interest rate and currency derivatives			179	103	61		343
Oil and other futures and forward contracts				5			5
Long-term interest-bearing receivables	22	985					985
Financial instruments in current assets							
Derivative financial instruments	3						
Electricity derivatives				88	0		88
Interest rate and currency derivatives				7	16		23
Oil and other futures and forward contracts				18	0		18
Trade receivables	24	562					562
Other short-term interest-bearing receivables	22	395					395
Cash and cash equivalents	25	1,444				3,711	5,155
Total		**3,441**	**179**	**288**	**78**	**3,769**	**7,755**

Financial assets by categories 2015

		Loans and receivables	Financial assets at fair value through profit and loss				
EUR million	Note	Amortised cost	Hedge accounting, fair value hedges	Non-hedge accounting	Fair value recognised in equity, cash flow hedges	Available-for-sale financial assets	Total financial assets
Financial instruments in non-current assets							
Other non-current assets	21	50				43	93
Derivative financial instruments	3						
Electricity derivatives				105	30		135
Interest rate and currency derivatives			170	115	84		369
Oil and other futures and forward contracts				5			5
Long-term interest-bearing receivables	22	773					773
Financial instruments in current assets							
Derivative financial instruments	3						
Electricity derivatives				55	101		156
Interest rate and currency derivatives				114	67		181
Oil and other futures and forward contracts				16	0		16
Trade receivables	24	396					396
Other short-term interest-bearing receivables	22	0					0
Cash and cash equivalents	25	2,854				5,348	8,202
Total		**4,073**	**170**	**410**	**282**	**5,391**	**10,326**

Financial liabilities by categories 2016

EUR million	Note	Financial liabilities at fair value through profit and loss		Fair value recognised in equity, cash flow hedges	Other financial liabilities		Total financial liabilities
		Hedge accounting, fair value hedges	Non-hedge accounting		Amortised costs	Fair value	
Financial instruments in non-current liabilities							
Interest-bearing liabilities	28				3,188	1,280 [1)]	4,468
Derivative financial instruments	3						
Electricity derivatives			90	48			138
Interest rate and currency derivatives		32	51	38			121
Oil and other futures and forward contracts			3				3
Financial instruments in current liabilities							
Interest-bearing liabilities	28				639		639
Derivative financial instruments	3						
Electricity derivatives			155	83			238
Interest rate and currency derivatives			130	10			140
Oil and other futures and forward contracts			18	0			18
Trade payables	34				323		323
Other liabilities	34				86		86
Total		**32**	**447**	**179**	**4,236**	**1,280**	**6,174**

Financial liabilities by categories 2015

EUR million	Note	Financial liabilities at fair value through profit and loss		Fair value recognised in equity, cash flow hedges	Other financial liabilities		Total financial liabilities
		Hedge accounting, fair value hedges	Non-hedge accounting		Amortised costs	Fair value	
Financial instruments in non-current liabilities							
Interest-bearing liabilities	28				3,697	1,268 [1)]	4,965
Derivative financial instruments	3						
Electricity derivatives			122	4			126
Interest rate and currency derivatives		31	60	62			153
Oil and other futures and forward contracts			12				12
Financial instruments in current liabilities							
Interest-bearing liabilities	28				1,042		1,042
Derivative financial instruments	3						
Electricity derivatives			81	1			82
Interest rate and currency derivatives			28	4			32
Oil and other futures and forward contracts			6	0			6
Trade payables	34				249		249
Other liabilities	34				67		67
Total		**31**	**309**	**71**	**5,055**	**1,268**	**6,734**

1) Fair valued part of bond in fair value hedge relationship.

17 Financial assets and liabilities by fair value hierarchy

ACCOUNTING POLICIES

Fair value measurements are classified using a fair value hierarchy i.e. Level 1, Level 2 and Level 3 that reflects the significance of the inputs used in making the measurements.

FAIR VALUES UNDER LEVEL 1 MEASUREMENT HIERARCHY

The fair value of some commodity derivatives traded in active markets (such as publicly traded electricity options, coal and oil forwards) are market quotes at the closing date.

FAIR VALUES UNDER LEVEL 2 MEASUREMENT HIERARCHY

The fair value of financial instruments including electricity derivatives traded in active markets (such as publicly traded derivatives, and trading and available-for-sale securities) is based on quoted market prices at the closing date. Known calculation techniques, such as estimated discounted cash flows, are used to determine fair value of interest rate and currency financial instruments. The fair value of interest-rate swaps is calculated as the present value of the estimated future cash flows. The fair value of forward foreign exchange contracts is determined using forward exchange market rates at the closing date. Fair values of options are determined by using option valuation models. The fair value of financial liabilities is estimated by discounting the future contractual cash flows at the current market interest rate that is available to the Group for similar financial instruments. In fair valuation, credit spread has not been adjusted, as quoted market prices of the instruments used are believed to be consistent with the objective of a fair value measurement.

The Group bases the calculation on existing market conditions at each closing date. Financial instruments used in Fortum are standardised products that are either cleared via exchanges or widely traded in the market. Commodity derivatives are generally cleared through exchanges such as for example NASDAQ OMX Commodities Europe and financial derivatives done with creditworthy financial institutions with investment grade ratings.

FAIR VALUES UNDER LEVEL 3 MEASUREMENT HIERARCHY

Investments in unlisted shares classified as Available-for-sale financial assets, for which the fair value cannot be reliably determined. These assets are measured at cost less any impairments.

OTHER MEASUREMENTS

The nominal value less estimated credit adjustments of trade receivables and payables are assumed to approximate their fair values.

Financial assets

EUR million	Note	Level 1 2016	Level 1 2015	Level 2 2016	Level 2 2015	Level 3 2016	Level 3 2015	Netting [2] 2016	Netting [2] 2015	Total 2016	Total 2015
In non-current assets											
Available-for-sale financial assets [1]	21	0	1			58	42			58	43
Derivative financial instruments	3										
Electricity derivatives											
Hedge accounting				4	40			-3	-9	1	30
Non-hedge accounting		0		98	175			-31	-70	67	105
Interest rate and currency derivatives											
Hedge accounting				240	254					240	254
Non-hedge accounting				103	115					103	115
Oil and other futures and forward contracts											
Non-hedge accounting		7	7					-2	-2	5	5
In current assets											
Derivative financial instruments	3										
Electricity derivatives											
Hedge accounting				9	117			-9	-16	0	101
Non-hedge accounting		0	1	381	251			-293	-196	88	55
Interest rate and currency derivatives											
Hedge accounting				16	67					16	67
Non-hedge accounting				7	114					7	114
Oil and other futures and forward contracts											
Non-hedge accounting		106	47	2				-90	-31	18	16
Total		**113**	**56**	**860**	**1,133**	**58**	**42**	**-428**	**-324**	**603**	**907**

1) Available-for-sale financial assets, i.e. shares which are not classified as associated companies or joint ventures, consists mainly of shares in unlisted companies of EUR 58 million (Dec 31 2015: 42), for which the fair value cannot be reliably determined. This includes EUR 18 million (2015: 11) from Fortum's shareholding in Fennovoima. These assets are measured at cost less any impairments.

Available-for-sale financial assets include listed shares at fair value of EUR 0 million (2015: 1). The cumulative fair value change booked in Fortum's equity was EUR -3 million (2015: -3).

2) Receivables and liabilities against electricity, oil and other commodity exchanges arising from standard derivative contracts with same delivery period are netted.

Financial liabilities

EUR million	Note	Level 1 2016	Level 1 2015	Level 2 2016	Level 2 2015	Level 3 2016	Level 3 2015	Netting [2] 2016	Netting [2] 2015	Total 2016	Total 2015
In non-current assets											
Interest-bearing liabilities	28			1,280 [1]	1,268 [1]					1,280	1,268
Derivative financial instruments	3										
Electricity derivatives											
Hedge accounting				51	13			-3	-9	48	4
Non-hedge accounting				121	192			-31	-70	90	122
Interest rate and currency derivatives											
Hedge accounting				70	93					70	93
Non-hedge accounting				51	60					51	60
Oil and other futures and forward contracts											
Non-hedge accounting		5	14					-2	-2	3	12
In current assets											
Derivative financial instruments	3										
Electricity derivatives											
Hedge accounting				92	18			-9	-16	83	1
Non-hedge accounting		0	1	448	277			-293	-196	155	81
Interest rate and currency derivatives											
Hedge accounting				10	4					10	4
Non-hedge accounting				130	28					130	28
Oil and other futures and forward contracts											
Non-hedge accounting		106	37	2				-90	-31	18	6
Total		**111**	**52**	**2,255**	**1,953**	**0**	**0**	**-428**	**-324**	**1,938**	**1,680**

1) Fair valued part of bond in fair value hedge relationship.

2) Receivables and liabilities against electricity, oil and other commodity exchanges arising from standard derivative contracts with same delivery period are netted.

Net fair value amount of interest rate and currency derivatives is EUR 105 million, assets EUR 366 million and liabilities EUR 261 million. Fortum has cash collaterals based on Credit Support Annex agreements with some counterparties. At the end of December 2016 Fortum had received EUR 135 million from Credit Support Annex agreements. The received cash has been booked as short-term liability.

18 Intangible assets

ACCOUNTING POLICIES

Intangible assets, except goodwill, are stated at the historical cost less accumulated amortisation and impairment losses. They are amortised on a straight-line method over their expected useful lives.

COMPUTER SOFTWARE

Acquired computer software licences are capitalised on the basis of the costs incurred when bringing the software into use. Costs associated with developing or maintaining computer software are recognised as an expense as incurred. Costs that are directly associated with the production of identifiable and unique software products controlled by the Group, and that will generate economic benefits exceeding costs beyond one year, are recognised as intangible assets. Direct costs include the software development employee costs and an appropriate portion of relevant overheads. Computer software costs recognised as assets are amortised over their estimated useful lives (three to five years).

TRADEMARKS AND LICENSES

Trademarks and licences are shown at historical cost less accumulated amortisation and impairment losses, as applicable. Amortisation is calculated using the straight-line method to allocate the cost of trademarks and licences over their estimated useful lives (15–20 years).

CONTRACTUAL CUSTOMER RELATIONSHIPS

Contractual customer relationships acquired in a business combination are recognised at fair value on acquisition date. The contractual customer relations have a finite useful life and are carried at costs less accumulated amortisation. Amortisation is calculated using the straight-line method over the expected duration of the customer relationship.

GOODWILL

Goodwill represents the excess of the cost of an acquisition over the fair value of the Group's share of net identifiable assets of the acquired subsidiary/associate at the date of acquisition. Goodwill on acquisitions of subsidiaries is included in intangible assets and tested yearly for impairment. Goodwill on acquisition of associates is included in investments in associates and is tested for impairment as part of the overall balance. Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Impairment losses on goodwill are not reversed. Gains and losses on disposal of an entity include the carrying amount of goodwill relating to the entity sold.

EMISSION ALLOWANCES

The Group accounts for emission allowances based on currently valid IFRS standards where purchased emission allowances are accounted for as intangible assets at cost, whereas emission allowances received free of charge are accounted for at nominal value. For CO_2 emissions from power and heat production, a provision is recognized. CO_2 emission costs is settled by returning emission allowances. To the extent that the Group already holds allowances to cover emission costs, the provision is measured at the carrying amount of those allowances. Any shortfall of allowances held over the obligation is valued at the current market value of allowances. The emission cost is recognised in the income statement within materials and services. The sales gains and losses of emission allowances not used for covering the obligation from CO_2 emissions, are reported in other income.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

ASSIGNED VALUES AND USEFUL LIVES IN ACQUISITIONS

In an acquisition acquired intangible and tangible assets are fair valued and their remaining useful lives are determined. Management believes that the assigned values and useful lives, as well as the underlying assumptions, are reasonable. Different assumptions and assigned lives could have a significant impact on the reported amounts.

The Group has significant carrying values in property, plant and equipment, intangible assets and participations in associated companies and joint ventures which are tested for impairment according to the accounting policy described in ▸ *Note 19* Property, plant and equipment.

EUR million	Goodwill		Other intangible assets		Total	
	2016	2015	2016	2015	2016	2015
Cost 1 January	**152**	**170**	**332**	**379**	**485**	**549**
Translation differences and other adjustments	39	-18	-1	2	37	-16
Acquisition of subsidiary companies	163	0	59	1	221	1
Capital expenditure	0	0	3	8	3	8
Change in emission rights	0	0	0	-8	0	-8
Disposals	0	0	-11	-6	-11	-6
Sale of subsidiary companies	0	0	0	-58	0	-58
Reclassifications	0	0	4	14	4	14
Cost 31 December	**353**	**152**	**386**	**332**	**739**	**485**
Accumulated depreciation 1 January	**0**	**0**	**262**	**273**	**262**	**273**
Translation differences and other adjustments	0	0	-2	1	-2	1
Acquisition of subsidiary companies	0	0	5	0	5	0
Disposals	0	0	-11	-6	-11	-6
Sale of subsidiary companies	0	0	0	-28	0	-28
Reclassifications	0	0	0	0	0	0
Depreciation for the period [1)]	0	0	19	22	19	22
Accumulated depreciation 31 December	**0**	**0**	**273**	**262**	**273**	**262**
BS Carrying amount 31 December	**353**	**152**	**113**	**70**	**467**	**222**

1) 2015 includes depreciations related to discontinued operations (see ▸ *Note 14* Discontinued operations).

The increase of goodwill arises from the acquisition of Ekokem Corporation and Grupa Duon S.A. in City Solutions segment during 2016. Total goodwill also includes the goodwill from the acquisition of OAO Fortum in the Russia segment. The goodwill has been tested for impairment by comparing recoverable amounts of the net operating assets, including goodwill, with their carrying amounts. The recoverable amounts were determined on the basis of value in use, applying discounted cash flow calculations.

See ▸ *Note 40* Acquisitions and disposals for additional information on the acquisition of Ekokem Corporation and Grupa Duon S.A.

See also ▸ *Note 19* Property, plant and equipment for information about impairment testing.

The main items in other intangible assets are customer contracts, costs for software products and software licenses, bought emission rights and emission rights received free of charge, which are recognised to the lower of fair value and historical cost.

19 Property, plant and equipment

ACCOUNTING POLICIES

Property, plant and equipment comprise mainly power and heat producing buildings and machinery buildings, transmission lines, tunnels, waterfall rights, district heating network and buildings and machinery as well as landfill sites and treatment areas used in waste treatment operations. Property, plant and equipment are stated at historical cost less accumulated depreciation and accumulated impairment losses as applicable in the consolidated balance sheet. Historical cost includes expenditure that is directly attributable to the acquisition of an item and capitalized borrowing costs. Cost may also include transfers from equity of any gains or losses on qualifying cash flow hedges of foreign currency purchases of property, plant and equipment. Acquired assets on the acquisition of a new subsidiary are stated at their fair values at the date of acquisition.

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance expenses are charged to the income statement during the financial period in which they are incurred.

Additionally the cost of an item of property, plant and equipment includes the estimated cost of its dismantlement, removal or restoration.

See ▸ *Note 31* Other provisions for information about asset retirement obligations and ▸ *Note 30* Nuclear related assets and liabilities, for information about provisions for decommissioning nuclear power plants.

Land, water areas, waterfall rights and tunnels are not depreciated since they have indefinite useful lives. Depreciation on other assets is calculated using the straight-line method to allocate their cost to their residual values over their estimated useful lives, as follows:

Hydro power plant buildings, structures and machinery	40–50 years
Thermal power plant buildings, structures and machinery	25 years
Nuclear power plant buildings, structures and machinery	25 years
CHP power plant buildings, structures and machinery	15–25 years
Substation buildings, structures and machinery	30–40 years
Distribution network (related to discontinued operations)	15–40 years
District heating network	30–40 years
Other buildings and structures	20–40 years
Other tangible assets	20–40 years
Other machinery and equipment	3–20 years
Other non-current investments	5–10 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each closing date. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.

IMPAIRMENT OF NON-FINANCIAL ASSETS

The individual assets' carrying values are reviewed at each closing date to determine whether there is any indication of impairment. An asset's carrying amount is written down immediately to its recoverable amount if it is greater than the estimated recoverable amount.

When considering the need for impairment the Group assesses if events or changes in circumstances indicate that the carrying amount may not be recoverable. This assessment is documented once a year in connection with the long-term forecasting process. Indications for impairment are analysed separately by each division as they are different for each business and include risks such as changes in electricity and fuel prices, regulatory/political changes relating to energy taxes and price regulations etc. Impairment testing needs to be performed if any of the impairment indications exists. Assets that have an indefinite useful life and goodwill, are not subject to amortisation and are tested annually for impairment.

An impairment loss is recognised in the income statement for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purpose of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Goodwill is allocated to cash-generating units for the purpose of impairment testing. The allocation is made to those cash-generating units or groups of cash-generating units that are expected to benefit from the business combination in which the goodwill arose.

Value in use is determined by discounting the future cash flows expected to be derived from an asset or cash-generating unit. Cash flow projections are based on the most recent long-term forecast that has been approved by management and the Board of Directors. Cash flows arising from future investments such as new plants are excluded unless projects have been started. The cash outflow needed to complete the started projects is included.

The period covered by cash flows is related to the useful lives of the assets reviewed for impairment. According to IFRS, projections used should cover a maximum period of five years, but a longer period can be justifiable in certain circumstances. The Group uses a longer projection period than normally allowed by IFRS, which reflects the long useful lives of power plants and other major assets. Cash flow projections beyond the period covered by the most recent business plan are estimated by extrapolating the projections using growth rates estimated by management for subsequent years.

Non-financial assets other than goodwill that suffered an impairment charge are reviewed for possible reversal of the impairment at each reporting date.

GOVERNMENT GRANTS

Grants from the government are recognised at their fair value when there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions. Government grants relating to costs are deferred and recognised in the income statement over the period necessary to match them with the costs that they are intended to compensate. Government grants relating to the purchase of property, plant and equipment are deducted from the acquisition cost of the asset and are recognised as income by reducing the depreciation charge of the asset they relate to.

BORROWING COSTS

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale. Qualifying assets are assets that necessarily take a substantial period of time to get ready for their intended use or sale.

All other borrowing costs are recognised in profit or loss in the period in which they are incurred.

JOINT OPERATIONS

Fortum owns, through its subsidiary Fortum Power and Heat Oy, the coal condensing power plant Meri-Pori in Finland. Teollisuuden Voima Oyj (TVO) has the contractual right to participate in the plant with 45.45%. The capacity and production is divided between Fortum and TVO. Each owner can decide when and how much capacity to use for production. Both Fortum and TVO purchase fuel and emission rights independently. Since Fortum and TVO are sharing control of the power plant, Meri-Pori is accounted for as a joint operation. Fortum is accounting for its part of the investment, i.e. 54.55%. Fortum is also entitled to part of the electricity TVO produces in Meri-Pori through its shareholding of 26.58% of TVO C-series shares.

For further information regarding Fortum's shareholding in TVO, see ▸ *Note 20* Participations in associated companies and joint ventures.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

ASSUMPTIONS RELATED TO IMPAIRMENT TESTING

The Group has significant carrying values in property, plant and equipment, intangible assets and participations in associated companies and joint ventures which are tested for impairment according to the accounting policy described in the notes. The recoverable amounts of cash-generating units have been determined based on value in use calculations. These calculations are based on estimated future cash flows from most recent approved long-term forecast. Preparation of these estimates requires management to make assumptions relating to future expectations. Assumptions vary depending on the business the tested assets are in. For power and heat generation business the main assumptions relate to the estimated future operating cash flows and the discount rates used to present value them.

Estimates are also made in an acquisition when determining the fair values and remaining useful lives of acquired intangible and tangible assets, see ▸ *Note 18* Intangible assets.

EUR million	Land, waterfall rights and tunnels		Buildings, plants and structures		Machinery and equipment		Other tangible assets		Advances paid and construction in progress		Total	
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Cost 1 January	**2,859**	**2,810**	**3,146**	**3,110**	**5,614**	**9,728**	**136**	**136**	**755**	**904**	**12,510**	**16,687**
Translation differences and other adjustments	-104	59	146	-72	325	-124	-2	1	66	-24	430	-160
Acquisition of subsidiary companies	3	0	211	1	954	1	0	0	9	0	1 178	2
Capital expenditure	1	1	38	24	24	20	0	0	526	575	588	619
Nuclear asset retirement cost	0	0	0	0	-6	0	0	0	0	0	-6	0
Disposals	-1	0	-17	-11	-41	-54	0	0	-4	-1	-63	-67
Sale of subsidiary companies	0	-11	-46	-92	-92	-4,319	0	-2	-2	-132	-140	-4,556
Reclassifications	7	0	142	187	371	363	1	2	-525	-566	-4	-14
Cost 31 December	**2,765**	**2,859**	**3,621**	**3,146**	**7,147**	**5,614**	**135**	**136**	**824**	**755**	**14,492**	**12,510**
Accumulated depreciation 1 January	**0**	**0**	**1,367**	**1,328**	**2,319**	**4,054**	**113**	**111**	**0**	**0**	**3,799**	**5,492**
Translation differences and other adjustments	0	0	21	-10	62	-16	-2	1	0	0	82	-25
Acquisition of subsidiary companies	0	0	97	0	333	1	0	0	0	0	430	1
Disposals	0	0	-14	-8	-40	-52	-2	0	0	0	-56	-60
Sale of subsidiary companies	0	0	-20	-43	-28	-1,978	0	-2	0	0	-48	-2,023
Depreciation for the period [1]	0	0	102	100	246	312	7	3	0	0	355	416
Reclassifications	0	0	-3	0	5	-1	-2	0	0	0	0	0
Accumulated depreciation 31 December	**0**	**0**	**1,550**	**1,367**	**2,898**	**2,319**	**114**	**113**	**0**	**0**	**4,562**	**3,799**
BS Carrying amount 31 December	**2,764**	**2,859**	**2,071**	**1,779**	**4,249**	**3,295**	**21**	**23**	**824**	**755**	**9,930**	**8,710**

1) 2015 includes depreciations related to discontinued operations (see ▸ *Note 14* Discontinued operations).

The increase in property, plant and equipment was mainly resulting from acquisition of Ekokem Corporation and Grupa DUON S.A. in City Solutions segment. The increase was offset by the divestment of Fortum's 100% owned subsidiary OOO Tobolsk CHP to SIBUR.

See ▸ *Note 40* Acquisitions and disposals for additional information on the acquisition of Ekokem Corporation and Grupa Duon S.A.

Property, plant and equipment that are subject to restrictions in the form of real estate mortgages amount to EUR 236 million (2015: 255). See ▸ *Note 37* Pledged assets and contingent liabilities.

19.1 Capitalised borrowing costs

EUR million	Buildings, plants and structures		Machinery and equipment		Advances paid and construction in progress		Total	
	2016	2015	2016	2015	2016	2015	2016	2015
1 January	**43**	**35**	**132**	**125**	**41**	**42**	**217**	**202**
Translation differences and other adjustments	9	-4	28	-13	6	-4	43	-21
Increases / disposals	0	0	6	6	10	38	16	44
Sale of subsidiary companies	-1	0	-6	0	0	0	-7	0
Reclassification	5	14	9	21	-16	-36	-2	-1
Depreciation	-2	-1	-7	-6	0	0	-9	-7
31 December	**55**	**43**	**162**	**133**	**41**	**41**	**258**	**217**

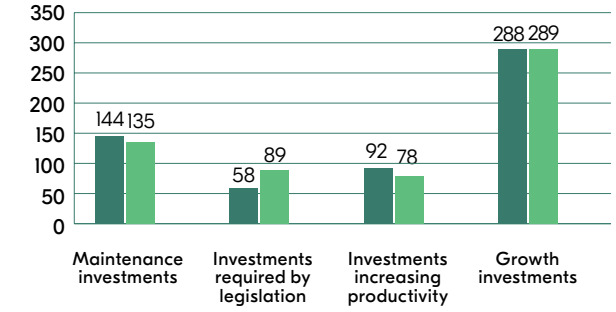
Borrowing costs of EUR 16 million were capitalised in 2016 (2015: 44). The interest rate used for capitalisation varied between 2–13% (2015: 2–19%).

19.2 Capital expenditure [1)]

	Finland		Sweden		Russia		Poland		Estonia		Other countries		Total	
EUR million	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Generation														
Hydropower	29	25	74	77									103	102
Nuclear power	90	75											90	75
Fossil-based electricity	1												1	
Renewable-based electricity			1	8								0	1	8
Other	2	2											2	2
Total Generation	**122**	**102**	**75**	**85**								**0**	**196**	**187**
City Solutions														
Fossil-based heat	7	7					14	14					21	21
Fossil-based electricity							1	1					1	1
Renewable, of which	17	26	2				29	11	1		2	1	50	38
waste	9		2				29	11			1	1	42	12
biofuels	8	25										1	8	25
other	0	2							1				1	2
District heat network	9	12					12	11	6	7		1	27	31
Other	5	5		1			3	0	4	3		5	12	14
Total City Solutions	**38**	**49**	**2**	**1**			**58**	**37**	**11**	**11**	**1**	**7**	**112**	**105**
Russia														
Fossil-based electricity					168	267							168	267
Fossil-based heat					17	18							17	18
Renewable-based electricity, wind					15	0							15	0
Total Russia					**201**	**285**							**201**	**285**
Other														
Renewable-based electricity, wind			11										11	
Renewable-based electricity, solar											43		43	
Other	13		3	1							12		29	
Total Other	**13**	**5**	**14**	**1**							**55**		**83**	**6**
Total for continuing operations	**173**	**156**	**91**	**87**	**201**	**285**	**59**	**37**	**11**	**11**	**56**	**7**	**591**	**582**
Discontinued operations (Distribution)				**44**										**44**
Total	**173**	**156**	**91**	**132**	**201**	**285**	**59**	**37**	**11**	**11**	**56**	**7**	**591**	**626**

1) Includes capital expenditure to both intangible assets and property, plant and equipment.

Fortum classifies investments in four main categories (continuing operations, EUR million)



19.2.1 Generation

In Finland, Fortum invested EUR 90 million (2015: 75) into the Loviisa nuclear power plant. Fortum invested additionally EUR 103 million (2015: 102) into hydro production, mainly maintenance, legislation and productivity investments. The biggest of these were Långströmmen dam safety EUR 11 million and Järpströmmen refurbishment in Sweden EUR 6 million. Investments in CO_2 free production were EUR 193 million (2015: 184).

19.2.2 City Solutions

Growth investments in City Solutions totalled EUR 69 million (2015: 42) in year 2016. Maintenance, legislation and productivity investments totalled EUR 42 million (2015: 62). This amount consists mainly of investments in district heat networks and plants as well as the maintenance of existing CHP plants and measures defined by legal requirements. Larger ongoing projects in 2016 comprised of bio-pellet heat boiler in Espoo and new CHP plant in Zabrze, Poland. Investments in CO_2 free production were EUR 0 million (2015: 39).

19.2.3 Russia

OAO Fortum has completed its extensive investment programme which almost doubles its power capacity with 2,300 MW. During 2016 EUR 96 million (2015: 161) was invested in this programme. In February 2016 Fortum commissioned Chelyabinsk GRES 2, which started to receive capacity payments as of 1 March 2016. Russia has also started building wind park Ulyanovsk and investments in 2016 related to wind park were EUR 15 million. Investments in CO_2 free production were EUR 15 million (2015: 0).

19.2.4 Other

Other Division's investments contain solar investments in India EUR 43 million and investments in wind power production EUR 11 million. Wind investments contain Solberg and Blaiken wind parks in Sweden. Other Division invested also in Charge and Drive EUR 12 million, mainly charging poles in Norway. Investments in CO_2 free production were EUR 54 million (2015: 0).

19.3 Impairment testing of non-financial assets in 2016

Total goodwill in the balance sheet as of 31 December 2016 amounted to EUR 353 million (2015: 152). The goodwill allocated to Fortum's power and heat generation and sales in Russia, EUR 191 million, is included in Russian cash generating unit.

Goodwill arising from acquisition of Ekokem Corporation in August 2016 amounted to EUR 141 million. Acquisition supports Fortum's vision of creating solutions for sustainable cities. Ekokem is integrated as a business area into the City Solutions division, however allocation of goodwill to separate cash generating units is still on-going. Also the purchase price allocation is still preliminary. See more information in ▸ *Note 40* Acquisitions and disposals.

The impairment testing for the Russian cash generating unit in 2016 is described below.

Key assumptions used in impairment testing are presented below as well as the basis for determining the value of each assumption. Assumptions are based on internal and external data that are consistent with observable market information, when applicable. The assumptions are determined by management as part of the long-term forecasting process for the Fortum Group.

Key assumptions	Basis for determining the value for key assumptions
Power market development	Historical analysis and prospective forecasting
Regulation framework	Current market setup and prospective forecasting (e.g. CSA mechanism)
Utilisation of power plants	Past experience, technical assessment and forecasted market development
Forecasted maintenance investments	Past experience, technical assessment and planned maintenance work
Discount rate	Mostly market based information

The cash flows used in determining the value in use for each cash generating unit are based on the most recent long-term forecasts and are determined in local currency. The period covered by cash flows is related to the useful lives of the assets being reviewed for impairment. The growth rate used to extrapolate the cash flow projections until the end of assets' useful lives is in line with the assumed inflation. In Russia the generation capacity built after 2007 under the Russian Government's Capacity Supply Agreements receives guaranteed capacity payments for a period of 10 years.

The discount rate takes into account the risk profile of the country in which the cash flows are generated. There have not been any major changes in the discount rate components or in the methods used to determine them. The long-term pre-tax discount rate used for Russia was 11.1% (2015: 11.1%).

The net operating assets of OAO Fortum, including fair value adjustments and goodwill arising from the acquisition of the company are tested yearly for possible impairment. As of 31 December 2016, the recoverable values were greater than their carrying values and therefore no impairments were booked.

The Group has considered the sensitivity of key assumptions as part of the impairment testing. When doing this any consequential effect of the change on the other variables has also been considered. The calculations are most sensitive to changes in estimated future EBITDA levels and changes in discount rate.

Management estimates that a reasonably possible change in the discount rate used or in future earnings would not cause Russian cash generating unit's carrying amount to exceed its recoverable amount.

Based on the sensitivity analysis done, if the estimated future EBITDA were 10% lower than management's estimates or pre-tax discount rate applied was 10% higher than the one used, the Group would not need to recognise impairment losses for property plant and equipment or goodwill.

20 Participations in associated companies and joint ventures

ACCOUNTING POLICIES

The Group's interests in associated companies and jointly controlled entities are accounted for using the equity method of accounting. Assets acquired and liabilities assumed in the investment in associates or joint ventures are measured initially at their fair values at the acquisition date. The excess of the cost of acquisition over the fair value of the Group's share of the identifiable net assets acquired is recorded as goodwill. If the cost of acquisition is less than the fair value of the net assets of the associate or joint venture acquired, the difference is recognised directly in the income statement.

The Group's share of its associates or joint ventures post-acquisition profits or losses after tax and the expenses related to the adjustments to the fair values of the assets and liabilities assumed are recognised in the income statement. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. The Group's share of post-acquisition adjustments to associates or joint ventures equity that has not been recognised in the associates or joint ventures income statement, is recognised directly in Group's shareholder's equity and against the carrying amount of the investment.

When the Group's share of losses in an associate or a joint venture equals or exceeds its interest in the associate or joint venture, including any other unsecured receivables, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate or joint venture.

Unrealised gains on transactions between the Group and its associates or joint ventures are eliminated to the extent of the Group's interest in the associate or joint venture. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of associates or joint ventures have been changed where necessary to ensure consistency with the policies adopted by the Group.

If more recent information is not available, the share of the profit of certain associated or joint venture companies is included in the consolidated accounts based on the latest available information.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Management is required to make significant judgements when assessing the nature of Fortum's interest in its investees and when considering the classification of Fortum's joint arrangements. In the classification, emphasis has been put on decision-making, legal structure and financing of the arrangements.

Management judgement is required when testing the carrying amounts for participations in associated companies and joint ventures for impairment. See ▸ *Note 19* Property, plant and equipment for more information.

20.1 Principal associated companies and joint ventures

	OKG AB	Forsmarks Kraftgrupp AB	Kemijoki Oy	Hafslund ASA	TGC-1	TVO	Fortum Värme
Nature of the relationship	Power production company	Power production company	Power production company	Holding in energy company (listed)	Holding in energy company (listed)	Power production company	Holding in power and heat company
Classification	Associated company	Associated company	Associated company	Associated company	Associated company	Joint venture	Joint venture
Segment	Generation	Generation	Generation	Other	Russia	Generation	City Solutions
Domicile	Sweden	Sweden	Finland	Norway	Russia	Finland	Sweden
Ownership interest, % [1]	46	26	60	34	29	26	50
Votes, %	46	26	28	33	29	26	50

1) Kemijoki and TVO have different series of shares. The ownership interest varies due to the changes in equity assigned to the different share series. The ownership interests for 2015 for Kemijoki Oy and TVO were 60% and 26% respectively.

Shareholdings in power production companies

Power plants are often built jointly with other power producers. Under the consortium agreements, each owner is entitled to electricity in proportion to its share of ownership or other agreements and each owner is liable for an equivalent portion of costs. The production companies are not profit making, since the owners purchase electricity at production cost including interest cost and production taxes. The share of profit of these companies is mainly IFRS adjustments (e.g. accounting for nuclear related assets and liabilities) and depreciations on fair value adjustments from historical acquisitions since the companies are not profit making under local accounting principles.

Fortum has material shareholdings in such power production companies (mainly nuclear and hydro) that are consolidated using equity method either as associated companies (OKG AB, Forsmarks Kraftgrupp AB and Kemijoki Oy) or in some cases as joint ventures (Teollisuuden Voima Oyj (TVO)).

In Sweden nuclear production company shareholdings are 45.5% ownership of the shares in OKG AB and 25.5% ownership of the shares in Forsmarks Kraftgrupp AB. Excluding non-controlling interests in the subsidiaries, Fortum's participation in the companies are 43.4% and 22.2% respectively, which reflects the share of electricity produced that Fortum can sell further to the market. The minority part of the electricity purchased is invoiced further to each minority owner according to their respective shareholding and treated as pass-through. OKG AB and Forsmarks Kraftgrupp AB are accounted for as associated companies as Fortum has a representation on the Board of Directors and it participates in policy-making processes of the companies.

In Finland Fortum has an ownership in power production company TVO that has three series of shares which entitle the shareholders to electricity produced in the different power plants owned by TVO.

Shares in series A entitle to electricity produced in nuclear power plants Olkiluoto 1 and 2 and Fortum owns 26.6% of these shares. Series B entitles to electricity in the nuclear power plant presently being built, Olkiluoto 3, and Fortum's ownership in this share series is 25%. Series C entitles to electricity produced in TVO's share of the thermal power plant Meri-Pori, and Fortum's ownership in this share series is 26.6%. The Meri-Pori power plant is accounted for as a joint operation in Fortum. See also Associated companies in ▸ *Note 38* Legal actions and official proceedings.

See also Joint operations in the accounting principles in ▸ *Note 19* Property, plant and equipment.

The most significant hydro production company shareholding is 63.8% of the hydro shares and 28.27% of the monetary shares in Kemijoki Oy. Each owner of hydro shares is entitled to the hydropower production in proportion to its hydro shareholding. Since Fortum has a representation on the Board of Directors and it participates in the policy-making processes, Kemijoki Oy is accounted for as an associated company.

Other shareholdings accounted for using the equity method

In Sweden Fortum has a 50% ownership in AB Fortum Värme Holding samägt med Stockholms stad (Fortum Värme) that is co-owned with the City of Stockholm through Stockholms Stadshus AB. Fortum Värme produces district heating, district cooling and electricity and supplies heat and cooling to customers in the Stockholm area. Fortum and the City of Stockholm have renewed the shareholders' agreement which came into force as of 1 January 2016. Parties also agreed that Fortum Värme's shareholder loans from Fortum would be replaced with external financing by the end of 2015. The refinancing was done and as of 31 December 2015 Fortum Värme no longer has interest-bearing liabilities to Fortum.

Previously Fortum owned 90.1% of the shares representing 50.1% of the votes in Fortum Värme and the City of Stockholm owned 9.9% of the shares as preference shares representing 49.9% of the votes. The preference shares entitled the City of Stockholm to 50% of the economic output of Fortum Värme. On 1 December 2015 the City of Stockholm exchanged their preference shares to ordinary shares after which the voting rights are equally divided (50/50) between Fortum and the City of Stockholm. The City of Stockholm and Fortum have had and will continue to have 50% right to the economic output. The shareholding is accounted for as a joint venture with the equity method, as according to the shareholders' agreement control is shared.

Fortum owns shareholdings in listed companies such as Hafslund ASA and Territorial Generating Company 1 (TGC-1). The shareholdings are accounted for as associated companies as Fortum has representatives in the Board of Directors of the companies. The share of profit of these companies is accounted for based on previous quarter information since updated interim information is not normally available.

Summarised financial information of the principal associated companies

Impact of different accounting principles presented in the tables below on the line Fair values on acquisitions and different accounting principles include mainly IFRS adjustments for Nuclear liabilities and assets and capitalised borrowing costs in Swedish associates. Fortum records its share of nuclear related assets and liabilities in its nuclear associated companies according to equity method. The basis for recognition is similar as for Loviisa power plant, see accounting principles in ▸ *Note 30* Nuclear related assets and liabilities.

2016

EUR million	OKG AB	Forsmarks Kraftgrupp AB	Kemijoki Oy	Hafslund ASA	TGC-1
Balance sheet	31 Dec 2015	31 Dec 2015	31 Dec 2015	30 Sept 2016	30 Sept 2016
Non-current assets	645	2,361	465	2,442	2,113
Current assets	448	440	9	303	332
Non-current liabilities	611	2,578	306	1,254	382
Current liabilities	469	186	88	468	332
Equity	13	37	80	1,023	1,732
Attributable to NCI	0	0	0	0	134
Attributable to the owners of the parent	13	37	80	1,022	1,598
Statement of comprehensive income	1 Jan 2015– 31 Dec 2015	1 Jan 2015– 31 Dec 2015	1 Jan 2015– 31 Dec 2015	1 Oct 2015– 30 Sep 2016	1 Oct 2015– 30 Sep 2016
Revenue	1,987	695	60	1,393	1,032
Profit or loss from continuing operations	1	1	-3	154	116
Other comprehensive income	0	0	0	13	-2
Total comprehensive income	1	1	-3	167	114
Attributable to NCI	0	0	0	0	-3
Attributable to the owners of the parent	1	1	-3	167	117
Reconciliation to carrying amount in the Fortum group					
Group's interest in the equity of the associate at 1 January 2016	6	10	46	297	347
Change in share of profit and from OCI items	0	0	-1	56	33
Dividends received	0	0	0	-21	-4
Translation differences and other adjustments	0	0	3	16	95
Group's interest in the equity of the associate at 31 December 2016	**6**	**10**	**48**	**349**	**471**
Fair values on acquisitions and different accounting principles	8	90	158	8	-34
Carrying amount at 31 December 2016	**14**	**100**	**206**	**356**	**436**
Market value for listed shares [1]				693	265

1) The market quotation for the TGC-1 share is affected by the low liquidity of the TGC-1 shares in the Russian stock exchanges. During 2016 trading volumes of TGC-1 shares in relation to the number of shares of the company were approximately 12% (2015: 10%).

2015

EUR million	OKG AB	Forsmarks Kraftgrupp AB	Kemijoki Oy	Hafslund ASA	TGC-1
Balance sheet	31 Dec 2014	31 Dec 2014	31 Dec 2014	30 Sept 2015	30 Sept 2015
Non-current assets	2,271	2,261	449	2,301	1,625
Current assets	475	491	4	336	236
Non-current liabilities	2,648	2,601	305	1,268	417
Current liabilities	85	114	71	496	156
Equity	12	38	77	873	1,288
Attributable to NCI				2	109
Attributable to the owners of the parent	12	38	77	872	1,178
Statement of comprehensive income	1 Jan 2014–31 Dec 2014	1 Jan 2014–31 Dec 2014	1 Jan 2014–31 Dec 2014	1 Oct 2014–30 Sep 2015	1 Oct 2014–30 Sep 2015
Revenue	542	707	55	1,351	1,011
Profit or loss from continuing operations	0	1	-10	120	62
Other comprehensive income				8	1
Total comprehensive income	0	1	-10	128	63
Attributable to NCI				0	4
Attributable to the owners of the parent	0	1	-10	128	59
Reconciliation to carrying amount in the Fortum group					
Group's interest in the equity of the associate at 1 January 2015	6	9	52	289	374
Change in share of profit and from OCI items			-6	44	18
Dividends received				-18	-4
Translation differences and other adjustments	0	1		-17	-41
Group's interest in the equity of the associate at 31 December 2015	**6**	**10**	**46**	**297**	**347**
Fair values on acquisitions and different accounting principles	39	88	160	9	-31
Carrying amount at 31 December 2015	**45**	**97**	**206**	**306**	**316**
Market value for listed shares				411	59

Summarised financial information of the principal joint ventures in 2016 and 2015

EUR million	2016 TVO	2016 Fortum Värme	2015 TVO	2015 Fortum Värme
Balance sheet	30 Sept 2016	31 Dec 2016	30 Sept 2015	31 Dec 2015
Non-current assets	7,098	2,692	6,785	2,777
Current assets	413	271	521	308
of which cash and cash equivalents	129	13	141	0
Non-current liabilities	5,280	1,488	5,201	1,645
of which non-current interest-bearing liabilities	4,318	1,105	4,247	1,247
Current liabilities	659	298	578	305
of which current financial liabilities	466	164	432	145
Equity [1]	1,573	1,176	1,528	1,135
Attributable to NCI		0		0
Attributable to the shareholders of the company	1,573	1,176	1,528	1,135
Statement of comprehensive income	1 Oct 2015–30 Sep 2016	1 Jan 2016–31 Dec 2016	1 Oct 2014–30 Sep 2015	1 Jan 2015–31 Dec 2015
Revenue	322	699	379	661
Depreciation and amortisation	-54	-125	-115	-127
Interest income	17	0	23	0
Interest expense	-44	-13	-64	-57
Income tax expense or income	0	-33	0	-25
Profit or loss from continuing operations	-23	124	8	84
Other comprehensive income	-27	4	4	-2
Total comprehensive income	-51	128	12	82
Attributable to NCI		0		0
Attributable to the shareholders of the company	-51	128	12	82
Reconciliation to carrying amount in the Fortum group				
Group's interest in the equity of the joint venture at 1 January	294	567	292	535
Change in share of profit and from OCI items	-14	64	2	37
Dividends received	0	-21		-21
Translation differences and other adjustments		-21		16
Group's interest in the equity of the joint venture at 31 December	**279**	**588**	**294**	**567**
Fair values on acquisitions and different accounting principles [2]	-6	-81	-11	-88
Carrying amount at 31 December	**274**	**507**	**283**	**479**

1) The equity of TVO includes subordinated loans of EUR 479 million (2015: 379). Fortum has given part of these loans, pro rata to the ownership.

2) Impact of different accounting principles include mainly IFRS adjustments for Nuclear liabilities and assets and capitalised borrowing costs. Fortum records its share of nuclear related assets and liabilities in its nuclear associated companies according to equity method. The basis for recognition is similar as for Loviisa power plant, see accounting principles in ▶ *Note 30* Nuclear related assets and liabilities.

20.2 Participations and shares of profits in associated companies and joint ventures

EUR million	2016	2015
Principal associates	1,111	970
Principal joint ventures	781	762
Other associates	42	43
Other joint ventures	178	184
BS Carrying amount 31 December	**2,112**	**1,959**

Changes in participation during the year

EUR million	Joint ventures 2016	Associated companies 2016	Joint ventures 2015	Associated companies 2015
Historical cost				
1 January	558	800	546	838
Translation differences and other adjustments	-8	64	4	-37
Acquisitions	17	0	22	5
Reclassifications	83	-1	6	-5
Divestments	-14	0	-21	0
Historical cost 31 December	**636**	**864**	**558**	**800**
Equity adjustments				
1 January	388	213	366	277
Translation differences and other adjustments	-16	41	9	-17
Share of profits of associates and joint ventures [1)]	69	62	56	-37
Reclassifications	-83	1	-6	5
Divestments	-8	0	-6	0
Dividends received	-28	-26	-29	-23
OCI items associated companies and joint ventures	1	-2	-2	7
Equity adjustments 31 December	**324**	**289**	**388**	**213**
Carrying amount at 31 December	**959**	**1,153**	**946**	**1,013**

1) In 2015 including impairment charges of EUR -116 million, see ▸ *Note 7* Effects from early closure of nuclear units in Sweden.

For information about investments and divestments of shares in associated companies, see ▸ *Note 40* Acquisitions and disposals.

Share of profit of associates and joint ventures

EUR million	2016	2015
Principal associates		
OKG AB [1)]	-30	-107
Forsmarks Kraftgrupp AB	6	7
Kemijoki Oy	-3	-9
Hafslund ASA	51	39
TGC-1	38	32
Principal associates, total	**62**	**-38**
Principal joint ventures		
Fortum Värme	66	47
TVO	-7	-2
Principal joint ventures, total	**59**	**45**
Other associates	0	1
Other joint ventures	10	11
IS Total	**131**	**20**

1) In 2015 including impairment charges of EUR -116 million, see ▸ *Note 7* Effects from early closure of nuclear units in Sweden.

The unrecognized share of losses of associated companies and joint ventures (for the reporting period and cumulatively) is zero.

Share of profits from Teollisuuden Voima Oyj, Forsmarks Kraftgrupp AB and OKG AB includes EUR -30 million (2015: -37) arising from accounting of nuclear related assets and liabilities.

Share of profits from Värme include compensation paid to Fortum for early prepayment of the interest-bearing loans from Fortum EUR 0 million (2015: -19).

20.3 Transactions and balances

Associated company transactions

EUR million	2016	2015
Sales to associated companies	1	2
Interest on associated company loan receivables	14	15
Purchases from associated companies	385	418

Purchases from associated companies include mainly purchases of nuclear and hydro power at production cost including interest costs and production taxes.

Associated company balances

EUR million	2016	2015
Receivables from associated companies		
Long-term interest-bearing loan receivables	704	601
Trade receivables	1	0
Other receivables	0	0
Liabilities to associated companies		
Long-term loan payables	5	2
Trade payables	1	4
Other payables	0	160

For more info about receivables from associated companies, see ▸ *Note 22* Interest-bearing receivables.

Joint venture transactions

EUR million	2016	2015
Sales to joint ventures	104	79
Interest on joint venture loan receivables	2	12
Purchases from joint ventures	151	91
Other financial income	0	37

Purchases from joint ventures include mainly purchases of nuclear and hydro power at production cost including interest costs and production taxes.

Other financial income in 2015 includes compensation from early prepayment of loans by Fortum Värme.

Joint venture balances

EUR million	2016	2015
Receivables from joint ventures		
Long-term interest-bearing loan receivables	182	172
Trade receivables	19	11
Other receivables	16	14
Liabilities to joint ventures		
Long-term loan payables	273	268
Trade payables	6	6
Other payables	6	6

For more info about receivables from joint ventures, see ▸ *Note 22* Interest-bearing receivables.

21 Other non-current assets

EUR million	2016	2015
Available-for-sale financial assets	58	43
Other	55	50
BS Total	**113**	**93**

Available-for-sale financial assets, i.e. shares which are not classified as associated companies or joint ventures, consist mainly of shares in unlisted companies of EUR 58 million (2015: 43), for which the fair value can not be reliably determined. These assets are measured at cost less possible impairment.

Fortum decided in 2015 to participate in the Fennovoima nuclear power project in Finland with a 6.6% share. The participation is carried out through Voimaosakeyhtiö SF and the book value of the shares is EUR 18 million (2015: 11). The indirect investment in Fennovoima is classified as Available-for-sale financial assets, measured at cost, since fair value cannot be reliably determined.

22 Interest-bearing receivables

EUR million	Carrying amount 2016	Fair value 2016	Carrying amount 2015	Fair value 2015
Long-term loan receivables from associated companies	704	744	601	616
Long-term loan receivables from joint ventures	182	206	172	196
Other long-term interest bearing receivables	99	99	1	1
BS Total long-term interest-bearing receivables	**985**	**1,049**	**773**	**813**
Other short-term interest-bearing receivables	395	395	0	0
Total short-term interest-bearing receivables [1)]	**395**	**395**	**0**	**0**
Total	**1,380**	**1,444**	**773**	**813**

1) Included in trade and other receivables in the balance sheet, see ▸ *Note 24* Trade and other receivables.

Long-term loan receivables include receivables from associated companies and joint ventures EUR 886 million (2015: 773). These receivables include EUR 686 million (2015: 582) from Swedish nuclear companies, OKG AB and Forsmarks Kraftgrupp AB, which are mainly funded with shareholder loans, pro rata each shareholder's ownership. The impairment charges in OKG AB during 2015 due to the decision to close down nuclear power units 1 and 2 will be invoiced from the shareholders when the costs are incurred. Fortum estimated the impact to be EUR 794 million and netted that against the shareholder

loan. The main part of the netted amount has been invoiced to Fortum, the remaining part will be invoiced when the costs occur.

TVO is building Olkiluoto 3, the nuclear power plant, which is funded through external loans, share issues and shareholder loans according to shareholders' agreement between the owners of TVO. At end of December 2016 Fortum has EUR 120 million (2015: 120) outstanding receivables regarding Olkiluoto 3 and is additionally committed to provide at maximum EUR 75 million.

Interest-bearing receivables includes also EUR 131 million from SIBUR, a Russian gas processing and petrochemicals company regarding divested shares of OOO Tobolsk CHP.

Short-term interest-bearing receivables include EUR 360 million restricted cash mainly given as collateral for commodity exchanges which has increased during 2016 due to new European Market Infrastructure Regulation (EMIR) requiring fully-backed guarantees. The increase is mainly due to Nasdaq OMX cash collaterals of EUR 339 million (see ▸ *Additional cash flow information*).

For further information regarding credit risk management, see ▸ *Note 3.7* Credit risk.

For additional information regarding OKG AB, see ▸ *Note 7* Effects from early closure of nuclear units in Sweden.

Interest-bearing receivables

			Repricing					
EUR million	Effective interest rate, %	Carrying amount 2016	Under 1 year	1–5 years	Over 5 years	Fair value 2016	Carrying amount 2015	Fair value 2015
Long-term loan receivables	3.1	985	857	26	102	1,049	773	813
Short-term receivables	0.6	395	395			395	0	0
Total Interest bearing receivables	**2.4**	**1,380**	**1,252**	**26**	**102**	**1,444**	**773**	**813**

23 Inventories

ACCOUNTING POLICIES

Inventories mainly consist of fuels consumed in the production process or in the rendering of services. Inventories are stated at the lower of cost and net realisable value being the estimated selling price for the end product, less applicable variable selling expenses and other production costs. Cost is determined using the first-in, first-out (FIFO) method.

Inventories which are acquired primarily for the purpose of trading are stated at fair value less selling expenses.

EUR million	2016	2015
Nuclear fuel	91	98
Coal	51	62
Oil	7	6
Biofuels	3	5
Materials and spare parts	67	52
Other inventories	12	10
BS Total	**233**	**231**

Write downs in inventories amounted to EUR 1 million (2015: 5), mainly relating to obsolete spare parts.

24 Trade and other receivables

ACCOUNTING POLICIES

Trade receivables are recorded at their fair value. A provision for impairment of trade receivables is established when there is evidence that the Group will not be able to collect all amounts due according to the original terms of the receivable. Significant financial difficulties of the debtor, probability that the debtor will enter into bankruptcy or financial reorganisation, and default or delinquency in payments are considered as indicators that the receivable is impaired. The amount of the impairment charge is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows.

Trade receivables include revenue based on an estimate of electricity, heat and cooling already delivered but not yet measured and not yet invoiced.

EUR million	2016	2015
Trade receivables	562	396
Accrued interest income	1	5
Accrued income and prepaid expenses	31	29
Other receivables	249	269
BS Total	**844**	**698**

The management considers that the carrying amount of trade and other receivables approximates their fair value. In the end of 2016 Nasdaq's market making for forwards ended and the trading moved from forwards with cash collaterals to futures with daily cash settlements.

The Nasdaq futures settlements are included in other receivables amounting to EUR 139 million in 2016.

24.1 Trade receivables

Ageing analysis of trade receivables

	2016		2015	
EUR million	Gross	Impaired	Gross	Impaired
Not past due	471	2	335	2
Past due 1–90 days	85	5	55	3
Past due 91–180 days	15	5	8	2
Past due more than 181 days	85	80	52	48
Total	**655**	**93**	**449**	**54**

Impairment losses recognised in the income statement were EUR 28 million (2015: 11), of which EUR 24 million (2015: 8) are impairment losses recognised in the OAO Fortum Group. On 31 December 2016, trade receivables of EUR 93 million (2015: 54) are impaired and provided for, of which EUR 79 million (2015: 47) refers to the OAO Fortum Group.

Trade receivables by currency (Gross)

EUR million	2016	2015
EUR	251	190
SEK	97	74
RUB	215	142
NOK	11	7
PLN	71	34
Other	10	4
Total	**655**	**449**

Trade receivables are arising from a large number of customers mainly in EUR, SEK, RUB and PLN mitigating the concentration of risk.

For further information regarding credit risk management and credit risks, see ▸ *Counterparty risks* in the Operating and financial review and ▸ *Note 3.7* Credit risk.

25 Liquid funds

ACCOUNTING POLICIES

Cash and cash equivalents in Liquid funds include cash in hand, deposits held at call with banks and other short-term, highly liquid investments with maturities of three months or less. Deposits and securities with maturity more than 3 months include fixed term deposits and commercial papers with maturity more than three months but less than twelve months. Deposits and securities are classified as available-for-sale financial assets.

Bank overdrafts are shown within borrowings in current liabilities in the balance sheet. Cash collaterals or otherwise restricted cash are treated as short-term interest-bearing receivables.

EUR million	2016	2015
Cash at bank and in hand	1,444	2,854
Deposits and securities with maturity under 3 months	235	435
Cash and cash equivalents	**1,679**	**3,289**
Deposits and securities with maturity more than 3 months	3,475	4,913
BS Total	**5,155**	**8,202**

Liquid funds consists of deposits and cash in bank accounts amounting to EUR 4,544 million and commercial papers EUR 611 million. The average interest rate on deposits and securities excl. Russian deposits on 31 December 2016 was -0.01% (2015: 0.1%). Liquid funds held by OAO Fortum amounted to EUR 105 million (2015: 76) and the average interest rate for this portfolio was 9.0% at the balance sheet date.

Bank deposits include bank deposits held by OAO Fortum amounting to EUR 103 million (2015: 72). At the year-end 2016 OAO Fortum's deposits included EUR 1 million in euros and EUR 102 million in Russian roubles. The bank deposits in euros held by OAO Fortum are hedging future payments in euros.

Liquid funds totalling EUR 4,663 million (Dec 31 2015: 7,521) are placed with counterparties that have an investment grade rating. In addition, EUR 377 million (Dec 31 2015: 628) have been placed with counterparties separately reviewed and approved by the Group's credit control department.

For further information regarding credit risk management and credit risks, see ▸ *Counterparty risks* in the Operating and financial review and ▸ *Note 3.7* Credit risk.

26 Share capital

EUR million	2016 Number of shares	2016 Share capital	2015 Number of shares	2015 Share capital
Registered shares at 1 January	888,367,045	3,046	888,367,045	3,046
Registered shares at 31 December	888,367,045	3,046	888,367,045	3,046

Fortum Oyj has one class of shares. By the end of 2016, a total of 888,367,045 shares had been issued. Each share entitles the holder to one vote at the Annual General Meeting. All shares entitle holders to an equal dividend. At the end of 2016 Fortum Corporation's share capital, paid in its entirety and entered in the trade register, was EUR 3,046,185,953.00.

Fortum Corporation's shares are listed on Nasdaq Helsinki. The trading code is FUM1V (FORTUM as of 25 January 2017). Fortum Corporation's shares are in the Finnish book entry system maintained by Euroclear Finland Ltd.

Details on the President and CEO and other members of the Fortum Executive Management Team's shareholdings and interest in the equity incentive schemes is presented in ▸ *Note 11* Employee benefits.

26.1 Authorisations from the Annual General Meeting 2016

On 5 April 2016, the Annual General Meeting decided to authorise the Board of Directors to decide on the repurchase and disposal of the company's own shares up to a maximum number of 20,000,000 shares, which corresponds to approximately 2.25% of all the shares in the company. The authorisation is effective for a period of 18 months from the resolution of the General Meeting. The authorisation had not been used by the end of 2016.

26.2 Convertible bond loans and bonds with warrants

Fortum Corporation has not issued any convertible bonds or bonds with attached warrants, which would entitle the bearer to subscribe for Fortum shares. The Board of Directors of Fortum Corporation has no unused authorisations from the General Meeting of shareholders to issue convertible bond loans or bonds with warrants or increase the company's share capital.

27 Non-controlling interests

Principal non-controlling interests

EUR million		2016	2015
OAO Fortum Group	Russia	37	27
AS Fortum Tartu Group	Estonia	30	27
Other		17	16
BS Total		**84**	**69**

28 Interest-bearing liabilities

ACCOUNTING POLICIES

Borrowings are recognised initially at fair value less transaction costs incurred. In subsequent periods, they are stated at amortised cost; any difference between proceeds (net of transaction costs) and the redemption value is recognised as interest cost over the period of the borrowing using the effective interest method. Borrowings or portion of borrowings being hedged with a fair value hedge are recognised at fair value.

Net debt

EUR million	2016	2015
Interest-bearing liabilities	5,107	6,007
Liquid funds	5,155	8,202
Net debt	**-48**	**-2,195**

Net debt is calculated as interest-bearing liabilities less liquid funds without deducting interest-bearing receivables amounting to EUR 1,380 million (Dec 31 2015: 773). Interest-bearing receivables mainly consist of shareholder loans to partly owned nuclear companies regarded long-term financing. For more information see ▸ *Note 22* Interest-bearing receivables.

Interest-bearing debt

EUR million	2016	2015
Bonds	2,986	3,345
Loans from financial institutions	247	411
Reborrowing from the Finnish State Nuclear Waste Management Fund	1,094	1,074
Other long-term interest-bearing debt	140	135
BS Total long-term interest-bearing debt	**4,468**	**4,965**
Current portion of long-term bonds	343	750
Current portion of loans from financial institutions	145	78
Current portion of reborrowing from the Finnish State Nuclear Waste Management Fund	0	0
Current portion of other long-term interest-bearing debt	11	10
Other short-term interest-bearing debt	140	204
BS Total short-term interest bearing debt	**639**	**1,042**
Total interest-bearing debt	**5,107**	**6,007**

Interest-bearing debt

EUR million	Effective interest rate, %	Carrying amount 2016	Repricing			Fair value 2016	Carrying amount 2015	Fair value 2015
			Under 1 year	1–5 years	Over 5 years			
Bonds	3.2	3,329	762	1,391	1,177	3,609	4,094	4,375
Loans from financial institutions	2.8	393	331	62	0	425	490	531
Reborrowing from the Finnish State Nuclear Waste Management Fund	0.5	1,094	1,094	-	-	1,156	1,074	1,132
Other long-term interest-bearing debt [1]	2.3	151	151	-	-	157	145	155
Total long-term interest-bearing debt [2]	**2.5**	**4,967**	**2,337**	**1,452**	**1,177**	**5,348**	**5,803**	**6,193**
Other short-term interest-bearing debt	-0.3	140	140	-	-	140	204	204
Total short-term interest-bearing debt	**-0.3**	**140**	**140**	**-**	**-**	**140**	**204**	**204**
Total interest-bearing debt [3]	**2.5**	**5,107**	**2,477**	**1,452**	**1,177**	**5,488**	**6,007**	**6,397**

1) Includes loans from Finnish pension institutions EUR 58 million (2015: 68) and other loans EUR 93 million (2015: 77).

2) Including current portion of long-term debt.

3) The average interest rate on loans and derivatives on 31 December 2016 was 3.5% (2015: 3.7%).

The interest-bearing debt decreased in 2016 by EUR 900 million to EUR 5,107 million (2015: 6,007). The amount of short-term financing decreased with EUR 64 million, and at the end of the year the amount of short-term financing EUR 140 million (2015: 204) included 135 million (2015: 202) from Credit Support Annex agreements.

In March 2016 Fortum increased the amount of re-borrowing from the Finnish nuclear waste fund and Teollisuuden Voima by EUR 20 million to EUR 1,094 million. On June 16th, Fortum Corporation signed a new EUR 1,750 million syndicated Multicurrency Revolving Facility Agreement at the same time as the previous facility from year 2011 was cancelled. The new committed back-up facility can be used for general corporate purposes with initial maturity of five years and Fortum may request two one-year extension options. In June Fortum repaid a EUR 750 million bond.

The average interest rate for the portfolio consisting mainly of EUR and SEK loans was 2.1% at the balance sheet date (2015: 2.6%). Part of the external loans EUR 805 million (2015: 641) have been swapped to RUB and the average interest cost for these loans including cost for hedging the RUB was 11.4% at the balance sheet date (2015: 12.8%). The average interest rate on total loans and derivatives at the balance sheet date was 3.5% (2015: 3.7%).

For more information please see ▸ *Note 3* Financial risk management and ▸ *Note 37* Pledged assets and contingent liabilities.

28.1 Bond issues

Issued/Maturity	Interest basis	Interest rate, %	Effective interest, %	Currency	Nominal value million	Carrying amount EUR million
Fortum Oyj EUR 8,000 million EMTN Programme [1]						
2009/2017	Fixed	6.125	6.240	NOK	500	55
2009/2019	Fixed	6.000	6.095	EUR	750	748
2011/2021	Fixed	4.000	4.123	EUR	500	523
2012/2017	Floating	Stibor 3M+1.2		SEK	1,000	105
2012/2017	Fixed	3.250	3.260	SEK	1,750	183
2012/2022	Fixed	2.250	2.344	EUR	1,000	1,080
2013/2018	Fixed	2.750	2.855	SEK	1,150	120
2013/2018	Floating	Stibor 3M+1.0		SEK	3,000	314
2013/2023	Floating	Stibor 3M+1.13		SEK	1,000	105
2013/2043	Fixed	3.500	3.719	EUR	100	96
Total outstanding carrying amount 31 December 2016						**3,329**

1) EMTN = Euro Medium Term Note

29 Income taxes in balance sheet

ACCOUNTING POLICIES

The tax currently payable is based on taxable profit for the year. Taxable profit differs from profit as reported in the consolidated income statement, because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

Deferred tax is provided in full, using the liability method on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, if the deferred tax arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss, it is not accounted for. Deferred tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the closing date and are expected to apply when the related deferred tax asset is realised or the deferred tax liability is settled.

Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised. Deferred tax assets are set off against deferred tax liabilities if they relate to income taxes levied by the same taxation authority.

Deferred tax is provided on temporary differences arising from investments in subsidiaries, associates and joint ventures, except where the timing of the reversal of the temporary difference is controlled by the Group, and it is probable that the temporary difference will not be reversed in the foreseeable future.

The Group recognises liabilities for anticipated tax dispute issues based on estimates of whether additional taxes will be due. No provision will be recognised in the financial statements if Fortum considers the claims unjustifiable. Therefore, if taxes regarding ongoing tax disputes have to be paid before final court decisions, they will be booked as a receivable. Where the final outcome of these matters is different from the amounts that were initially recorded, such differences will impact the income tax and deferred tax provisions in the period in which such determination is made.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

ASSUMPTIONS AND ESTIMATES REGARDING FUTURE TAX CONSEQUENCES

Fortum has deferred tax assets and liabilities which are expected to be realised through the income statement over the extended periods of time in the future. In calculating the deferred tax items, Fortum is required to make certain assumptions and estimates regarding the future tax consequences attributable to differences between the carrying amounts of assets and liabilities as recorded in the financial statements and their tax basis.

Assumptions made include the expectation that future operating performance for subsidiaries will be consistent with historical levels of operating results, recoverability periods for tax loss carry-forwards will not change, and that existing tax laws and rates will remain unchanged into foreseeable future. Fortum believes that it has prudent assumptions in developing its deferred tax balances.

Assumptions and estimates regarding uncertain tax positions are supported by external legal counsel or expert opinion.

If the actual final outcome (regarding tax disputes) would differ negatively from management's estimates with 10%, the Group would need to increase the income tax liability by EUR 29 million as of 31 December 2016. For additional information regarding tax disputes, see ▸ *Note 38* Legal actions and official proceedings.

29.1 Deferred income taxes in the balance sheet

	2016			2015		
EUR million	1 Jan	Change	31 Dec	1 Jan	Change	31 Dec
BS Deferred tax assets	80	-14	66	98	-18	80
BS Deferred tax liabilities	-483	-133	-616	-1,159	676	-483
Net deferred taxes	**-404**	**-146**	**-550**	**-1,061**	**658**	**-404**

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes relate to the same fiscal authority.

Movement in deferred tax assets and liabilities 2016

EUR million	Property, plant and equipment	Pension obligations	Provisions	Derivative financial instruments	Tax losses and tax credits carry-forward	Other	Net deferred taxes
1 Jan 2016	-551	11	14	-42	146	18	-404
Charged to income statement	-9	2	-3	27	-49	-11	-42
Charged to other comprehensive income		2		49			51
Exchange rate differences, reclassifications and other changes	-40			2	3	-6	-40
Acquisitions and disposals	-118		9			-6	-115
31 Dec 2016	-717	14	20	36	100	-4	-550

Retained earnings when distributed as dividends are subject to withholding tax (Russia) or distribution tax (Estonia). Provision has been made for these taxes only to extent that it is expected that these earnings will be remitted in the foreseeable future. Deferred income tax liabilities of EUR 19 million (2015: 13) have been recognised for the withholding tax and other taxes that would be payable on the distributions.

Deferred tax assets and liabilities from acquisitions and disposals in 2016 are mainly related to acquisition of Ekokem and Duon and disposal of Tobolsk. In addition, legal entities, primarily in Russia and Sweden used a portion of the deferred tax asset relating to tax loss carry forwards.

Movement in deferred tax assets and liabilities 2015

EUR million	Property, plant and equipment	Pension obligations	Provisions	Derivative financial instruments	Tax losses and tax credits carry-forward	Other	Net deferred taxes
1 Jan 2015	-1,150	28	1	-40	70	30	-1,061
Charged to income statement	96	3	13	13	71	-12	184
Charged to other comprehensive income		-20		-13			-32
Exchange rate differences, reclassifications and other changes	7			2	4		13
Acquisitions and disposals	496			-5			491
31 Dec 2015	-551	11	14	-42	146	18	-404

Deferred tax assets and liabilities from acquisitions and disposals in 2015 relate to the sale of Swedish electricity distribution business. Also during 2015 Swedish entities released a major part of the deferred tax liability related to property, plant and equipment. Additionally, deferred tax asset was recognized for the taxable loss in Sweden, which was mainly due to the write-down related to early closure of O1 and O2 units in Oskarshamn.

Deferred income tax assets recognised for tax loss carry-forwards

Deferred income tax assets are recognised for tax loss carry-forward to the extent that realisation of the related tax benefit through future profits is probable. The recognised tax assets relate to losses carry-forward with no expiration date and partly with expiry date as described below.

	2016		2015	
EUR million	Tax losses	Deferred tax asset	Tax losses	Deferred tax asset
Losses without expiration date	352	79	470	97
Losses with expiration date	108	22	217	49
Total	**460**	**100**	**687**	**146**

Deferred tax assets of EUR 56 million (2015: 50) have not been recognised in the consolidated financial statements, because the realisation is not probable. The major part of the unrecognised tax asset relates to loss carry-forwards that are unlikely to be used in the foreseeable future.

Tax loss carry-forwards decreased in 2016 mainly because of the use of taxable losses in Sweden and in Russia.

29.2 Income tax receivables

	2016	2015
Sweden	124	0
Belgium	114	114
Other	52	11
Total Income tax receivables	**290**	**124**

Income tax receivables reflect payments of corporate income tax done in relation to the year 2016 as well as payments according to received tax audit assessments in relation to previous years.

Fortum has in previous years received income tax assessments in Sweden for the years 2009–2012. The additional taxes and interest for 2009–2012 have already been paid in June 2016, in total 1.175 MSEK (EUR 123 million) and based on supporting legal opinions booked as an income tax receivable.

In Belgium has Fortum also in previous years received income tax assessments for the years 2008–2011. The additional taxes have been paid during prior years, in total EUR 114 million and based on supporting legal opinions booked as an income tax receivable. Legal procedures in Finland concerning 2007–2011 transfer pricing audit have been closed to Fortum's benefit.

See ▸ *Note 38* Legal actions and official proceedings.

30 Nuclear related assets and liabilities

ACCOUNTING POLICIES

Fortum owns Loviisa nuclear power plant in Finland. In Fortum's consolidated balance sheet, Share in the State Nuclear Waste Management Fund and the Nuclear provisions relate to Loviisa nuclear power plant. Fortum's nuclear related provisions and the related part of the State Nuclear Waste Management Fund are both presented separately in the balance sheet. Fortum's share in the State Nuclear Waste Management Fund is accounted for according to IFRIC 5, Rights to interests arising from decommissioning, restoration and environmental rehabilitation funds which states that the fund assets are measured at the lower of fair value or the value of the related liabilities since Fortum does not have control or joint control over the State Nuclear Waste Management Fund. The Nuclear Waste Management Fund is managed by governmental authorities. The related provisions are the provision for decommissioning and the provision for disposal of spent fuel.

The fair values of the provisions are calculated according to IAS 37 by discounting the separate future cash flows, which are based on estimated future costs and actions already taken. The initial net present value of the provision for decommissioning (at the time of commissioning the nuclear power plant) has been included in the investment cost and is depreciated over the estimated operating time of the nuclear power plant. Changes in the technical plans etc., which have an impact on the future cash flow of the estimated costs for decommissioning, are accounted for by discounting the additional costs to the current point in time. The increased asset retirement cost due to the increased provision is added to property, plant and equipment and depreciated over the remaining estimated operating time of the nuclear power plant. For power plant units taken from use the increase is taken to income statement.

The provision for spent fuel covers the future disposal costs for fuel used until the end of the accounting period. Costs for disposal of spent fuel are expensed during the operating time based on fuel usage. The impact of the possible changes in the estimated future cash flow for related costs is recognised immediately in the income statement based on the accumulated amount of fuel used until the end of the accounting period. The related interest costs due to unwinding of the provision, for the period during which the spent fuel provision has been accumulated and present point in time, are also recognised immediately in the income statement.

The timing factor is taken into account by recognising the interest expense related to discounting the nuclear provisions. The interest on the State Nuclear Waste Management Fund assets is presented as financial income.

Fortum's actual share of the State Nuclear Waste Management Fund, related to Loviisa nuclear power plant, is higher than the carrying value of the Fund in the balance sheet. The legal nuclear liability should,

according to the Finnish Nuclear Energy Act, be fully covered by payments and guarantees to the State Nuclear Waste Management Fund. The legal liability is not discounted while the provisions are, and since the future cash flow is spread over 100 years, the difference between the legal liability and the provisions are material.

The annual fee to the Fund is based on changes in the legal liability, the interest income generated in the State Nuclear Waste Management Fund and incurred costs of taken actions.

Fortum also has minority interests in nuclear power companies, i.e. Teollisuuden Voima Oyj (TVO) in Finland and OKG Aktiebolag (OKG) and Forsmarks Kraftgrupp AB (Forsmark) in Sweden. The minority shareholdings are classified as associated companies and joint ventures and are consolidated with equity method. Both the Finnish and the Swedish companies are non-profit making, i.e. electricity production is invoiced to the owners at cost including depreciations, interest costs and production taxes accounted for according to local GAAP. Accounting policies of the associates regarding nuclear assets and liabilities have been changed where necessary to ensure consistency with the policies adopted by the Group.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

ASSUMPTIONS MADE WHEN ESTIMATING PROVISIONS RELATED TO NUCLEAR PRODUCTION

The provision for future obligations for nuclear waste management including decommissioning of Fortum's nuclear power plant and related spent fuel is based on long-term cash flow forecasts of estimated future costs. The main assumptions are technical plans, timing, cost estimates and discount rate. The technical plans, timing and cost estimates are approved by governmental authorities.

Any changes in the assumed discount rate would affect the provision. If the discount rate used would be lowered, the provision would increase. Fortum has contributed cash to the State Nuclear Waste Management Fund based on a non-discounted legal liability, which leads to that the increase in provision would be offset by an increase in the recorded share of Fortum's part of the State Nuclear Waste Management Fund in the balance sheet. The total effect on the income statement would be positive since the decommissioning part of the provision is treated as an asset retirement obligation. This situation will prevail as long as the legal obligation to contribute cash to the State Nuclear Waste Management Fund is based on a non-discounted liability and IFRS is limiting the carrying value of the assets to the amount of the provision since Fortum does not have control or joint control over the fund.

Based on the Nuclear Energy Act in Finland, Fortum has a legal obligation to fully fund the legal liability decided by the governmental authorities, for decommissioning of the power plant and disposal of spent fuel through the State Nuclear Waste Management Fund.

Both in Finland and in Sweden nuclear operators are legally obligated for the decommissioning of the plants and the disposal of spent fuel (nuclear waste management). In both countries the nuclear operators are obligated to secure the funding of nuclear waste management by paying to government operated nuclear waste funds. The nuclear operators also have to give securities to guarantee that sufficient funds exist to cover future expenses of decommissioning of the power plant and disposal of spent fuel.

30.1 Nuclear related assets and liabilities for 100% owned nuclear power plant, Loviisa

EUR million	2016	2015
Carrying values in the balance sheet		
BS Nuclear provisions	830	810
BS Fortum's share of the State Nuclear Waste Management Fund	830	810
Legal liability and actual share of the State Nuclear Waste Management Fund		
Liability for nuclear waste management according to the Nuclear Energy Act	1,141	1,094
Funding obligation target	1,125	1,094
Fortum's share of the State Nuclear Waste Management Fund	1,094	1,083
Share of the fund not recognised in the balance sheet	264	273

Legal liability for Loviisa nuclear power plant

The legal liability on 31 December 2016, decided by the Ministry of Economic Affairs and Employment in December 2016, was EUR 1,141 million.

The legal liability is based on a cost estimate, which is done every year, and a technical plan, which is made every third year. The current technical plan was updated in 2016. Following the update of the technical plan in 2016, the liability increased due to updated cost estimates related to interim and final storage of spent fuel. The legal liability is determined by assuming that the decommissioning would start at the beginning of the year following the assessment year.

Fortum's share in the State Nuclear Waste Management Fund

According to Nuclear Energy Act, Fortum is obligated to contribute funds in full to the State Nuclear Waste Management Fund to cover the legal liability. Fortum contributes funds to the Finnish State Nuclear Waste Management Fund based on the yearly funding obligation target decided by the governmental authorities in December in connection with the decision of size of the legal liability. The current funding obligation target decided in December 2016 is EUR 1,125 million.

Nuclear provisions

EUR million	2016	2015
BS **1 January**	**810**	**774**
Additional provisions	6	10
Used during the year	-20	-18
Unwinding of discount	34	44
BS **31 December**	**830**	**810**
Fortum's share in the State Nuclear Waste Management Fund	830	810

Nuclear provision and fund accounted according to IFRS

Nuclear provisions include the provision for decommissioning and the provision for disposal of spent fuel. The carrying value of the nuclear provisions, calculated according to IAS 37, increased by EUR 20 million compared to 31 December 2015, totalling EUR 830 million on 31 December 2016. The provisions are based on the same cash flows for future costs as the legal liability, but the legal liability is not discounted to net present value.

The carrying value of the Fund in the balance sheet cannot exceed the carrying value of the nuclear provisions according to IFRIC Interpretation 5. The Fund is from an IFRS perspective overfunded with EUR 264 million, since Fortum's share of the Fund on 31 December 2016 was EUR 1,094 million and the carrying value in the balance sheet was EUR 830 million.

Fortum's share of the Finnish Nuclear Waste Management Fund in Fortum's balance sheet can in maximum be equal to the amount of the provisions according to IFRS. As long as the Fund is overfunded from an IFRS perspective, the effects to operating profit from this adjustment will be positive if the provisions increase more than the Fund and negative if actual value of the fund increases more than the provisions. This accounting effect is not included in Comparable operating profit in Fortum financial reporting. For more information see ▸ *Note 6* Items affecting comparability.

Borrowing from the State Nuclear Waste Management Fund

Participants in the Finnish State Nuclear Waste Management Fund are allowed to borrow from the fund according to certain rules. Fortum uses the right to borrow back and has pledged shares in Kemijoki Oy as security for the loans. The loans are renewed yearly. See ▸ *Note 28* Interest-bearing liabilities and ▸ *Note 37* Pledged assets and contingent liabilities.

30.2 Nuclear power plants in associated companies and joint ventures

OKG, Forsmark and TVO are non-profit making companies, i.e. electricity production is invoiced to the owners at cost including depreciations, interest costs and production taxes. Invoiced cost is accounted for according to local GAAP. In addition to the invoiced electricity production cost, Fortum makes IFRS adjustments to comply with Fortum's accounting principles. These adjustments include also Fortum's share of the companies' nuclear waste funds and nuclear provisions.

The tables below present the 100% figures relating to nuclear funds and provisions for the companies as well as Fortum's net share.

TVO's total nuclear related assets and liabilities (100%)

EUR million	2016	2015
Carrying values in TVO's balance sheet		
Nuclear provisions	955	971
Share of the State Nuclear Waste Management Fund	955	971
of which Fortum's net share consolidated with equity method	**0**	**0**
TVO's legal liability and actual share of the State Nuclear Waste Management Fund		
Liability for nuclear waste management according to the Nuclear Energy Act	1,450	1,369
Share of the State Nuclear Waste Management Fund	1,380	1,358
Share of the fund not recognised in the balance sheet	425	387

TVO's legal liability and contribution to the fund are based on same principles as described above for Loviisa nuclear power plant.

TVO's share of the Finnish State Nuclear Waste Management Fund is from an IFRS perspective overfunded with EUR 425 million (of which Fortum's share EUR 113 million), since TVO's share of the Fund on 31 December 2016 was EUR 1,380 million and the carrying value in the balance sheet was EUR 955 million.

Participants in the Finnish State Nuclear Waste Management Fund are allowed to borrow from the fund according to certain rules. Fortum is using the right to reborrow funds through TVO based on its ownership. See more information in ▸ *Note 28* Interest-bearing liabilities.

OKG's and Forsmark's total nuclear related assets and liabilities (100%)

EUR million	2016	2015
OKG's and Forsmark's nuclear related assets and liabilities [1]		
Nuclear provisions	3,297	3,210
Share in the State Nuclear Waste Management Fund	3,068	3,025
Net amount	**-229**	**-185**
of which Fortum's net share consolidated with equity method	**-106**	**-71**

1) Accounted for according to Fortum's accounting principles. Companies' statutory financial statements are not prepared according to IFRS.

In Sweden Svensk Kärnbränslehantering AB (SKB), a company owned by the nuclear operators, takes care of all nuclear waste management related activities on behalf of nuclear operators. SKB receives its funding from the Swedish State Nuclear Waste Management Fund, which in turn is financed by the nuclear operators.

In addition to nuclear waste fees nuclear power companies provide guarantees for any uncovered liability and unexpected events.

For more information regarding Fortum's guarantees given on behalf of nuclear associated companies, see ▸ *Note 37* Pledged assets and contingent liabilities.

Nuclear waste fees and guarantees are updated every third year by governmental decision after a proposal from Swedish Radiation Safety Authority (SSM). The proposal is based on cost estimates done by SKB. Currently the fees and guarantees are decided for years 2015–2017. A new technical plan for nuclear waste management has been decided by SKB during 2016. During 2017 SKB will submit the cost estimates based on the revised technical plan to SSM, after which the Swedish government will decide the waste fees and guarantees for years 2018–2020. Nuclear waste fees are currently based on future costs with the assumed lifetime of 40 years for each unit of a nuclear power plant.

31 Other provisions

ACCOUNTING POLICIES

Provisions for environmental obligations, asset retirement obligations, restructuring costs and legal claims are recognised when the Group has a present legal or constructive obligation as a result of past events to a third party, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated.

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation using a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to the passage of time is recognised as interest expense.

ENVIRONMENTAL PROVISIONS

Environmental provisions are recognised, based on current interpretation of environmental laws and regulations, when it is probable that a present obligation has arisen and the amount of such liability can be reliably estimated. Environmental expenditures resulting from the remediation of an existing condition caused by past operations, and which do contribute to current or future revenues, are expensed as incurred.

Environmental provisions include provisions for obligations to cover landfills and clean-up obligations for contaminated land areas. Provisions are determined based on the surface area of the landfill site, remaining land area to be landscaped or otherwise cleaned-up, and the unit cost of conducting the coverage and clean-up activities in the future.

Environmental provisions are also booked for aftercare and monitoring obligations arising from landfill permit holder's requirement to take into account potential danger to health or the environment posed by a landfill site for a period of at least 30 (up to 60) years after the coverage. The aftercare and monitoring provision is determined on the basis of estimated costs and estimated number of years of filling the landfill.

ASSET RETIREMENT OBLIGATIONS

Asset retirement obligation is recognised either when there is a contractual obligation towards a third party or a legal obligation and the obligation amount can be estimated reliably. Obligating event is e.g. when a plant is built on a leased land with an obligation to dismantle and remove the asset in the future or when a legal obligation towards Fortum changes. The asset retirement obligation is recognised as part of the cost of an item of property, plant and equipment when the asset is put in service. The costs will be depreciated over the remainder of the asset's useful life.

RESTRUCTURING PROVISIONS

A restructuring provision is recognised when the Group has developed a detailed formal plan for the restructuring and has raised a valid expectation in those affected that it will carry out the restructuring by starting to implement the plan or announcing its main features to those affected by it. The measurement of a restructuring provision includes only the direct expenditures arising from the restructuring, which are those amounts that are both necessarily entailed by the restructuring and not associated with the ongoing activities of the entity. Restructuring provisions comprise mainly employee termination payments and lease termination costs.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

ASSUMPTIONS MADE WHEN ESTIMATING PROVISIONS

Provisions for present obligations require management to assess the best estimate of the expenditure needed to settle the present obligation at the end of the reporting period. The actual amount and timing of the expenditure might differ from estimates made.

EUR million	2016 CSA pro-vision	2016 Environ-mental	2016 Other	2016 Total	2015 CSA pro-vision	2015 Environ-mental	2015 Other	2015 Total
1 January	**8**	**2**	**89**	**98**	**56**	**2**	**24**	**82**
Acquisitions	0	44	4	48	0	0	0	0
Provisions for the period	0	1	14	15	0	1	83	84
Provisions used	-7	0	-18	-25	0	-1	-15	-16
Provisions reversed	-2	0	-7	-9	-50	0	-3	-53
Unwinding of discount	0	0	0	0	1	0	0	1
Exchange rate differences	1	0	1	2	1	0	0	1
31 December	**0**	**47**	**82**	**129**	**8**	**2**	**89**	**98**
Of which current provisions [1)]	0	1	11	13	8	0	9	17
BS Of which non-current provisions	0	46	70	116	0	2	79	81

1) Included in trade and other payables in the balance sheet, see ▸ *Note 34*.

Fortum's investment programme in Russia was completed in Q1 2016 when Chelyabinsk GRES 2 unit started its commercial operation and there was no provision for CSA penalties at the end of 2016. Paid penalties for Chelyabinsk GRES unit 1 and 2 during 2016 amounted to EUR 7 million and the remaining provision of EUR 2 million was reversed to the income statement.

Environmental provisions include mainly provisions for obligations to cover and monitor landfills as well as to clean contaminated land areas. Main part of the provisions are estimated to be used within 10–15 years.

The increase in environmental provisions in 2016 is mainly arising from the acquisition of Ekokem (see ▸ *Note 40* Acquisitions and disposals). The increase in other provisions during 2015 arises mainly from a dismantling provision for the Finnish coal-fired power plant Inkoo.

Regarding provisions for decommissioning and provision for disposal of spent fuel for nuclear production, see ▸ *Note 30* Nuclear related assets and liabilities.

32 Pension obligations

ACCOUNTING POLICIES

The Group companies have various pension schemes in accordance with the local conditions and practises in the countries in which they operate. The schemes are generally funded through payments to insurance companies or the Group's pension funds as determined by periodic actuarial calculations. The Group has both defined benefit and defined contribution plans.

The Group's contributions to defined contribution plans are charged to the income statement in the period to which the contributions relate.

For defined benefit plans, pension costs are assessed using the projected unit credit method. The cost of providing pensions is charged to the income statement as to spread the service cost over the service lives of employees. The net interest is presented in financial items and the rest of the income statement effect as pension cost.

The defined benefit obligation is calculated annually on the balance sheet date and is measured as the present value of the estimated future cash flows using interest rates of high-quality corporate bonds that have terms to maturity approximating to the terms of the related pension liability. In countries where there is no deep market in such bonds, market yields on government bonds are used instead. The plan assets for pensions are valued at market value. The liability recognised in the balance sheet is the defined benefit obligation at the closing date less the fair value of plan assets. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in the future payments is available.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss related to a curtailment is recognised immediately in profit or loss. Gains or losses on settlements of defined benefits plans are recognised when the settlement occurs.

CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

ASSUMPTIONS USED TO DETERMINE FUTURE PENSION OBLIGATIONS

The present value of the pension obligations is based on actuarial calculations that use several assumptions. Any changes in these assumptions will impact the carrying amount of pension obligations.

Fortum's pension arrangements

Finland

In Finland the most significant pension plan is the Finnish Statutory Employment Pension Scheme (TyEL) in which benefits are directly linked to employees' earnings. These pensions are funded in insurance companies and treated as defined contribution plans. The benefits provided under TyEL are old age pensions, disability pensions, unemployment pensions and survivors' pensions. Certain Fortum employees in Finland have an additional pension coverage, certain level of benefit promised after retirement, through the company's own pension fund (Fortum Pension Fund) or through insurance companies. The additional pensions through insurance companies provide old age pension and funeral grant and Fortum Pension Fund is providing old age pension, early old age benefit, disability pension, survivors' pension and funeral grant.

The Fortum Pension Fund is a closed fund managed by a Board, consisting of both employers' and employees' representatives. The Fund is operating under regulation from Financial Supervisory Authority (FSA). The liability has to be fully covered according to the regulations. The national benefit obligation related to the defined benefit plans is calculated so that the promised benefit is fully funded until retirement. After retirement the benefits payable are indexed yearly with TyEL-index. The promised benefit is defined in the rules of the Fund, mostly 66% at a maximum of the salary basis. The salary basis is an average of the ten last years' salaries, which are indexed with a common salary index to the accounting year.

Sweden

In Sweden the Group operates several defined benefit and defined contribution plans like the general ITP-pension plan and the PA-KL and PA-KFS plans that are eligible for employees within companies formerly owned by municipalities. The defined benefit plans are fully funded and have partly been financed through Fortum's own pension fund and partly through insurance premiums. The pension arrangements comprise normal retirement pension, complementary retirement pensions, survivors' pension and disability pension. The most significant pension plan is the ITP-plan for white-collar employees in permanent employment (or temporary employees after a certain waiting period), who fulfil the age conditions. To qualify for a full pension the employee must have a projected period of pensionable service, from the date of entry until retirement age, of at least 30 years.

The Swedish pension fund is managed by a Board, consisting of both employers' and employees' representatives. The fund is operating under regulation from Swedish Financial Supervisory Authority and the County Administrative Board and governed by Swedish law (no. 1967:531). The fund constitutes a security for the employers' defined benefit pension plan liability and the fund has no obligations in relation to pension payments. The employer must have a credit insurance from PRI Pensionsgaranti Mutual Insurance Company for the liability. The liability does not have to be fully covered by the fund according to the regulations.

The part of the ITP multiemployer pension plan that is secured by paying pension premiums to Alecta, in Fortum's case the collective family pension, is accounted for as a defined contribution plan due to that there is no consistent and reliable basis to allocate assets or liabilities to the participating entities within the ITP insurance. The reason for this is that it is not possible to determine from the terms of the plan to which extent a surplus or a deficit will affect future contributions.

Pension arrangements in other countries

Pension arrangements in Russia include payments made to the state pension fund. These arrangements are treated as defined contribution plans. The Russian (in addition to the defined contribution plans) and Polish companies participate in certain defined benefit plans, defined by collective agreements, which are unfunded and where the company meets the benefit payment obligation as it falls due. The benefits provided under these arrangements include, in addition to pension payments, one-time benefits paid in case of employee mortality or disability as well as lump sum payments for anniversary and financial support to honoured workers and pensioners.

The Norwegian companies are part of schemes that are common for municipalities in Norway. These are defined benefit pension plans and provide old age pensions, disability pension and survivor's pension, including pension benefits from the National Insurance Scheme (Folketrygden). The schemes are fully funded within the rules set out in the Norwegian insurance legislation.

In other countries the pension arrangements are done in accordance with the local legislation and practice, mostly being defined contribution plans.

Main risks relating to defined benefit plans – Sweden and Finland

Overall risks

Finland - If the return of the fund's assets is not enough to cover the raise in liability and benefit payments over the financial year then the employer funds the deficit with contributions unless the fund has sufficient equity.

Sweden - As the pension fund is separated from the funding companies Fortum is not obliged to make additional contributions to the pension fund in any case of deficit. However if the assets decrease to a level lower than the liability according to Swedish GAAP, Fortum's credit insurance cost from PRI will increase.

Change in discount rate

Finland - The discount rate which is used to calculate the defined benefit obligation (according to IFRS) depends on the value of corporate bond yields as at reporting date. A decrease in yields increases the benefit obligation that is offset by increase in the value of fixed income holdings.

Sweden - The discount rate which is used to calculate the defined benefit obligation (according to IFRS) is derived from market rates on Swedish covered bonds with an equivalent duration to the pension obligation, and the company therefore has a risk in the development of the bond market. Should the market rates decrease then the liability increases.

Investment and volatility risk

Finland - The pension fund's board accepts yearly an Investment Plan, which is based on an external asset-liability analysis. The assets are allocated to stocks and stock funds, fixed income instruments and real estate. The investments are diversified into different asset classes and to different asset managers taking into account the regulation of the Financial Supervisory Authority. The real estate investments consist mainly of the Fortum headquarters, rented by Fortum Oyj.

Sweden - The pension fund operation is regulated by law and supervised by central administrative authorities (Finansinspektionen and the County Administrative Board). The pension fund board decides yearly on a policy for asset allocation and a risk management model that stipulates a maximum acceptable market value decrease of the assets. The major assets are fixed income instruments, stock index funds and cash.

Risks relating to assumptions used

Actuarial calculations use assumptions for future inflation and salary levels and longevity. Should the actual outcome differ from these assumptions, this might lead to higher liability.

Movement in the net defined benefit liability

	Defined benefit obligation		Fair value of plan assets		Net defined benefit asset(-)/ liability(+)	
EUR million	2016	2015	2016	2015	2016	2015
Balance at 1 January	**448**	**540**	**-384**	**-400**	**64**	**140**
Included in profit or loss						
Current service cost	8	9	0	0	9	9
Past service cost [1]	-4	-5	0	2	-4	-3
Settlements	-6	-3	5	2	-1	-1
Net interest [2]	11	9	-9	-6	2	3
	9	**10**	**-3**	**-3**	**6**	**7**
Included in OCI						
Remeasurement gains(-)/losses(+)	15	-65	-5	-14	10	-79
Actuarial gains/losses arising from changes in demographic assumptions [3]	0	7			0	7
Actuarial gains/losses arising from changes in financial assumptions	28	-65			28	-65
Actuarial gains/losses arising from experience adjustments	-12	-7			-12	-7
Return on plan assets (excluding amounts included in net interest expense)			-5	-14	-5	-14
Exchange rate differences	-4	3	4	-3	0	0
	11	**-63**	**-1**	**-16**	**10**	**-79**
Other						
Contributions paid by the employer			-1	-2	-1	-2
Benefits paid	-16	-16	12	13	-4	-3
Disposals of subsidiary companies	0	-23	0	23	0	0
Balance at 31 December	**452**	**448**	**-378**	**-384**	**74**	**64**
Present value of funded defined obligation					447	444
Fair value of plan assets					-378	-384
Funded status					**70**	**60**
Present value of unfunded obligation [4]					5	4
Net liability arising from defined benefit obligation					**74**	**64**
Pension assets included in other non-current assets in the balance sheet					1	1
BS Pension obligations in the balance sheet					76	65

1) In 2016 including EUR -6 million from the pension reform in Finland.

2) Net interest is presented among financial items in income statement, the rest of costs related to defined benefit plans are included in staff costs (row defined benefits plans in the staff cost specification in ▸ *Note 11* Employee benefits).

3) The mortality rates for Finland and Sweden used in the calculations were changed for year 2015.

4) The unfunded obligation relates to arrangements in Russia and Poland.

At the end of 2016 a total of 864 (2015: 1,103) Fortum employees are included in defined benefit plans providing pension benefits. During 2016 pensions or related benefits were paid to a total of 2,865 (2015: 2,855) persons.

Contributions expected to be paid during year 2017 are EUR 1 million.

Fair value of plan assets

EUR million	2016	2015
Equity instruments	120	124
Debt instruments	140	136
Cash and cash equivalents	26	33
Real estate, of which EUR 66 million (2015: 65) occupied by the Group	69	68
Company's own ordinary shares	4	4
Other assets	19	18
Total	**378**	**384**

When the pension plan has been financed through an insurance company, a specification of the plan assets has not been available. In these cases the fair value of plan assets has been included in other assets.

The actual return on plan assets in Finland and Sweden totalled EUR 14 million (2015: 20).

Amounts recognised in the balance sheet by country 2016

EUR million	Finland	Sweden	Other countries	Total
Present value of funded obligations	308	130	9	447
Fair value of plan assets	-262	-110	-6	-378
Deficit(+)/surplus(-)	**46**	**20**	**3**	**70**
Present value of unfunded obligations			5	5
Net asset(-)/liability(+) in the balance sheet	**46**	**20**	**8**	**74**
Pension asset included in non-current assets	0	1	1	1
BS Pension obligations in the balance sheet	46	21	9	76

Amounts recognised in the balance sheet by country 2015

EUR million	Finland	Sweden	Other countries	Total
Present value of funded obligations	302	134	8	444
Fair value of plan assets	-265	-114	-5	-384
Deficit(+)/surplus(-)	**37**	**20**	**3**	**60**
Present value of unfunded obligations			4	4
Net asset(-)/liability(+) in the balance sheet	**37**	**20**	**7**	**64**
Pension asset included in non-current assets	0	0	1	1
BS Pension obligations in the balance sheet	37	20	7	65

The principal actuarial assumptions used

%	2016		2015	
	Finland	Sweden	Finland	Sweden
Discount rate	1.50	2.80	2.07	3.30
Future salary increases	1.90	3.00	2.20	3.00
Future pension increases	2.00	1.70	2.10	2.00
Rate of inflation	1.70	1.70	2.00	2.00

The discount rate in Finland is based on high quality European corporate bonds with maturity that best reflects the estimated term of the defined benefit pension plans. The discount rate in Sweden is based on yields on Swedish covered bonds with maturity that best reflects the estimated term of the defined benefit pension plans. The covered bonds in Sweden are considered high quality bonds as they are secured with assets.

The basis for the inflation rate assumption in Finland and Sweden has been changed. Until year 2015 the European Central Bank long term inflation target was used, but from year 2016 onwards a market based inflation assumption with a maturity that reflects the estimated term of the defined benefit pension plans have been used in the calculations.

The life expectancy is the expected number of years of life remaining at a given age

Longevity at age 65	Finland	Sweden
45 – male	22.0	23.4
45 – female	27.0	25.3
65 – male	21.4	21.7
65 – female	25.4	24.2

The discount, inflation and salary growth rates used are the key assumptions used when calculating defined benefit obligations. Effects of 0.5 percentage point change in the rates to the defined benefit obligation on 31 December 2016, holding all other assumptions stable, are presented in the table below.

Sensitivity of defined benefit obligation to changes in assumptions

	Impact to the pension obligation increase(+)/decrease(-)	
Change in the assumption	Finland	Sweden
0.5% increase in discount rate	-7%	-10%
0.5% decrease in discount rate	8%	11%
0.5% increase in benefit	7%	10%
0.5% decrease in benefit	-6%	-8%
0.5% increase in salary growth rate	1%	3%
0.5% decrease in salary growth rate	-1%	-3%

The methods used in preparing the sensitivity analysis did not change compared to the previous period. Change in mortality basis so that life expectancy increases by one year would increase the net liability in Finland and Sweden with EUR 17 million (25.8%).

Maturity profile of the undiscounted defined benefit obligation for Finland and Sweden as of 31 December 2016

EUR million	Future benefit payments
Maturity under 1 year	16
Maturity between 1 and 5 years	68
Maturity between 5 and 10 years	87
Maturity between 10 and 20 years	161
Maturity between 20 and 30 years	124
Maturity over 30 years	93

The weighted average duration of defined benefit obligation in Finland and Sweden at the end of year 2016 is 15.9 years.

33 Other non-current liabilities

EUR million	2016	2015
Connection fees	109	109
Other liabilities	70	58
BS Total	**179**	**168**

Connection fees are refundable connection fees to the district heating network in Finland.

34 Trade and other payables

EUR million	2016	2015
Trade payables	323	249
Accrued expenses and deferred income		
Accrued personnel expenses	61	63
Accrued interest expenses	132	175
Other accrued expenses and deferred income	130	77
Other liabilities		
VAT-liability	43	22
Current tax liability	20	20
Energy taxes	14	13
Advances received	19	18
Current provisions [1)]	13	17
Other liabilities	86	227
BS Total	**841**	**879**

1) See also ▸ *Note 31* Other provisions.

The management considers that the amount of trade and other payables approximates fair value.

35 Lease commitments

ACCOUNTING POLICIES

OPERATING LEASES

Leases of property, plant and equipment, where the Group does not have substantially all of the risks and rewards of ownership are classified as operating leases. Payments made under operating leases are recognised in the income statement as costs on a straight-line basis over the lease term.

Payments received under operating leases where the Group leases out fixed assets are recognised as other income in the income statement.

FINANCE LEASES

Leases of property, plant and equipment, where the Group has substantially all the risks and rewards of ownership, are classified as finance leases. Finance leases are capitalised at the commencement of the lease term at the lower of the fair value of the leased property and the present value of the minimum lease payments determined at the inception of the lease.

36.1 Leases as a lessor

Operating leases

The operating rental income recognised in income statement was EUR 5 million (2015: 3).

Finance leases

Fortum does not have material finance lease arrangements where the Group is acting as a lessor.

36.2 Leases as lessee

Operating leases

Fortum leases office equipment and cars under various non-cancellable operating leases, some of which contain renewal options. The future costs for non-cancellable operating lease contracts are stated below. Lease rental expenses amounting to EUR 15 million (2015: 13) are included in the income statement in other expenses. Future minimum lease payments include land leases with long lease periods.

Future minimum lease payments on operating leases

EUR million	2016	2015
Not later than 1 year	16	14
Later than 1 year and not later than 5 years	31	23
Later than 5 years	27	24
Total	**74**	**60**

Finance leases

Fortum does not have material finance lease arrangements where the Group is acting as a lessee.

36 Capital commitments

EUR million	2016	2015
Property, plant and equipment	467	426
Intangible assets	0	2
Total	**467**	**428**

Capital commitments are capital expenditures contracted for at the balance sheet date but not recognised in the financial statements. Increase in capital commitments compared to previous year comes mainly from new investments in solar power plants in India. The increase is partly offset by progressing of the automation investment in Loviisa nuclear power plant and finalisation of the OAO Fortum investment programme in Russia.

In addition Fortum has committed to provide a maximum of EUR 100 million (2015: 107) to Voimaosakeyhtiö SF, for its participation in the Fennovoima nuclear power project in Finland.

For more information regarding capital expenditure, see ▸ *Note 19* Property, plant and equipment.

37 Pledged assets and contingent liabilities

ACCOUNTING POLICIES

CONTINGENT LIABILITIES

A contingent liability is disclosed when there is a possible obligation that arises from past events and whose existence is only confirmed by one or more doubtful future events or when there is an obligation that is not recognised as a liability or provision because it is not probable that an outflow of resources will be required or the amount of the obligation cannot be reliably estimated.

EUR million	2016	2015
Pledged assets on own behalf		
For debt		
Pledges	291	294
Real estate mortages	137	137
For other commitments		
Pledges	379	0
Real estate mortages	99	118
Contingent liabilities on own behalf		
Other contingent liabilities	205	192
On behalf of associated companies and joint ventures		
Guarantees	603	624

37.1 Pledged assets for debt

Finnish participants in the State Nuclear Waste Management Fund are allowed to borrow from the fund. Fortum has pledged shares in Kemijoki Oy as a security. The value of the pledged shares is unchanged, EUR 269 million on 31 December 2016 (2015: 269).

Fortum Tartu in Estonia (60% owned by Fortum) has given real estate mortgages for a value of EUR 96 million (2015: 96) as a security for an external loan. Real estate mortgages have also been given for loan from Fortum's pension fund for EUR 41 million (2015: 41).

Regarding the relevant interest-bearing liabilities, see ▸ *Note 28* Interest-bearing liabilities.

37.2 Pledged assets for other commitments

Pledges also include restricted cash given as trading collateral of EUR 345 million (2015: 6) for trading of electricity and CO_2 emission allowances in Nasdaq Commodities Europe, in Intercontinental Exchange (ICE), European Energy Exchange (EEX) and Polish Power Exchange (TGE) and EUR 21 million (Dec 31 2015: 0) for windfarm construction in Russia. See also ▸ *Note 22* Interest-bearing receivables.

Fortum has given real estate mortgages in power plants in Finland, total value of EUR 99 million in December 2016 (Dec 31 2015: 118), as a security to the Finnish State Nuclear Waste Management Fund for the uncovered part of the legal liability and unexpected events relating to future costs for decommissioning and disposal of spent fuel in Loviisa nuclear power plant. According to the Nuclear Energy Act, Fortum is obligated to contribute the funds in full to the State Nuclear Waste Management Fund to cover the legal liability. Any uncovered legal liability relates to periodising of the payments to the fund, see more information in ▸ *Note 30* Nuclear related assets and liabilities. The size of the securities given is updated yearly in Q2 based on the decisions regarding the legal liabilities and the funding target which take place around year-end every year. Due to the yearly update, the amount of real estate mortgages given as a security decreased by EUR 19 million.

See also ▸ *Note 30* Nuclear related assets and liabilities.

37.3 Contingencies on own behalf

Fortum owns the coal condensing power plant Meri-Pori in Finland. Teollisuuden Voima Oyj (TVO) has the contractual right to participate in the plant with 45.45%. Based on the participation agreement Fortum has to give a guarantee to TVO against breach in contract. The amount of the guarantee is set to EUR 125 million (2015: 125).

37.4 Contingencies on behalf of associated companies

Guarantees and other contingent liabilities on behalf of associated companies and joint ventures mainly consist of guarantees relating to Fortum's associated nuclear companies Teollisuuden Voima Oyj (TVO), Forsmarks Kraftgrupp AB (FKA) and OKG AB (OKG). The guarantees are given in proportion to Fortum's respective ownership in each of these companies.

According to law, nuclear companies operating in Finland and Sweden shall give securities to the Finnish State Nuclear Waste Management Fund and the Swedish Nuclear Waste Fund respectively, to guarantee that sufficient funds exist to cover future expenses of decommissioning of the power plant and disposal of spent fuel. In Finland, Fortum has given a guarantee on behalf of TVO to the Finnish State Nuclear Waste Management Fund to cover Fortum's part of TVO's uncovered part of the legal liability and for unexpected events. The amount of guarantees is updated every year in June based on the legal liability decided in December the previous year. Due to the yearly update, the amount of guarantees given were EUR 38 million (2015: 37). The guarantee covers the unpaid legal liability due to periodisation as well as risks for unexpected future costs.

In Sweden, Fortum has given guarantees on behalf of FKA and OKG to the Swedish Nuclear Waste Fund to cover Fortum's part of FKA's and OKG's liability. Guarantees for the period of 2015–2017 has been given on behalf of Forsmarks Kraftgrupp AB and OKG AB amounting to SEK 5,393 million (EUR 565 million) at 31 December 2016 (Dec 31 2015: EUR 587 million). There are two types of guarantees given on behalf of Forsmark Kraftgrupp AB and OKG AB. The Financing Amount is given to compensate for the current deficit in the Nuclear Waste Fund, assuming that no further nuclear waste fees are paid in. This deficit is calculated as the difference between the expected costs and the funds to cover these costs at the time of the calculation. The Supplementary Amount constitutes a guarantee for deficits that can arise as a result of unplanned events. The Financing Amount given by Fortum on behalf of Forsmark Kraftgrupp AB and OKG AB was SEK 3,843 million (EUR 402 million) and the Supplementary Amount was SEK 1,550 million (EUR 162 million) at 31 December 2016.

38 Legal actions and official proceedings

38.1 Group companies

Tax cases in Finland

Fortum received an income tax assessment in Finland for 2007 in December 2013. Tax authorities claimed in the transfer pricing audit that detailed business decisions were done by Fortum Oyj and therefore re-characterized the equity Fortum has injected to its Belgium subsidiary Fortum Project Finance NV not to be equity, but funds to be available for the subsidiary. Tax authorities' view was that the interest income that Fortum Project Finance NV received from its loans should be taxed in Finland, not Belgium. The tax authorities claimed an additional tax of approximately EUR 136 million for the year 2007. Fortum considered the claims unjustifiable both for legal grounds and interpretation. Fortum appealed the decision.

The Board of Adjustment of the Large Taxpayers' Office approved Fortum's appeal for the year 2007 on 21 August 2014. The Board of Adjustment's decision is in line with the principle adopted in the Supreme Administrative Court's precedent in June 2014, according to which, under transfer pricing rules, the nature of business cannot be re-characterized for tax purposes, but can only adjust the pricing of goods or services. Despite the new precedent, the Tax Recipients' Legal Services Unit within the tax authorities appealed this decision to the Administrative Court in Helsinki. In May 2016 the Administrative Court announced its decision in the case. The court ruled in Fortum's favour and rejected the appeal of the Tax Recipients' Legal Services Unit. The Tax Recipient's Legal Service Unit appealed the Administrative Court's decision to the Supreme Administrative Court in July 2016.

In November 2016 the Supreme Administrative Court decided not to grant a permit to appeal. Thus the decision favourable to Fortum of the Board of Adjustment of the Large Taxpayer's office from August 2014, remains in force and is final. No additional tax is to be paid for the year 2007 based on the above-mentioned audit.

In December 2014 Fortum Oyj received a non-taxation decision from the large Taxpayers' office for the years 2008–2011 regarding the activities in the Belgian and Dutch financing companies. The decision was given due to the transfer pricing audit carried out in 2013–2014 and was in line with the Board of Adjustment's decision with respect to Fortum for the year 2007. The Tax Recipients' Legal Services Unit has appealed the decisions in February 2015 to the Board of Adjustment of the Large Taxpayers' office. According to the claim of correction an additional tax of approximately EUR 406 million for the years 2008–2011 was claimed. In December 2016 the Tax Recipients' Legal Services Unit cancelled its appeals for the years 2008–2011. In January 2017 the Board of Adjustment of the Large Taxpayers' office declared the cases for 2008–2011 annulled. Thus the non-taxation decision from August 2014 from the large Taxpayers' office remains in force for the years 2008–2011. No additional tax is to be paid for the years 2008–2011 based on the above-mentioned audit.

Tax cases in Sweden

Fortum received income tax assessments in Sweden for the years 2009, 2010, 2011 and 2012 in December 2011, December 2012, December 2013 and October 2014, respectively. According to the tax authorities, Fortum would have to pay additional income taxes for the years 2009, 2010, 2011 and 2012 for the reallocation of loans between the Swedish subsidiaries in 2004–2005, as well as additional income taxes for the years 2010, 2011 and 2012 for financing of the acquisition of TGC 10 (current OAO Fortum) in 2008. The claims are based on a change in tax regulation as of 2009. Fortum considered the claims unjustifiable and appealed the decisions.

In April 2016 the Administrative Court in Stockholm, Sweden, announced its decisions relating to the income tax assessments for 2009–2012. A part of the decisions were positive. The Court repealed the income assessments relating to the financing of the acquisition of TGC 10 for the years 2010–2012. However, with respect to the reallocation of the loans between the Swedish subsidiaries in 2004–2005, the Court mainly rejected the appeals of Fortum for the years 2009–2012. Fortum disagrees with the argumentation of the Court in those cases which were ruled in the favour of the Swedish tax authorities. Fortum has therefore in June 2016 filed an appeal to the Court of Appeal in Stockholm in these cases. The decisions of the Administrative Court which were favourable to Fortum have become non-appealable and thus final in July 2016.

In addition Fortum has received income tax assessments in Sweden for the years 2013 and 2014 in December 2015 and December 2016, respectively. The assessments concern the loans given in 2013 and 2014 by Fortum's Dutch financing company to Fortum's subsidiaries in Sweden. The interest income

for these loans was taxed in the Netherlands. The tax authority considers just over a half of the interest relating to each loan as deductible, i.e. deriving from business needs. The rest of the interest is seen as non-deductible. The decision is based on the changes in the Swedish tax regulation in 2013. Fortum considers the claims unjustifiable and has appealed the decisions. The cases are pending before the Administrative Court.

Based on legal analysis supporting legal opinions, no provision has been recognised in the financial statements for the above-mentioned Swedish tax cases. Fortum's legal view has therefore not changed. If the decisions by the tax authority remain final despite the appeals processes, the impact on net profit would be approximately SEK 389 million (EUR 41 million) for the year 2009, approximately SEK 347 million (EUR 36 million) for the year 2010, approximately SEK 301 million (EUR 31 million) for the year 2011, approximately SEK 69 million (EUR 7 million) for the year 2012, SEK 273 million (EUR 29 million) for the year 2013 and SEK 282 million (EUR 29 million) for the year 2014. Moreover, for the years 2009–2012 an interest cost would impact the net profit with SEK 69 million (EUR 7 million). The additional taxes and interest for 2009–2012 have already been paid in June 2016, in total SEK 1,175 million (EUR 123 million) and based on the legal opinion booked as a receivable.

Tax cases in Belgium

Fortum has received income tax assessments in Belgium for the years 2008, 2009, 2010 and 2011. Tax authorities disagree with the tax treatment of Fortum EIF NV. Fortum finds the tax authorities' interpretation not to be based on the local regulation and has appealed the decisions. The court of First instance in Antwerpen rejected Fortum's appeal for the years 2008 and 2009 in June 2014. Fortum found the decision unjustifiable and appealed to the Court of Appeal.

In January 2016 Fortum received a favourable decision from the Court of Appeal in which the Court disagreed with the tax authorities' interpretation and the tax assessment for 2008 was nullified. The tax authorities disagreed with the decision and filed an appeal to Hof van Cassatie (Supreme Court) in March 2016. Fortum appeals concerning 2009–2011 are still pending and Fortum expects the remaining years to follow the final decision for 2008. Based on legal analysis and a supporting legal opinion, no provision has been accounted for in the financial statements. The amount of additional tax claimed is approximately EUR 36 million for the year 2008, approximately EUR 27 million for the year 2009, approximately EUR 15 million for the year 2010 and approximately EUR 21 million for the year 2011. The tax has already been paid. If the tax is repaid to Fortum, Fortum will receive a 7% interest on the amount.

In November 2015 Fortum received an income tax assessment from the Belgian tax authorities for the year 2012. The tax authorities disagree with the tax treatment of Fortum Project Finance NV. Fortum finds the tax authorities' interpretation not to be based on the local regulation and has filed an objection against the tax adjustment. In line with treatment of the cases concerning 2008–2011, no provision has been accounted for in the financial statements. The amount of additional tax claimed is approximately EUR 15 million for the year 2012. The tax has already been paid.

For critical accounting estimates regarding uncertain tax positions, see ▸ *Note 29* Income taxes in balance sheet. See also ▸ *Note 13* Income tax expense.

In addition to the litigations described above, some Group companies are involved in other routine tax and other disputes incidental to their normal conduct of business. Based on the information currently available, management does not consider the liabilities arising out of such litigations likely to be material to the Group's financial position.

38.2 Associated companies

In Finland Fortum is participating in the country's fifth nuclear power plant unit, Olkiluoto 3 (OL3), through the shareholding in Teollisuuden Voima Oyj (TVO) with an approximately 25% share representing some 400 MW in capacity. The civil construction works of the Olkiluoto 3 plant unit have been mainly completed. The installation of the electrical systems, the instrumentation and control system (I&C), and mechanical systems is still in progress. Test runs with the I&C commenced in January 2016. In April TVO submitted to the Ministry of Economic Affairs and Employment (TEM) an application for an operating licence. The training simulator was completed in October, and the Nuclear Circuit Cleaning (NCC) was carried out in September–November. The first phase of the turbine plant commissioning is completed. Some of the systems and components will be kept in operation; the rest will be preserved in accordance with a separate plan. According to the schedule updated by the AREVA-Siemens in September 2014, regular electricity production in the unit will commence at the end of 2018.

In December 2008 the OL3 Supplier initiated the International Chamber of Commerce (ICC) arbitration proceedings and submitted a claim concerning the delay and the ensuing costs incurred at the Olkiluoto 3 project. The Supplier's monetary claim, updated in February 2016, is approximately EUR 3.5 billion in total. The sum is based on the supplier's updated analysis of events that occurred through September 2014, with certain claims quantified to 31 December 2014.

In 2012, TVO submitted a counter-claim and defence in the matter. In July 2015, TVO updated its quantification estimate of its costs and losses to amount to approximately EUR 2.6 billion until December 2018, which is the estimated start of the regular electricity production of OL3.

The companies belonging to the Plant Supplier Consortium (AREVA GmbH, AREVA NP SAS and Siemens AG) are jointly and severally liable of the Plant Contract obligations.

In November 2016, the ICC Tribunal made a final and binding partial award. In the partial award, the ICC Tribunal addressed the early period of the project (time schedule, licensing and licensability, and system design). This comprised many of the facts and matters that TVO relies upon in its main claims against the supplier, as well as certain key matters that the supplier relies upon in its claims against TVO. In doing so, the partial award finally resolved the great majority of these facts and matters in favour of TVO, and conversely rejected the great majority of the supplier's contentions in this regard. The partial award did not take a position on the claimed monetary amounts. The arbitration proceeding is still going on with further partial awards to come before the final award where the Tribunal will declare the liabilities of the parties to pay compensation.

In 2016, Areva Group announced a restructuring of its business. The restructuring plan involves a transfer of the operations of Areva NP, excluding the OL3 project and resources necessary for its completion, to an ad hoc structure which is to be sold to a consortium led by EDF. On November 16, Areva and EDF announced a binding agreement on the restructuring, which was informed to be completed during the second semester of 2017. The implementation of the restructuring plan is subject to decisions and clearances, such as those related to the contemplated state aid connected with the plan. TVO requires that the restructuring respects the completion of the OL3 project within the current schedule by the end of 2018 and that all liabilities of the plant contract are respected.

39 Events after the balance sheet date

There have been no material events after balance sheet date.

40 Acquisitions and disposals

40.1 Acquisitions

EUR million	2016	2015
Gross investments in shares in subsidiary companies	813	1
Gross investments in shares in associated companies and joint ventures	17	27
Gross investments in available for sale financial assets	14	15
Gross investments in shares, total Fortum	**844**	**43**

40.1.1 Acquisitions of subsidiary companies

On 27 May 2016 Fortum signed an agreement with the four biggest owners of the Nordic circular economy company Ekokem Corporation, representing approximately 81% of the shares, to acquire their shareholding in the company. The acquisition was finalised on 31 August 2016. Fortum also made a tender offer valid until the end of September to the remaining shareholders at the same price of 165 EUR per share. By the end of December Fortum's total shareholding was 98.2%. Fortum has initiated a redemption process for the remaining shares. The debt and cash-free purchase price for 100% of the company will be approximately EUR 680 million.

The redemption process for the remaining shares is ongoing and the consideration to be paid upon completion has been included in the total consideration. The initial goodwill from the purchase price allocation, prepared based on the 31 August balance sheet, is EUR 141 million and results mainly from the growth opportunities and synergies. The accounting of the acquisition is still preliminary as all valuation effects, especially regarding the provisions, have not been finalised.

Ekokem is fully consolidated into the Fortum Group from the end of August 2016. Ekokem has been integrated as a business area into the City Solutions segment resulting in an increase of EUR 105 million on sales, EUR 7 million on comparable operating profit and EUR 26 million on comparable EBITDA. The operating profit was impacted by the transaction costs of EUR 12 million (of which transfer tax EUR 9 million) recognized in the income statement during 2016 as Items affecting comparability (Capital gains and other).

On 8 January 2016, Fortum made a public tender offer in Poland to purchase all shares in Grupa DUON S.A., an electricity and gas sales company listed on the Warsaw Stock Exchange. During the subscription period that ended on 26 February 2016 Fortum received subscriptions from shareholders representing altogether 93.35% shares in the company at the offered price PLN 3.85 per share. The remaining shares were purchased from shareholders under the mandatory squeeze-out procedure at the same price per share. In April Fortum obtained 100% of shares in Grupa DUON S.A. and in June the company was delisted.

This financial statement includes the income statement effect of Grupa Duon S.A. group from 1 April 2016 onwards. The consolidated sales included in the City Solutions segment was EUR 155 million, comparable operating profit EUR 4 million and comparable EBITDA EUR 8 million. The purchase price allocation is based on the balance sheet as of 31 March 2016. The initial goodwill in the acquired group is EUR 22 million and represents the future prospects and growth potential. The initial accounting of the acquisition is still preliminary as all valuation effects have not been finalised, in particular regarding potential obligations.

Other acquisitions include the shares of Info24 AB and Turebergs Recycling AB. On 1 April 2016 Fortum acquired 100% of the shares in the Swedish IT company Info24, a company specialised in the development of business solutions within the IoT, Internet of Things. On 21 December 2016 Fortum acquired 100% of the shares in Turebergs Recycling AB, a Swedish company with main business in environmental construction, recycling and processing of bottom ash from waste-to-energy plants.

EUR million	Ekokem Corporation	Grupa Duon S.A.	Other	Fortum total
Consideration paid in cash	570	106	15	691
Unpaid consideration	10		3	13
Total consideration	**580**	**106**	**17**	**703**
Fair value of the acquired assets	440	86	17	543
Translation difference	0	2	0	2
Goodwill	**141**	**22**	**0**	**163**

EUR million	Ekokem Corporation			Grupa Duon S.A.			Fortum total [1]		
	Acquired book values	Allocated fair value	Total fair value	Acquired book values	Allocated fair value	Total fair value	Acquired book values	Allocated fair value	Total fair value
Fair value of the acquired net identifiable assets									
Cash and cash equivalents	17		17	8		8	26		26
Tangible and intangible assets	315	387	702	49	34	83	366	438	804
Other assets	67		67	37		37	108		108
Deferred tax liabilities	-34	-77	-112	-1	-7	-7	-35	-88	-123
Other non-interest bearing liabilities	-117		-117	-16		-16	-135		-135
Interest-bearing liabilities	-117		-117	-19		-19	-136		-136
Net identifiable assets	**131**	**309**	**441**	**58**	**28**	**86**	**194**	**351**	**545**
Non-controlling interests	1		1	1		1	2		2
Total	**131**	**309**	**440**	**58**	**28**	**86**	**192**	**351**	**543**
Gross investment									
Purchase consideration settled in cash			570			106			691
Cash and cash equivalents in acquired subsidiaries			17			8			26
Cash outflow in acquisition			**553**			**98**			**664**
Unpaid consideration			10 [2]						13
Interest-bearing debt in acquired subsidiaries			117			19			136
Total gross investment in acquired subsidiaries			**680**			**117**			**813**

1) Including acquired book values and allocated fair values from the acquisition of Info24 AB and Turebergs Recycling AB.

2) Minority shares subject to redemption.

Fortum finalised the acquisition of three wind power projects from the Norwegian company Nordkraft in January 2017. The transaction consists of the Nygårdsfjellet wind farm, which is already operational, as well as the fully-permitted Ånstadblåheia and Sørfjord projects. Fortum is preparing for the construction of the Ånstadblåheia and Sørfjord projects, expected to be commissioned in 2018 and 2019. When built the installed capacity of the three wind farms would total approximately 170 MW.

There were no material acquisitions of subsidiary companies during 2015.

40.1.2 Other acquisitions

Fortum decided in 2015 to participate in the Fennovoima nuclear power project in Finland with a 6.6% share. The investment in Fennovoima is classified as Available-for-sale financial assets.

40.2 Disposals

EUR million	2016	2015
Gross divestments of shares in subsidiary companies [1)]	127	6,369
Gross divestments of shares in associated companies	34	27
Gross divestments of shares, total Fortum	**161**	**6,395**

1) In 2015 in addition to the proceeds from shares and repayments of interest-bearing debt in sold subsidiary, totalling approximately EUR 6.4 billion, Swedish distribution business paid group contribution liability net of cash amounting to approximately EUR 0.1 billion as a part of the total consideration of the divestment of Swedish distribution business.

40.2.1 Disposals of subsidiary companies

Fortum sold its 100% shareholding in its Russian subsidiary OOO Tobolsk CHP to SIBUR, Russia's largest integrated gas processing and petrochemicals company in February 2016. OOO Tobolsk CHP owns and operates the combined heat and power (CHP) plant in the city of Tobolsk in Western Siberia. Fortum booked a one-time pre-tax sales gain in Russia segment totalling EUR 35 million.

In March 2015 Fortum signed a binding agreement to sell the Swedish Distribution business to a consortium comprising Swedish national pension funds Första AP-Fonden (12.5%) and Tredje AP-Fonden (20.0%), Swedish mutual insurance and pension savings company Folksam (17.5%) and the international infrastructure investor, Borealis Infrastructure Management Inc. (50.0%). The divestment was completed on 1 June 2015. The total consideration from the divestment was SEK 60.6 billion on a debt- and cash-free basis corresponding to approximately EUR 6.4 billion. Fortum recognised a one-time sales gain of approximately EUR 4.3 billion corresponding to EUR 4.82 per share. The sales gain is reported as part of the 2015 results of the discontinued operations. Distribution segment has been presented as discontinued operations for 2015. For additional information see ▸ *Note 14* Discontinued operations.

Divestments of shares in subsidiaries—Impact on financial position, total Fortum

EUR million	2016	2015
Gross divestments of shares in subsidiary companies [1)]	127	6,369
Proceeds from interest-bearing receivables	0	207
Sales price for the shares (net of cash)	**127**	**6,162**
Liquid funds in sold subsidiaries	10	12
Sales price including liquid funds in sold subsidiaries	**137**	**6,174**
Intangible assets and property, plant and equipment	92	2,577
Other non-current and current assets	15	120
Liquid funds	10	12
Interest-bearing loans	0	-207
Other liabilities and provisions	-15	-611
Net assets divested	**102**	**1,891**
Gain on sale, discontinued operations	-	4,282
Gain on sale, continuing operations	35	
Gain on sale, total Fortum	**35**	**4,282**

1) In 2015 in addition to the proceeds from shares and repayments of interest-bearing debt in sold subsidiary, totalling approximately EUR 6.4 billion, Swedish distribution business paid group contribution liability net of cash amounting to approximately EUR 0.1 billion as a part of the total consideration of the divestment of Swedish distribution business.

40.2.2 Other disposals

In March 2016 Fortum concluded the divestment of its 51.4% shareholding in the Estonian natural gas import, sales and distribution company AS Eesti Gaas. Fortum sold its shareholding to Trilini Energy OÜ. The sale resulted in a one-time pre-tax sales gain in City Solutions segment totalling EUR 11 million.

In January 2015 Fortum sold its 51.4% shareholding in the associated company AS Võrguteenus Valdus to the Estonian electricity transmission system operator Elering AS.

41 Related party transactions

41.1 The Finnish State and companies owned by the Finnish State

At the end of 2016, the Finnish State owned 50.76% of the Company's shares. The Finnish Parliament has authorised the Government to reduce the Finnish State's holding in Fortum Corporation to no less than 50.1% of the share capital and voting rights.

All transactions between Fortum and other companies owned by the Finnish State are on arm's length basis.

On 31 August 2016 Fortum finalised the acquisition of Ekokem Corporation with the four biggest owners, representing approximately 81% of the shares. The Finnish State was among the biggest owners with a 34%-shareholding in Ekokem. For more information see ▸ *Note 40* Acquisitions and disposals.

41.2 Board of Directors and Fortum Executive Management

The key management personnel of the Fortum Group are the members of Fortum Executive Management and the Board of Directors. Fortum has not been involved in any material transactions with members of the Board of Directors or Fortum Executive Management. No loans exist to any member of the Board of Directors or Fortum Executive Management at 31 December 2016. The total compensation (including pension benefits and social costs) for the key management personnel for 2016 was EUR 10 million (2015: 13).

See ▸ *Note 11* Employee benefits for further information on the Board of Directors and Fortum Executive Management remuneration and shareholdings.

41.3 Associated companies and joint ventures

In the ordinary course of business Fortum engages in transactions on commercial terms with associated companies and other related parties, which are on same terms as they would be for third parties, except for some associates as discussed later in this note.

Fortum owns shareholdings in associated companies and joint ventures which in turn own hydro and nuclear power plants. Under the consortium agreements, each owner is entitled to electricity in proportion to its share of ownership or other agreements. Each owner is liable for an equivalent portion of costs regardless of output. These associated companies are not profit making, since the owners purchase electricity at production cost including interest costs and production taxes.

For further information on transactions and balances with associated companies and joint ventures, see ▸ *Note 20* Participations in associated companies and joint ventures.

41.4 Pension fund

The Fortum pension funds in Finland and Sweden are stand-alone legal entities which manage pension assets related to the part of the pension coverage in Sweden and Finland. The assets in the pension fund in Finland include Fortum shares representing 0.04% (2015: 0.04%) of the company's outstanding shares. Real estate and premises owned by the Finnish pension fund have been leased to Fortum. Fortum has not paid contributions to the pension funds in 2016 nor in 2015. Real estate mortgages have also been given for loan from Fortum's pension fund for EUR 41 million (2015: 41).

42 Subsidiaries by segment on 31 December 2016

C = City Solutions
G = Generation
R = Russia
O = Other

1) New company
2) Shares held by the parent company
3) Consolidated in accordance with 100% (Ekopartnerit Turku Oy with 51%) ownership as minority redemption process is ongoing

Company name		Domicile	Segment	Group holding, %
Ekokem Oyj	1), 2), 3)	Finland	C	98.2
Ekokem-Palvelu Oy	1), 3)	Finland	C	98.2
Ekopartnerit Turku Oy	1), 3)	Finland	C	50.1
Fortum Asiakaspalvelu Oy	2)	Finland	C	100.0
Fortum Assets Oy		Finland	O	100.0
Fortum C&H Oy		Finland	O	100.0
Fortum Growth Oy		Finland	O	100.0
Fortum Heat and Gas Oy	2)	Finland	C, O	100.0
Fortum Markets Oy	2)	Finland	C	100.0
Fortum Norm Oy	2)	Finland	O	100.0
Fortum Power and Heat Holding Oy		Finland	G	100.0
Fortum Power and Heat Oy	2)	Finland	C, G, O	100.0
Fortum Real Estate Oy	2)	Finland	O	100.0
Kiinteistö Oy Espoon Energiatalo		Finland	O	100.0
Koillis-Pohjan Energiantuotanto Oy		Finland	G	100.0
Oy Pauken Ab		Finland	O	100.0
Oy Tersil Ab		Finland	O	100.0
Oy Tertrade Ab		Finland	O	100.0
Puhosvoima Oy	1), 3)	Finland	C	98.2
Fortum Project Finance N.V.	2)	Belgium	O	100.0
Ekokem A/S	1), 3)	Denmark	C	98.2
Ekokem OW A/S	1), 3)	Denmark	C	98.2
Fortum Energi A/S		Denmark	C	100.0
AS Anne Soojus		Estonia	C	60.0
AS Fortum Tartu		Estonia	C	60.0
AS Tartu Joujaam		Estonia	C	60.0
AS Tartu Keskkatlamaja		Estonia	C	60.0
Fortum CFS Eesti OU		Estonia	O	100.0
Fortum Eesti AS		Estonia	C	100.0

Company name	Domicile	Segment	Group holding, %
Fortum France S.A.S	France	O	100.0
Fortum Service Deutschland GmbH	Germany	C	100.0
Fortum Carlisle Limited [1)]	Great Britain	C	100.0
Fortum Energy Ltd	Great Britain	O	100.0
Fortum Glasgow Limited [1)]	Great Britain	C	100.0
Fortum O&M (UK) Limited	Great Britain	C	100.0
IVO Energy Limited	Great Britain	G	100.0
Fortum Insurance Ltd	Guernsey	O	100.0
Fortum Amrit Energy Private Limited	India	O	100.0
Fortum FinnSurya Energy Private Limited	India	O	100.0
Fortum India Private Limited	India	O	100.0
Fortum Solar India Private Limited	India	O	100.0
Fortum C&P Unlimited	Ireland	O	100.0
Fortum Finance Ireland Designated Activity Company [2)]	Ireland	O	100.0
Fortum Jelgava, SIA	Latvia	C	100.0
Fortum Latvia SIA	Latvia	C	100.0
UAB Fortum Heat Lietuva	Lithuania	C	100.0
UAB Fortum Klaipeda	Lithuania	C	95.0
UAB Joniskio energija	Lithuania	C	66.2
UAB Svencioniu energija	Lithuania	C	50.0
Fortum Baltic Investments SNC	Luxembourg	C	100.0
Fortum Investment SARL [2)]	Luxembourg	O	100.0
Fortum Luxembourg SARL	Luxembourg	O	100.0
Ekokem Norway AS [1), 3)]	Norway	C	98.2
Fortum Forvaltning AS	Norway	O	100.0
Fortum Markets AS	Norway	C	100.0
AMB Energia Sprzedaż Sp. z o.o. [1)]	Poland	C	100.0
DUON Dystrybucja S.A. [1)]	Poland	C	100.0
DUON Praszka Sp. z o.o. [1)]	Poland	C	65.9
Fortum Customer Services Polska Sp. z o.o. [1)]	Poland	C	100.0
Fortum Marketing and Sales Polska S.A. [1)]	Poland	C	100.0
Fortum Markets Polska S.A. [1)]	Poland	C	100.0
Fortum Network Częstochowa Sp. z o.o. [1)]	Poland	C	100.0
Fortum Network Płock Sp. z o.o. [1)]	Poland	C	100.0
Fortum Network Wrocław Sp. z o.o. [1)]	Poland	C	100.0
Fortum Power and Heat Polska Sp. z o.o.	Poland	C	100.0
Fortum Silesia SA	Poland	C	100.0
Fortum Sprzedaż Sp. z o.o. [1)]	Poland	C	100.0
PGS Sp. z o.o. [1)]	Poland	C	100.0
Rejonowa Spółka Ciepłownicza Sp. z o.o.	Poland	C	100.0
Chelyabinsk Energoremont	Russia	R	98.2
LLC Fortum Energy OOO Fortum Energija	Russia	R	100.0

Company name	Domicile	Segment	Group holding, %
OAO Fortum	Russia	R	98.2
Ural Heat Networks Company Joint Stock Company	Russia	R	98.2
Blybergs Kraftaktiebolag	Sweden	G	66.7
Brännälven Kraft AB	Sweden	G	67.0
Bullerforsens Kraft Aktiebolag	Sweden	G	88.0
Ekokem AB [1), 3)]	Sweden	C	98.2
Ekokem Sweden Holding AB [1), 3)]	Sweden	C	98.2
Energikundservice Sverige AB	Sweden	O	100.0
Fortum 1 AB	Sweden	R	100.0
Fortum Fastigheter AB	Sweden	O	100.0
Fortum Markets AB	Sweden	C	100.0
Fortum Nordic AB [2)]	Sweden	O	100.0
Fortum Produktionsnät AB	Sweden	G	100.0
Fortum Sweden AB [2)]	Sweden	O	100.0
Fortum Sverige AB	Sweden	C, G, O	100.0
Fortum Vind Norr AB	Sweden	O	100.0
Info24 AB [1)]	Sweden	O	100.0
Mellansvensk Kraftgrupp Aktiebolag	Sweden	G	86.9
Nordgroup Waste Management AB [1), 3)]	Sweden	C	98.2
Oreälvens Kraftaktiebolag	Sweden	G	65.0
Turebergs Recycling AB [1)]	Sweden	C	100.0
Uddeholm Kraft Aktiebolag	Sweden	G	100.0
Värmlandskraft OKG-delägarna Aktiebolag	Sweden	G	73.3
FB Generation Services B.V.	The Netherlands	O	100.0
Fortum 2 B.V.	The Netherlands	O	100.0
Fortum 3 B.V.	The Netherlands	O	100.0
Fortum 4 B.V.	The Netherlands	O	100.0
Fortum Charge & Drive B.V.	The Netherlands	O	100.0
Fortum Finance II B.V.	The Netherlands	O	100.0
Fortum Holding B.V. [2)]	The Netherlands	C, G, O	100.0
Fortum Hydro B.V.	The Netherlands	O	100.0
Fortum India B.V.	The Netherlands	O	100.0
Fortum Power Holding B.V.	The Netherlands	O	100.0
Fortum Russia B.V.	The Netherlands	R	100.0
Fortum Russia Holding B.V.	The Netherlands	O	100.0
Fortum SAR B.V.	The Netherlands	O	100.0
Fortum Star B.V.	The Netherlands	O	100.0
Fortum Sun B.V.	The Netherlands	O	100.0
Fortum Wave Power B.V.	The Netherlands	O	100.0
PolarSolar B.V.	The Netherlands	O	100.0
RPH Investment B.V.	The Netherlands	R	100.0
Fortum Enerji ve Ticaret A.Ş.	Turkey	C, O	100.0

Financial key figures

Comparability of information presented in tables and graphs

Fortum announced the sale of Swedish Distribution business in March 2015. After the divestment of the Swedish Distribution business Fortum has no electricity distribution operations and therefore Distribution segment was treated as discontinued operations in 2015, with restatement of year 2014, according to IFRS 5 Non-current Assets held for Sale and Discontinued operations.

Information in the tables and graphs presented for year 2012 or earlier is not restated due to the adoption of IFRS 10 and IFRS 11. Adoption of standards influences treatment of Fortum's holding in AB Fortum Värme samägt med Stockholms stad in the the consolidated financial statements.

EUR million or as indicated	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Change 16/15, %
Income statement											
Sales total Fortum	4,479	5,636	5,435	6,296	6,161	6,159	5,309	4,751	3,702	3,632	-2
Sales continuing operations								4,088	3,459	3,632	5
EBITDA total Fortum [1)]	2,298	2,478	2,292	2,271	3,008	2,538	2,129	3,954	4,640	1,006	-78
EBITDA continuing operations								1,673	196	1,006	413
Comparable EBITDA total Fortum	2,015	2,360	2,398	2,396	2,374	2,416	1,975	1,873	1,265	1,015	-20
Comparable EBITDA continuing operations								1,457	1,102	1,015	-8
Operating profit total Fortum	1,847	1,963	1,782	1,708	2,402	1,874	1,508	3,428	4,245	633	-85
- of sales %	41.2	34.8	32.8	27.1	39.0	30.4	28.4	72.2	114.7	17.4	
Operating profit continuing operations								1,296	-150	633	522
- of sales %								31.7	-4.3	17.4	
Comparable operating profit total Fortum	1,564	1,845	1,888	1,833	1,802	1,752	1,403	1,351	922	644	-30
Comparable operating profit continuing operations								1,085	808	644	-20
Profit before income tax total Fortum	1,934	1,850	1,636	1,615	2,228	1,586	1,398	3,360	4,088	595	-85
- of sales %	43.2	32.8	30.1	25.7	36.2	25.8	26.3	70.7	110.4	16.4	
Profit before income tax continuing operations								1,232	-305	595	295
- of sales %								30.1	-8.8	16.4	
Profit for the period total Fortum	1,608	1,596	1,351	1,354	1,862	1,512	1,212	3,161	4,142	504	-88
- of which attributable to owners of the parent	1,552	1,542	1,312	1,300	1,769	1,416	1,204	3,154	4,138	496	-88
Profit for the period continuing operations								1,089	-228	504	321
- of which attributable to owners of the parent								1,081	-231	496	315

EUR million or as indicated	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Change 16/15, %
Financial position and cash flow											
Capital employed total Fortum	13,544	15,911	15,350	16,124	17,931	19,420	19,183	17,918	19,870	18,649	-6
Interest-bearing net debt	4,466	6,179	5,969	6,826	7,023	7,814	7,793	4,217	-2,195	-48	98
Interest-bearing net debt without Värme financing							6,658	3,664	N/A	N/A	
Capital expenditure and gross investments in shares total Fortum	972	2,624	929	1,249	1,482	1,574	1,020	843	669	1,435	114
- of sales %	21.7	46.6	17.1	19.8	24.1	25.6	19.2	17.7	18.1	39.5	
Capital expenditure and gross investments in shares continuing operations								695	625	1,435	130
Capital expenditure total Fortum	655	1,108	862	1,222	1,408	1,558	1,005	774	626	591	-6
Capital expenditure continuing operations								626	582	591	2
Net cash from operating activities total Fortum	1,670	2,002	2,264	1,437	1,613	1,382	1,548	1,762	1,381	621	-55
Net cash from operating activities continuing operations								1,406	1,228	621	-49
Key ratios											
Return on capital employed total Fortum, %	16.5	15.0	12.1	11.6	14.8	10.2	9.0	19.5	22.7	4.0	
Return on shareholders' equity total Fortum, %	19.1	18.7	16.0	15.7	19.7	14.6	12.0	30.0	33.4	3.7	
Interest coverage total Fortum	12.8	9.4	12.4	13.7	10.5	7.6	6.7	19.9	27.6	4.6	
Interest coverage including capitalised borrowing costs total Fortum		8.6	10.3	10.0	8.5	5.7	5.3	15.7	21.5	4.1	
Funds from operations/interest-bearing net debt total Fortum, %	36.3	34.1	37.6	20.5	21.5	19.9	18.8	42.9	-59.7	-1,503.4	
Funds from operations/interest-bearing net debt without Värme financing total Fortum, %							22.1	49.3	N/A	N/A	
Gearing, %	52	73	70	78	69	73	77	39	-16	0	
Comparable net debt/EBITDA total Fortum	2.2	2.6	2.5	2.8	3.0	3.2	3.9	2.3	-1.7	0.0	
Comparable net debt/EBITDA without Värme financing							3.4	2.0	N/A	N/A	
Equity-to-assets ratio, %	49	41	43	40	44	43	43	51	61	62	
Other data											
Dividends	1,198	888	888	888	888	888	977	1,155	977	977 [2)]	0
Dividends from recurring earnings in 2007	683										
Additional dividends in 2007	515										
Research and development	21	27	30	30	38	41	49	41	47	52	11
- of sales %	0.5	0.5	0.5	0.5	0.6	0.7	0.9	1.0	1.4	1.4	
Average number of employees total Fortum	8,304	14,077	13,278	11,156	11,010	10,600	9,532	8,821	8,193	7,994	
Average number of employees continuing operations								8,329	8,009	7,994	

1) EBITDA is defined as Operating profit + Depreciation and amortisation.

2) Board of Directors' proposal for the planned Annual General Meeting on 4 April 2017.

See ▸ *Definitions of key figures*.

Share key figures

EUR or as indicated	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Change 16/15, %
Data per share											
Earnings per share total Fortum	1.74	1.74	1.48	1.46	1.99	1.59	1.36	3.55	4.66	0.56	-88
Earnings per share continuing operations								1.22	-0.26	0.56	315
Earnings per share discontinued operations	-	-	-	-	-	-	-	2.33	4.92	-	
Diluted earnings per share total Fortum	1.74	1.74	1.48	1.46	1.99	1.59	1.36	3.55	4.66	0.56	-88
Diluted earnings per share continuing operations								1.22	-0.26	0.56	315
Diluted earnings per share discontinued operations	-	-	-	-	-	-	-	2.33	4.92	-	
Cash flow per share total Fortum	1.88	2.26	2.55	1.62	1.82	1.56	1.74	1.98	1.55	0.70	-55
Cash flow per share continuing operations								1.38	1.38	0.70	-49
Equity per share	9.43	8.96	9.04	9.24	10.84	11.30	11.28	12.23	15.53	15.15	-2
Dividend per share	1.35	1.00	1.00	1.00	1.00	1.00	1.10	1.10	1.10	1.10 [1)]	0
Extra dividend								0.20	-	-	
Dividend per share continuing operations	0.77	-	-	-	-	-	-	-	-	-	
Additional dividend per share in 2007	0.58	-	-	-	-	-	-	-	-	-	
Payout ratio, %	77.6 [2)]	57.5	67.6	68.5	50.3	62.9	80.9	36.6	23.6	196.4 [1)]	
Payout ratio continuing operations, %	44.3 [2)]	-	-	-	-	-	-	-	-	-	
Payout ratio additional dividend in 2007, %	33.3 [2)]	-	-	-	-	-	-	-	-	-	
Dividend yield, %	4.4	6.6	5.3	4.4	6.1	7.1	6.6	7.2	7.9	7.5 [1)]	
Price/earnings ratio (P/E)	17.7	8.8	12.8	15.4	8.3	8.9	12.2	5.1	3.0	26.1	
Share prices											
At the end of the period	30.81	15.23	18.97	22.53	16.49	14.15	16.63	17.97	13.92	14.57	
Average	23.57	24.79	15.91	19.05	19.77	15.66	15.11	17.89	16.29	13.56	
Lowest	20.01	12.77	12.60	17.18	15.53	12.81	13.10	15.13	12.92	10.99	
Highest	31.44	33.00	19.20	22.69	24.09	19.36	18.18	20.32	21.59	15.74	
Other data											
Market capitalisation at the end of the period, EUR million	27,319	13,519	16,852	20,015	14,649	12,570	14,774	15,964	12,366	12,944	
Trading volumes [3)]											
Number of shares, 1,000 shares	787,380	628,155	580,899	493,375	524,858	494,765	465,004	454,796	541,858	611,572	
In relation to weighted average number of shares, %	88.5	70.8	65.4	55.5	59.1	55.7	52.3	51.2	61.0	68.8	
Number of shares, 1,000 shares	886,683	887,638	888,367	888,367	888,367	888,367	888,367	888,367	888,367	888,367	
Number of shares excluding own shares, 1,000 shares	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Average number of shares, 1,000 shares	889,997	887,256	888,230	888,367	888,367	888,367	888,367	888,367	888,367	888,367	
Diluted adjusted average number of shares, 1,000 shares	891,395	887,839	888,230	888,367	888,367	888,367	888,367	888,367	888,367	888,367	

1) Board of Directors' proposal for the Annual General Meeting on 4 April 2017.

2) Payout ratios for dividends in 2007 are based on the total earnings per share.

3) Trading volumes in the table represent volumes traded on Nasdaq Helsinki. In addition to the Nasdaq Helsinki, Fortum shares were traded on several alternative market places, for example at Boat, BATS Chi-X and Turquoise, and on the OTC market as well. In 2016, approximately 63% (2015: 58%) of Fortum's traded shares were traded on other markets than Nasdaq Helsinki.

See ▸ *Definitions of key figures*.

Segment key figures

Following the acquisition of the Russian company, OAO Fortum, Fortum changed its segment reporting during 2008. Comparison numbers were restated in 2008.

Fortum renewed its business structure as of 1 March 2014. The reorganisation lead to a change in Fortum's external financial reporting structure as previously separately reported segments Heat and Electricity Sales were combined into one segment: Heat, Electricity Sales and Solutions.

Fortum has applied new IFRS 10 Consolidated financial statements and IFRS 11 Joint arrangements from 1 January 2014. The effect of applying the new standards to Fortum Group financial information relates to AB Fortum Värme samägt med Stockholm Stad (Fortum Värme), that is treated as a joint venture and thus consolidated with equity method from 1 January 2014 onwards. Before the change the company was consolidated as a subsidiary with 50% minority interest.

Information for 2013 has been restated to reflect both the change in business structure and adoption of new IFRS standards.

Fortum announced the sale of Swedish Distribution business in March 2015. After the divestment of the Swedish Distribution business Fortum does not have any distribution operations and therefore Distribution segment has been treated as discontinued operations starting from 2015 with restatement of year 2014, according to IFRS 5 Non-current Assets held for Sale and Discontinued operations.

Fortum has reorganised its operating structure as of 1 April 2016. The segments are: Generation (mainly the former Power and Technology); City Solutions (mainly the former Heat, Electricity Sales and Solutions) and Russia. Because of the minor financial impact, the comparable segment information for 2015 has not been restated.

Sales by segment, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	2,350	2,892	2,531	2,702	2,481	2,415	2,252	2,156	1,722	1,657
- of which internal	323	0	254	-281	-24	296	69	85	83	15
City Solutions							1,516	1,332	1,187	1,424
- of which internal							87	34	-13	-5
Heat	1,356	1,466	1,399	1,770	1,737	1,628				
- of which internal	38	0	23	-8	8	18				
Electricity Sales	1,683	1,922	1,449	1,798	900	722				
- of which internal	155	177	67	158	95	55				
Russia		489	632	804	920	1,030	1,119	1,055	893	896
- of which internal		-	-	-	-	-	-	0	0	0
Other	81	83	71	51	108	137	63	58	114	121
- of which internal	72	82	-5	169	115	-66	54	44	75	72
Distribution	769	789	800	963	973	1,070	1,064			
- of which internal	9	10	13	18	15	37	19			
Eliminations and Netting of Nord Pool transactions	-1,760	-2,005	-1,447	-1,792	-958	-843	-706	-513	-458	-466
Total for continuing operations	**4,479**	**5,636**	**5,435**	**6,296**	**6,161**	**6,159**	**5,309**	**4,088**	**3,459**	**3,632**
Discontinued operations								751	274	
Eliminations [1)]								-89	-31	
Total								**4,751**	**3,702**	**3,632**

1) Sales to and from discontinued operations.

Comparable operating profit by segment, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	1,095	1,528	1,454	1,298	1,201	1,146	859	877	561	417
City Solutions							109	104	108	112
Heat	290	250	231	275	278	271				
Electricity Sales	-1	-33	22	11	27	39				
Russia		-92	-20	8	74	68	156	161	201	191
Other	-51	-56	-61	-66	-73	-92	-54	-57	-63	-76
Distribution	231	248	262	307	295	320	332			
Comparable operating profit	**1,564**	**1,845**	**1,888**	**1,833**	**1,802**	**1,752**	**1,403**	**1,085**	**808**	**644**
Impairment charges								0	-918	27
Capital gains and other	250	85	29	93	284	155	61	305	22	38
Changes in fair values of derivatives hedging future cash flow										-65
Nuclear fund adjustment										-11
Other items affecting comparability [1)]	33	33	-135	-218	316	-33	45	-94	-62	
Operating profit, continuing operations	**1,847**	**1,963**	**1,782**	**1,708**	**2,402**	**1,874**	**1,508**	**1,296**	**-150**	**633**
Discontinued operations								2,132	4,395	
Operating profit	**1,847**	**1,963**	**1,782**	**1,708**	**2,402**	**1,874**	**1,508**	**3,428**	**4,245**	**633**

1) Other items affecting comparability comprise Changes in fair values of derivatives hedging future cash flow and Nuclear fund adjustment.

Comparable EBITDA by segment, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	1,198	1,625	1,547	1,398	1,310	1,260	1,007	998	680	527
City Solutions							211	204	209	238
Heat	453	419	393	462	471	481				
Electricity Sales	10	-26	28	13	29	40				
Russia		-25	55	94	148	189	258	304	267	312
Other	-39	-46	-51	-56	-66	-83	-49	-49	-53	-61
Distribution	393	413	426	485	482	529	548			
Total for continuing operations	**2,015**	**2,360**	**2,398**	**2,396**	**2,374**	**2,416**	**1,975**	**1,457**	**1,102**	**1,015**
Discontinued operations								416	163	
Total								**1,873**	**1,265**	**1,015**

Depreciation and amortisation, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	103	97	93	100	109	114	148	121	118	110
City Solutions							102	100	101	126
Heat	163	169	162	187	193	210				
Electricity Sales	11	7	6	2	2	1				
Russia		67	75	86	108	121	150	147	117	123
Other	12	10	10	10	7	9	5	8	10	15
Distribution	162	165	164	178	187	209	216			
Total for continuing operations	**451**	**515**	**510**	**563**	**606**	**664**	**621**	**377**	**346**	**373**
Discontinued operations								150	50	
Total								**526**	**395**	**373**

Share of profit of associates and joint ventures by segment, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	-23	26	-35	-25	3	-12	4	-14	-111	-34
City Solutions							91	88	59	76
Heat	24	12	30	31	19	20				
Electricity Sales	0	5	0	1	2	0				
Russia		19	20	8	30	27	46	35	32	38
Other	222	48	-4	28	23	-20	32	37	40	51
Distribution	18	16	10	19	14	8	4			
Total for continuing operations	**241**	**126**	**21**	**62**	**91**	**23**	**178**	**146**	**20**	**131**
Discontinued operations								3	0	
Total								**149**	**20**	**131**

Capital expenditure by segment, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	93	134	96	97	131	190	179	197	187	196
City Solutions							123	86	105	112
Heat	309	408	358	304	297	464				
Electricity Sales	3	3	1	0	5	1				
Russia		256	215	599	670	568	435	340	285	201
Other	14	11	4	9	16	11	12	3	6	83
Distribution	236	296	188	213	289	324	255			
Total for continuing operations	**655**	**1,108**	**862**	**1,222**	**1,408**	**1,558**	**1,005**	**626**	**582**	**591**
Discontinued operations								147	44	
Total								**774**	**626**	**591**

Gross investments in shares by segment, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	52	0	57	25	17	-	2	2	16	7
City Solutions							11	37	23	815
Heat	18	23	1	1	32	10				
Electricity Sales	0	0	-	-	-	-				
Russia	245	1,492	3	-	24	-	0	27	0	0
Other	1	1	1	1	1	6	2	4	4	22
Distribution	1	0	5	0	-	-	0			
Total for continuing operations	**317**	**1,516**	**67**	**27**	**74**	**16**	**15**	**69**	**43**	**844**
Discontinued operations								0	0	
Total								**69**	**43**	**844**

Gross divestments of shares by segment, EUR million	2009	2010	2011	2012	2013	2014	2015	2016
Generation	10	0	3	102	79	67	0	0
City Solutions					11	446	27	34
Heat	1	52	203	269				
Electricity Sales	-	-	16	2				
Russia	-	43	23	-	-	0	0	127
Other	2	6	0	0	-	2	-	0
Distribution	1	46	323	37	52			
Total for continuing operations	**14**	**147**	**568**	**410**	**142**	**515**	**27**	**161**
Discontinued operations						2,681	6,369	
Total						**3,196**	**6,395**	**161**

Comparable net assets by segment, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation									5,931	5,815
City Solutions									2,182	3,052
Russia									2,561	3,284
Other									258	489
Total for continuing operations									**10,932**	**12,641**

Fortum is disclosing Comparable net assets instead of Net assets from 2016 onwards. Net assets until 2015 are disclosed below.

Net assets by segment, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015 [1]
Generation	5,599	5,331	5,494	5,806	6,247	6,389	6,355	6,001	5,913
City Solutions							2,295	2,112	2,170
Heat	3,507	3,468	3,787	4,182	4,191	4,286			
Electricity Sales	247	188	125	210	11	51			
Russia	456	2,205	2,260	2,817	3,273	3,848	3,846	2,597	2,561
Other	1,237	796	382	29	208	158	295	496	291
Distribution	3,239	3,032	3,299	3,683	3,589	3,889	3,745		
Total for continuing operations	**14,285**	**15,020**	**15,347**	**16,727**	**17,519**	**18,621**	**16,537**	**11,206**	**10,934**
Net assets related to discontinued operations								2,615	-
Total								**13,820**	**10,934**

1) Fortum is disclosing Comparable net assets instead of Net assets from 2016 onwards.

Comparable return on net assets by segment, %	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	18.9	28.0	26.4	22.3	19.9	18.5	13.8	14.2	9.5	6.9
City Solutions							8.7	8.7	7.9	7.5
Heat	9.2	7.3	7.6	7.7	7.4	7.0				
Electricity Sales	-0.6	-15.3	18.6	9.3	33.5	203.1				
Russia	0.0	-3.8	0.0	0.7	3.5	2.7	5.2	5.6	8.2	8.0
Distribution [2]	7.6	8.2	8.6	9.3	8.6	8.8	8.8	9.3		

2) Classified as discontinued operations from 2014 onwards.

Return on net assets by segment, %	2007	2008	2009	2010	2011	2012	2013	2014	2015 [1]
Generation	19.2	29.6	24.5	19.5	24.6	18.7	14.5	13.6	-8.5
City Solutions							9.7	19.1	7.7
Heat	9.3	8.9	7.9	8.4	9.9	8.8			
Electricity Sales	6.9	-14.0	28.9	38.4	4.2	152.3			
Russia	66.3	3.7	0.0	2.4	3.5	3.0	5.2	5.6	8.3
Distribution [2]	7.7	8.1	8.7	9.7	13.7	9.1	9.3	73.6	

1) Fortum is disclosing Comparable net assets instead of Net assets from 2016 onwards.
2) Classified as discontinued operations from 2014 onwards.

Average number of employees	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	3,475	3,591	2,068	1,891	1,873	1,896	1,900	1,685	1,389	1,064
City Solutions							2,051	1,913	1,458	2,043
Heat	2,302	2,422	2,652	2,482	2,682	2,354				
Electricity Sales	936	766	629	538	510	515				
Russia		5,566	6,170	4,555	4,436	4,301	4,245	4,196	4,180	3,814
Other	531	510	593	592	607	661	550	536	983	1,073
Distribution	1,060	1,222	1,166	1,098	902	873	786			
Total for continuing operations	**8,304**	**14,077**	**13,278**	**11,156**	**11,010**	**10,600**	**9,532**	**8,329**	**8,009**	**7,994**
Discontinued operations								492		
Total								**8,821**		

Definitions of key figures

EBITDA (Earnings before interest, taxes, depreciation and amortisation)	=	Operating profit + depreciation and amortisation
Comparable EBITDA	=	EBITDA - items affecting comparability - net release of CSA provision
Items affecting comparability	=	Impairment charges + capital gains and other + changes in fair values of derivatives hedging future cash flow + nuclear fund adjustment
Comparable operating profit	=	Operating profit - items affecting comparability
Impairment charges	=	Impairment charges and related provisions (mainly dismantling)
Capital gains and other	=	Capital gains, transaction costs from acquisitions and other
Changes in fair values of derivatives hedging future cash flow	=	Effects from financial derivatives hedging future cash-flows where hedge accounting is not applied according to IAS 39.
Nuclear fund adjustment	=	Effects from the accounting of Fortum's part of the Finnish Nuclear Waste Fund where the asset in the balance sheet cannot exceed the related liabilities according to IFRIC interpretation 5.
Adjustment for Share of profit of associated companies and joint ventures	=	Adjustment for IAS 39 effects, major sales gains and impairment charges
Funds from operations (FFO)	=	Net cash from operating activities before change in working capital
Capital expenditure	=	Capitalised investments in property, plant and equipment and intangible assets including maintenance, productivity, growth and investments required by legislation including borrowing costs capitalised during the construction period. Maintenance investments expand the lifetime of an existing asset, maintain usage/availability and/or maintains reliability. Productivity investments improve productivity in an existing asset. Growth investments' purpose is to build new assets and/or to increase customer base within existing businesses. Legislation investments are done at a certain point of time due to legal requirements.
Gross investments in shares	=	Investments in subsidiary shares, shares in associated companies and other shares in available for sale financial assets. Investments in subsidiary shares are net of cash and grossed with interest-bearing liabilities in the acquired company.
Return on shareholders' equity, %	=	$\frac{\text{Profit for the year}}{\text{Total equity average}} \times 100$
Return on capital employed, %	=	$\frac{\text{Profit before taxes + interest and other financial expenses}}{\text{Capital employed average}} \times 100$
Return on capital employed continuing operations, %	=	$\frac{\text{Profit before taxes continuing operations + interest and other financial expenses continuing operations}}{\text{Capital employed continuing operations average}} \times 100$
Comparable return on net assets, %	=	$\frac{\text{Comparable operating profit + share of profit (loss) in associated companies and joint ventures + adjustment for Share of profit of associated companies and joint ventures}}{\text{Comparable net assets average}} \times 100$
Capital employed	=	Total assets - non-interest bearing liabilities - deferred tax liabilities - provisions
Comparable net assets	=	Non-interest bearing assets + interest-bearing assets related to the Nuclear Waste Fund - non-interest bearing liabilities - provisions (non-interest bearing assets and liabilities do not include finance related items, tax and deferred tax and assets and liabilities from fair valuations of derivatives used for hedging future cash flows)

Interest-bearing net debt	=	Interest-bearing liabilities - liquid funds
Gearing, %	=	Interest-bearing net debt / Total equity x 100
Equity-to-assets ratio, %	=	Total equity including non-controlling interests / Total assets x 100
Comparable net debt/EBITDA	=	Interest-bearing net debt / Comparable EBITDA
Comparable net debt/EBITDA continuing operations	=	Interest-bearing net debt / Comparable EBITDA continuing operations
Interest coverage	=	Operating profit / Net interest expenses
Interest coverage including capitalised borrowing costs	=	Operating profit / Net interest expenses-capitalised borrowing costs
Average number of employees		Based on monthly average for the whole period
Earnings per share (EPS)	=	Profit for the period - non-controlling interests / Average number of shares during the period
Cash flow per share	=	Net cash from operating activities / Average number of shares during the period
Equity per share	=	Shareholders' equity / Number of shares at the end of the period
Payout ratio, %	=	Dividend per share / Earnings per share x 100
Payout ratio continuing operations, %	=	Dividend per share continuing operations / Earnings per share continuing operations x 100
Dividend yield, %	=	Dividend per share / Share price at the end of the period x 100
Price/earnings (P/E) ratio	=	Share price at the end of the period / Earnings per share
Average share price	=	Amount traded in euros during the period / Number of shares traded during the period
Market capitalisation	=	Number of shares at the end of the period x share price at the end of the period
Trading volumes	=	Number of shares traded during the period in relation to the weighted average number of shares during the period
Effective income tax rate	=	Income tax expense / Profit before income tax
Comparable effective income tax rate	=	Income tax expense - effects from tax rate changes / Profit before income tax decreased by profits from associated companies and joint ventures and tax exempt capital gains or losses
Taxes borne	=	Taxes that a company is obliged to pay to a government, directly or indirectly, on that company's own behalf in respect of an accounting period. Taxes borne include corporate income taxes (excluding deferred taxes), production taxes, employment taxes, taxes on property and cost of indirect taxes. Production taxes include also taxes paid through electricity purchased from associated companies.
Total tax rate	=	Taxes borne / Profit before income tax increased by taxes borne in operating profit
Comparable total tax rate	=	Taxes borne / Profit before income tax increased by taxes borne in operating profit and decreased by profits from associated companies and joint ventures and by tax exempt capital gains or losses
Weighted average applicable income tax rate	=	Sum of the proportionately weighted share of profits before taxes of each group operating country multiplied with an applicable nominal tax rate of the respective countries.

Parent company financial statements, Finnish GAAP (FAS)

Income statement

EUR million	Note	2016	2015
Sales	2	70	71
Other income	3	8	9
Employee costs	4	-31	-37
Depreciation, amortisation and write-downs	7	-6	-9
Other expenses		-67	-78
Operating profit		**-26**	**-44**
Financial income and expenses	5	675	794
Profit after financial items		**649**	**750**
Group contributions [1)]		145	447
Profit before income tax		**794**	**1,198**
Income tax expense	6	-14	-64
Profit for the period		**780**	**1,134**

1) Taxable profits transferred from Finnish subsidiaries.

Balance sheet

EUR million	Note	31 Dec 2016	31 Dec 2015 restated	31 Dec 2015
ASSETS				
Non-current assets				
Intangible assets	7	9	14	14
Property, plant and equipment	7	7	4	4
Shares in Group companies	7	16,379	15,800	15,800
Participations in associated companies	7	6	6	6
Interest-bearing receivables from Group companies	7	717	714	714
Interest-bearing receivables from associated companies	7	15	13	13
Other non-current assets	7	0	1	1
Derivative financial instruments	12, 13	344	370	0
Deferred tax assets		6	7	1
Total non-current assets		**17,484**	**16,930**	**16,553**
Current assets				
Other current receivables from Group companies	8	155	458	458
Other current receivables from associated companies	8	0	0	0
Derivative financial instruments	12, 13	127	268	0
Other current receivables	8	45	9	263
Deposits and securities (maturity over three months)		3,473	4,706	4,706
Cash and cash equivalents		1,463	2,939	2,939
Liquid funds		4,935	7,645	7,645
Total current assets		**5,263**	**8,380**	**8,366**
Total assets		**22,746**	**25,310**	**24,919**
EQUITY				
Shareholders' equity	9			
Share capital		3,046	3,046	3,046
Share premium		2,822	2,822	2,822
Hedging reserve		-23	-31	0
Retained earnings		4,447	4,290	4,284
Profit for the period		780	1,134	1,134
Total shareholders' equity		**11,072**	**11,261**	**11,285**
Provisions for liabilities and charges		**1**	**0**	**0**
LIABILITIES				
Non-current liabilities				
External interest-bearing liabilities	10, 12, 13	4,018	4,516	4,415
Interest-bearing liabilities to Group companies		2,323	6,252	6,252
Interest-bearing liabilities to associated companies	10	273	268	268
Derivative financial instruments	12, 13	124	155	0
Other non-current liabilities		61	83	5
Total non-current liabilities		**6,799**	**11,275**	**10,940**
Current liabilities				
External interest-bearing liabilities	10	617	1,014	1,014
Trade and other payables to Group companies	11	4,002	1,545	1,545
Trade and other payables to associated companies	11	6	4	4
Derivative financial instruments	12, 13	149	98	0
Trade and other payables	11	101	113	131
Total current liabilities		**4,875**	**2,774**	**2,694**
Total liabilities		**11,674**	**14,049**	**13,634**
Total equity and liabilities		**22,746**	**25,310**	**24,919**

Cash flow statement

EUR million	2016	2015
Cash flow from operating activities		
Profit for the period	**780**	**1,134**
Adjustments:		
Income tax expense	14	64
Group contributions	-145	-447
Finance costs - net	-675	-794
Depreciations, amortisation and write-downs	6	9
Operating profit before depreciations (EBITDA)	**-20**	**-35**
Non-cash flow items and divesting activities	8	0
Interest and other financial income	21	36
Interest and other financial expenses paid	-88	-147
Dividend income	756	1,060
Group contribution received	447	565
Realised foreign exchange gains and losses	113	-80
Taxes	-46	-36
Funds from operations	**1,191**	**1,363**
Other short-term receivables increase(-)/decrease(+)	-1	7
Other short-term payables increase(+)/decrease(-)	-6	0
Change in working capital	-7	7
Net cash from operating activities	**1,184**	**1,370**
Cash flow from investing activities		
Capital expenditures	-5	-4
Acquisition of shares and capital contributions in subsidiaries	-583	-1
Capital returns from subsidiaries	0	97
Acquisition of other shares	0	0
Proceeds from sales of fixed assets	2	0
Proceeds from sales of shares in subsidiaries	0	0
Change in interest-bearing receivables and other non-current assets	-5	854
Net cash used in investing activities	**-591**	**947**

EUR million	2016	2015
Cash flow before financing activities	**593**	**2,317**
Cash flow from financing activities		
Proceeds from long-term liabilities	27	33
Payment of long-term liabilities	-811	-901
Change in cashpool liabilities	-3,940	3,604
Change in short-term liabilities	2,398	1,429
Dividends paid	-976	-1,155
Net cash used in financing activities	**-3,302**	**3,010**
Net increase(+)/decrease(-) in liquid funds	**-2,710**	**5,327**
Liquid funds at the beginning of the period	**7,645**	**2,318**
Liquid funds at the end of the period	**4,935**	**7,645**

Notes to the parent company financial statements, FAS

1 Accounting policies and principles

The financial statements of Fortum Oyj are prepared in accordance with Finnish Accounting Standards (FAS).

Change in the accounting principles of financial derivatives and interest-bearing liabilities at fair value in the 2016 financial statements

A new requirement issued by Finnish Accounting Board (KILA 1963/2016) relating to accounting for financial derivatives was published 13 December 2016. The requirements have to be applied in 2016 separate financial statements. Based on this requirement Fortum has chosen to apply IFRS principles for accounting financial derivatives in Fortum Oyj.

Applying IFRS principles means that financial derivatives are fair valued at each balance sheet date, which may create volatility in income statement and equity. The changes due to the new requirement had a minor effect to net profit and equity of Fortum Oyj in 2015 and 2016.

For year 2015 adopted balance sheet and restated balance sheet including the impact from new accounting principles have been presented. Income statement and notes for 2015 are not restated. New notes for financial derivatives have been disclosed for year 2016. Additional information regarding financial instruments for 2015 can be found in ▸ *Note 3*, ▸ *Note 16* and ▸ *Note 17* in the Consolidated financial statements.

Impact of change in accounting principles of financial derivatives and interest-bearing liabilities at fair value on balance sheet of 2015

EUR million	31 Dec 2015	Change	31 Dec 2015 restated
ASSETS			
Derivative financial instruments, non-current assets	0	370	370
Deferred tax assets	1	6	7
Derivative financial instruments, current assets	0	268	268
Other current receivables, current assets	263	-254	9
Total	**264**	**391**	**655**
EQUITY AND LIABILITIES			
Shareholders' equity			
Share capital	3,046	0	3,046
Share premium	2,822	0	2,822
Hedging reserve	0	-31	-31
Retained earnings	4,284	6	4,290
Profit for the period	1,134	0	1,134
Total shareholder's equity	**11,285**	**-25**	**11,261**
LIABILITIES			
External interest-bearing liabilities, long-term	4,415	102	4,516
Derivative financial instruments, long-term	0	155	155
Other non-current liabilities	5	79	83
Derivative financial instruments, short-term	0	98	98
Trade and other current payables	131	-18	113
Total	**4,550**	**415**	**4,965**
Total	**15,835**	**391**	**16,226**

1.1 Sales

Sales include sales revenue from actual operations and exchange rate differences on trade receivables, less discounts and indirect taxes such as value added tax.

1.2 Other income

Other income includes gains on the sales of property, plant and equipment and shareholdings, as well as all other operating income not related to the sales of products or services, such as rents.

1.3 Foreign currency items and derivative instruments

Transactions denominated in foreign currencies have been valued using the exchange rate at the date of the transaction. Receivables and liabilities denominated in foreign currencies outstanding on the balance sheet date have been valued using the exchange rate quoted on the balance sheet date. Exchange rate differences have been entered in the financial net in the income statement.

Fortum Oyj enters into derivative contracts mainly for hedging foreign exchange and interest rate exposures in Fortum Group.

Accounting principles of financial derivatives, see ▸ *Notes 3*, ▸ *Note 16* and ▸ *Note 17* in the Consolidated financial statements.

1.4 Income taxes

Income taxes presented in the income statement consist of accrued taxes for the financial year and tax adjustments for prior years.

1.5 Shares in group companies

The balance sheet value of shares in group companies consists of historical costs less write-downs. If the estimated future cash flows generated by a non-current asset are expected to be permanently lower

than the balance of the carrying amount, an adjustment to the value must be made to write-down the difference as an expense. If the basis for the write-down can no longer be justified at the balance sheet date, it must be reversed.

1.6 Property, plant and equipment and depreciation

The balance sheet value of property, plant and equipment consists of historical costs less depreciation and other deductions. Property, plant and equipment are depreciated using straight-line depreciation based on the expected useful life of the asset.

The depreciation is based on the following expected useful lives:

Buildings and structures	15–40 years
Machinery and equipment	3–15 years
Other intangible assets	5–10 years

1.7 Pension expenses

Statutory pension obligations are covered through a compulsory pension insurance policy or Group's own pension fund. Costs for pension fund are recorded in the income statement based on contributions paid pursuant to the Finnish pension laws and regulations.

1.8 Long-term incentive schemes

Costs related to the Fortum long-term incentive plans are accrued over the vesting period and the related liability is booked to the balance sheet.

1.9 Provisions

Foreseeable future expenses and losses that have no corresponding revenue to which Fortum is committed or obliged to settle, and whose monetary value can be reasonably assessed, are entered as expenses in the income statement and included as provisions in the balance sheet.

1.10 Presentation of the primary statements and notes

Information presented in the notes is given separately for Fortum Group companies and for associated companies of the Group.

2 Sales by market area

EUR million	2016	2015
Finland	43	50
Other countries	28	21
Total	**70**	**71**

3 Other income

EUR million	2016	2015
Gain on sales of shareholdings	-	0
Rental and other income	8	9
Total	**8**	**9**

4 Employee costs

EUR million	2016	2015
Personnel expenses		
Wages, salaries and remunerations	24	30
Indirect employee costs		
Pension costs	5	5
Other indirect employee costs	1	1
Other personnel expenses	1	1
Total	**31**	**37**

EUR thousand	2016	2015		
	Pekka Lundmark, President and CEO	Pekka Lundmark, President and CEO from 7 Sep 2015 [2]	Timo Karttinen, Interim President and CEO until 6 Sep 2015 [2]	Tapio Kuula, President and CEO until 31 Jan 2015 [3]
Compensation for the President and CEO				
Salaries and fringe benefits	982	305	372	279
Performance bonuses [1]	248	21	15	0
Share-based incentives	433	114	282	903
Pensions (statutory)	209	55	66	47
Pensions (voluntary)	356	0	37	25
Social security expenses	73	17	20	14
Total	**2,299**	**513**	**791**	**1,269**

1) Performance bonuses are based on estimated amounts.

2) Includes the compensation CFO Timo Karttinen received during his position as Fortum's Interim President and CEO during 1 February - 6 September 2015 and as a substitute to the President and CEO in January 2015. Also included is a lump sum payment of EUR 70 thousand for his success in assuming the responsibilities of Interim President and CEO.

3) Share-based incentives includes the gross payment Tapio Kuula received from the share plans commenced in 2012, 2013 and 2014. Mr Kuula received the net amount of the payment as shares, after deducting the taxes and tax-related charges arising from the payment. These shares, totalling 30,271 shares, are under lock-up until the spring 2018.

EUR thousand	2016	2015
Compensation for the Board of Directors	**518**	**499**

The compensation above is presented on accrual basis. Paid salaries and remunerations for the President and CEO Pekka Lundmark were EUR 1,012 thousand (2015:305). In 2015 paid salaries and remunerations for Interim President and CEO Timo Karttinen were EUR 372 thousand and for former President and CEO Tapio Kuula EUR 1,595 thousand.

For the President and CEO Pekka Lundmark the retirement age of old-age pension is 63. The pension obligations for Pekka Lundmark are covered through insurance company and for Timo Karttinen through pension fund. The pension obligation for Tapio Kuula was covered through insurance company.

Board members are not in an employment relationship or service contract with Fortum, and they are not given the opportunity to participate in Fortum's STI or LTI programme, nor does Fortum have a pension plan that they can opt to take part in. The compensation of the board members is not tied to the sustainability performance of the Group.

See ▸ *Note 11* Employee benefits and ▸ *Note 32* Pension obligations in the Consolidated financial statements.

	2016	2015
Average number of employees	272	283

5 Financial income and expenses

EUR million	2016	2015
Dividend income from group companies	756	1,060
Dividend income from associated companies and other companies	0	0
Interest and other financial income from group companies	8	18
Interest and other financial income from associated companies	0	7
Write-downs of participations in group companies	-4	-160
Interest and other financial income	3	7
Exchange rate differences	41	18
Changes in fair values of derivatives	-11	0
Interest and other financial expenses to group companies	0	-1
Interest and other financial expenses	-116	-155
Total	**675**	**794**
Interest income	11	32
Interest expenses	-113	-152
Interest net	**-102**	**-120**

Write-downs of participations in group companies are related to shares in Fortum Heat and Gas Oy and received dividend payments. Interest and other financial income from associated company is related to AB Fortum Värme samägt med Stockholm Stad.

6 Income tax expense

EUR million	2016	2015
Taxes on regular business operations	-15	-25
Taxes on group contributions	29	89
Total	**14**	**64**
Current taxes for the period	9	61
Current taxes for prior periods	7	3
Changes in deferred tax	-1	1
Total	**14**	**64**

For more information, see ▸ *Note 14* Contingent liabilities.

7 Non-current assets

Intangible assets

EUR million	Total
Cost 1 January 2016	**59**
Additions	1
Disposals	-12
Cost 31 December 2016	**47**
Accumulated depreciation 1 January 2016	**45**
Disposals	-11
Depreciation for the period	5
Accumulated depreciation 31 December 2016	**39**
Carrying amount 31 December 2016	**9**
Carrying amount 31 December 2015	14

Property, plant and equipment

EUR million	Buildings and structures	Machinery and equipment	Advances paid and construction in progress	Total
Cost 1 January 2016	**1**	**15**	**1**	**17**
Additions and transfers between categories	0	1	3	5
Disposals		-7		-7
Cost 31 December 2016	**1**	**9**	**4**	**14**
Accumulated depreciation 1 January 2016	**1**	**13**		**13**
Disposals		-7		-7
Depreciation for the period	0	1		1
Accumulated depreciation 31 December 2016	**1**	**6**		**7**
Carrying amount 31 December 2016	**0**	**2**	**4**	**7**
Carrying amount 31 December 2015	0	2	1	4

Investments

EUR million	Shares in Group companies	Participation in associated companies	Receivables from Group companies	Receivables from associated companies	Other non-current assets	Total
1 January 2016	**16,884**	**6**	**714**	**13**	**8**	**17,625**
Additions [1]	583		3	2		588
31 December 2016	**17,467**	**6**	**717**	**15**	**8**	**18,213**
Accumulated write-downs 1 January 2016	**-1,084**	**0**	**0**	**0**	**-7**	**-1,091**
Impairment charges	-4					-4
Accumulated write-downs 31 December 2016 [2]	**-1,088**	**0**	**0**	**0**	**-7**	**-1,095**
Carrying amount 31 December 2016	**16,379**	**6**	**717**	**15**	**0**	**17,118**

1) Additions regarding shares comprise acquisitions of shares and capital contributions and reclassification between other non-current assets and shares in Group companies.

2) Write-downs of participations in group companies are related to shares in Fortum Heat and Gas Oy due to received dividend payments.

8 Other current receivables

EUR million	2016	2015
Other current receivables from group companies		
Trade receivables	10	6
Group contribution and other receivables	145	447
Accrued income and prepaid expenses	0	5
Total	**155**	**458**
Other current receivables from associated companies		
Accrued income and prepaid expenses	0	0
Total	**0**	**0**
Other current receivables		
Trade receivables	0	1
Other receivables	0	3
Accrued income and prepaid expenses	44	259
Total	**45**	**263**

9 Changes in shareholders' equity

EUR million	Share capital	Share premium	Hedging reserve	Retained earnings	Total
Total equity 31 December 2015	**3,046**	**2,822**		**5,417**	**11,285**
Change in accounting policy			-31	6	-25
Total equity 31 December 2015 restated	**3,046**	**2,822**	**-31**	**5,424**	**11,261**
Cash dividend				-977	-977
Change in hedging reserve			8		
Profit for the period				780	780
Total equity 31 December 2016	**3,046**	**2,822**	**-23**	**5,226**	**11,072**
Total equity 31 December 2014	**3,046**	**2,822**		**5,439**	**11,307**
Cash dividend				-1,155	-1,155
Profit for the period				1,134	1,134
Total equity 31 December 2015	**3,046**	**2,822**		**5,417**	**11,285**

EUR million	2016	2015
Distributable funds		
Retained earnings 31 December	5,226	5,417
Hedging reserve	-23	0
Distributable funds 31 December	5,204	5,417

10 Interest-bearing liabilities

EUR million	2016	2015
External interest-bearing liabilities [1)]		
Bonds	2,986	3,243
Loans from financial institutions	210	365
Other long-term interest-bearing debt	822	807
Total long-term interest-bearing debt	**4,018**	**4,415**
Current portion of long-term bonds	343	750
Current portion of loans from financial institutions	139	63
Other short-term interest-bearing debt	135	202
Total short-term interest-bearing debt	**617**	**1,014**
Total external interest-bearing debt	**4,635**	**5,429**

Maturity of external interest-bearing liabilities [1)]

EUR million	2016
2017	617
2018	560
2019	792
2020	30
2021	534
2022 and later	2,102
Total	**4,635**

EUR million	2016	2015
External interest-bearing liabilities due after five years [1)]		
Bonds	1,282	1,694
Loans from financial institutions	0	15
Other long-term liabilities	821	805
Total	**2,102**	**2,514**

EUR million	2016	2015
Other interest-bearing liabilities due after five years		
Interest-bearing liabilities to associated companies	273	268
Total	**273**	**268**

1) Does not include liabilities to group and associated companies.

Non-discounted cash flows of interest-bearing liabilities and their maturities, see ▸ *Note 12* Financial derivatives.

11 Trade and other payables

EUR million	2016	2015
Trade and other payables to group companies		
Trade payables	0	1
Deposits from group companies and other liabilities	4,002	1,544
Accruals and deferred income	0	0
Total	**4,002**	**1,545**
Trade and other payables to associated companies		
Accruals and deferred income	6	4
Total	**6**	**4**
Trade and other payables		
Trade payables	6	9
Other liabilities	4	4
Accruals and deferred income	91	117
Total	**101**	**131**

12 Financial derivatives

Interest rate and currency derivatives by instrument 2016

	Notional amount				Fair value		
	Remaining lifetimes						
EUR million	Under 1 year	1–5 years	Over 5 years	Total	Positive	Negative	Net
Forward foreign exchange contracts	6,369	252		6,621	131	141	-11
Interest rate swaps	259	2,718	1,105	4,081	269	127	142
Interest rate and currency swaps	29	798		827	71	5	66
Total	**6,657**	**3,767**	**1,105**	**11,529**	**471**	**273**	**198**
Of which long-term					344	124	220
Short-term					127	149	-22

Derivatives notes for 2015

EUR million	2015 Contract or notional value	Fair value	Not recognised as income
Interest rate swaps	5,197	141	139
Forward foreign exchange contracts [1)]	9,073	87	-4
Interest rate and currency swaps	1,244	157	9

1) Includes also future positions.

Maturity analysis of interest-bearing liabilities and derivatives

Amounts disclosed below are non-discounted expected cash flows (future interest payments and amortisations) of interest-bearing liabilities and interest rate and currency derivatives.

EUR million	2015 Under 1 year	1–5 years	Over 5 years	Total
Interest-bearing liabilities	6,047	2,239	2,491	10,777
Interest rate and currency derivatives liabilities	6,669	1,234	20	7,924
Interest rate and currency derivatives receivables	-6,650	-1,404	-27	-8,080
Total	**6,067**	**2,069**	**2,485**	**10,621**

Interest-bearing liabilities include loans from the State Nuclear Waste Management Fund and Teollisuuden Voima Oyj of EUR 1,094 million. These loans are renewed yearly and the related interest payments are calculated for ten years in the table above.

13 Derivatives and liabilities by fair value hierarchy

Fair value measurements are classified using a fair value hierarchy i.e. Level 1, Level 2 and Level 3 that reflects the significance of the inputs used in making the measurements. For further information see accounting principles in ▸ *Note 17* Financial assets and liabilities by fair value hierarchy in the Consolidated financial statements.

Derivatives in financial assets

EUR million	2016 Level 1	Level 2	Level 3	Total
Derivatives in non-current assets				
Derivative financial instruments				
Interest rate and currency derivatives				
Hedge accounting		240		240
Non-hedge accounting		103		103
Derivatives in current assets				
Derivative financial instruments				
Interest rate and currency derivatives				
Hedge accounting		17		17
Non-hedge accounting		110		110
Total	**-**	**471**	**-**	**471**

Derivatives and liabilities at fair value in financial liabilities

EUR million	2016 Level 1	Level 2	Level 3	Total
In non-current liabilities				
Interest-bearing liabilities [1)]		1,280		1,280
Derivative financial instruments				
Interest rate and currency derivatives				
Hedge accounting		72		72
Non-hedge accounting		52		52
In current liabilities				
Derivative financial instruments				
Interest rate and currency derivatives				
Hedge accounting		12		12
Non-hedge accounting		137		137
Total	**-**	**1,554**	**-**	**1,554**

1) Fair valued part of bond in the fair value hedge relationship.

Net fair value amount of interest rate and currency derivatives is EUR 198 million, assets EUR 471 million and liabilities EUR 273 million. Fortum Oyj has cash collaterals based on Credit Support Annex agreements with some counterparties. At the end of December 2016 Fortum Oyj had received EUR 135 million from Credit Support Annex agreements. The received cash has been booked as short-term interest-bearing liability.

14 Contingent liabilities

EUR million	2016	2015
On own behalf		
Other contingent liabilities	2	2
On behalf of group companies		
Guarantees	135	164
On behalf of associated companies		
Guarantees on behalf of Swedish associated companies	565	587
Contingent liabilities total	**702**	**753**

Operating leases

EUR million	2016	2015
Lease payments		
Not later than 1 year	2	3
Later than 1 year and not later than 5 years	2	3
Total	**5**	**6**

Fortum received an income tax assessment in Finland for 2007 in December 2013. Tax authorities claimed in the transfer pricing audit that detailed business decisions were done by Fortum Oyj and therefore re-characterized the equity Fortum has injected to its Belgium subsidiary Fortum Project Finance NV not to be equity, but funds to be available for the subsidiary. Tax authorities' view was that the interest income that Fortum Project Finance NV received from its loans should be taxed in Finland, not Belgium. The tax authorities claimed an additional tax of approximately EUR 136 million for the year 2007. Fortum considered the claims unjustifiable both for legal grounds and interpretation. Fortum appealed the decision.

The Board of Adjustment of the Large Taxpayers' Office approved Fortum's appeal for the year 2007 on 21 August 2014. The Board of Adjustment's decision is in line with the principle adopted in the Supreme Administrative Court's precedent in June 2014, according to which, under transfer pricing rules, the nature of business cannot be re-characterized for tax purposes, but can only adjust the pricing of goods or services. Despite the new precedent, the Tax Recipients' Legal Services Unit within the tax authorities appealed this decision to the Administrative Court in Helsinki. In May 2016 the Administrative Court announced its decision in the case. The court ruled in Fortum's favour and rejected the appeal of the Tax Recipients' Legal Services Unit. The Tax Recipient's Legal Service Unit appealed the Administrative Court's decision to the Supreme Administrative Court in July 2016.

In November 2016 the Supreme Administrative Court decided not to grant a permit to appeal. Thus the decision favourable to Fortum of the Board of Adjustment of the Large Taxpayer's office from August 2014, remains in force and is final. No additional tax is to be paid for the year 2007 based on the above-mentioned audit.

In December 2014 Fortum Oyj received a non-taxation decision from the large Taxpayers' office for the years 2008–2011 regarding the activities in the Belgian and Dutch financing companies. The decision was given due to the transfer pricing audit carried out in 2013–2014 and was in line with the Board of Adjustment's decision with respect to Fortum for the year 2007. The Tax Recipients' Legal Services Unit has appealed the decisions in February 2015 to the Board of Adjustment of the Large Taxpayers' office. According to the claim of correction an additional tax of approximately EUR 406 million for the years 2008–2011 was claimed. In December 2016 the Tax Recipients' Legal Services Unit cancelled its appeals for the years 2008–2011. In January 2017 the Board of Adjustment of the Large Taxpayers' office declared the cases for 2008–2011 annulled. Thus the non-taxation decision from August 2014 from the large Taxpayers' office remains in force for the years 2008–2011. No additional tax is to be paid for the years 2008–2011 based on the above-mentioned audit.

For more information, see ▸ *Note 38* Legal actions and official proceedings in the Consolidated financial statements.

15 Related party transactions

See ▸ *Note 41* Related party transactions in the Consolidated financial statements.

Investments in group companies, associated companies and other holdings

		No. of shares units	Holding %
Investments in group companies			
Ekokem Oyj	Finland	3,458,974	98.24
Fortum Asiakaspalvelu Oy	Finland	10,010	100.00
Fortum Heat and Gas Oy	Finland	2,000,000	100.00
Fortum Markets Oy	Finland	24,039	100.00
Fortum Norm Oy	Finland	250	100.00
Fortum Power and Heat Oy	Finland	91,197,543	100.00
Fortum Real Estate Oy	Finland	2,000,000	100.00
Fortum Project Finance N.V.	Belgium	727,820	99.99
Fortum India Private Ltd	India	1	0.10
Fortum Finance Ireland Ltd	Ireland	25,000	100.00
Fortum Investment S.A.R.L.	Luxembourg	990	0.45
Fortum Nordic AB	Sweden	596,000	100.00
Fortum Sweden AB	Sweden	1,000	100.00
Fortum Holding B.V.	The Netherlands	61,062	100.00
Investments in associated companies			
AW Energy Oy	Finland	806	13.60
Wello Oy	Finland	1,508	16.18
Other holdings			
Clic Innovation Oy	Finland	100	3.80
East Office of Finnish Industries Oy	Finland	1	5.88
Prototype Carbon Fund	USA	N/A	

Proposal for the use of the profit shown on the balance sheet

The distributable funds of Fortum Oyj as at 31 December 2016 amounted to EUR 5,203,674,879.03 including the profit of the financial period 2016 of EUR 779,867,542.66. After the end of the financial period there have been no material changes in the financial position of the Company.

The Board of Directors proposes to the Annual General Meeting that a dividend of EUR 1.10 per share be paid for 2016.

Based on the number of registered shares as at 1 February 2017 the total amount of dividend proposed to be paid is EUR 977,203,749.50. The Board of Directors proposes, that the remaining part of the distributable funds be retained in the shareholders' equity.

Espoo, 1 February 2017

Sari Baldauf

Kim Ignatius

Minoo Akhtarzand

Heinz-Werner Binzel

Eva Hamilton

Tapio Kuula

Veli-Matti Reinikkala

Jyrki Talvitie

Pekka Lundmark
President and CEO

Auditor's report

To the Annual General Meeting of Fortum Oyj

Report on the Audit of Financial Statements

Opinion

We have audited the financial statements of Forum Oyj (business identity code 1463611-4) for the year ended 31 December, 2016. The financial statements comprise the consolidated statement of financial position, income statement, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies, as well as the parent company's balance sheet, income statement, cash flow statement and notes to the financial statements.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial performance and financial position in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU and
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Basis for opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of Financial Statements section of our report.

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter	How our audit addressed the key audit matter
Valuation of fixed assets and goodwill Refer to Notes 2, 18 and 19. • The consolidated balance sheet includes property, plant and equipment amounting to EUR 9 930 million and goodwill amounting to EUR 353 million. • The main assumptions used in the valuation of energy production property, plant and equipment and goodwill relate to the estimated future operating cash flows and the discount rates. • In acquisition the assumptions relates to determining the fair values and remaining useful lives of acquired intangible and tangible assets. • The potential indicators for impairment are among other things changes in electricity and fuel prices, regulatory/political changes relating to energy taxes and price regulations. • The assumptions used in the valuation of the balances in question require management judgment.	• We have evaluated the process how management has assessed the indicators for potential impairment. We have performed audit procedures on impairment models relating to material cash generating units. • We obtained entity's impairment testing documentation for goodwill and energy production assets when tested and evaluated the rationale of key assumptions applied by management, including commodity price forecasts, profit and cash flow forecasts, terminal values, foreign exchange rates and the selection of discount rates. • We have compared, that the forecasts used in the impairment testing calculations are based on long term forecast approved by management. • We challenged management's assumptions and judgments with reference to historical data and, where applicable, external benchmarks. • We assessed the models used in the impairment testing and carried out our testing for the sensitivity calculations. • We assessed the adequacy of related disclosures in the financial statements.

Key audit matter	How our audit addressed the key audit matter
Associated companies and joint ventures Refer to Notes 2, 20 and 38. • Fortum participates in a number of associated companies and joint ventures with a total carrying amount of EUR 2,112 million in the consolidated financial statements. • The assessment of the recoverable value of the associated companies and joint ventures incorporates significant management judgments and estimates. • The associated companies and joint ventures are joint contractual arrangements, which include several complex accounting, regulatory and legal aspects as described in note 38. These aspects may have significant impact on Fortum's financial reporting.	• We have reviewed and evaluated the management's process to monitor and control the significant associated companies and joint ventures as well as to follow the related legal cases. • We have assessed and challenged the management judgment and assumptions used determining the recoverable amount for associated companies and joint ventures. We have also evaluated the accuracy of the calculations prepared to quantify the recoverable amount. • We assessed the adequacy of related disclosures in the financial statements.

Key audit matter	How our audit addressed the key audit matter
Fair value measurement of derivatives and hedge accounting Refer to Notes 3, 6, 8, 16 and 17. • In Fortum's 2016 consolidated financial statements total derivative assets amounts to EUR 545 million and total derivative liabilities amounts to EUR 658 million. The net effect of changes in fair values of derivatives hedging future cash flow amounts to EUR -65 million in items affecting comparability in the consolidated income statement and the cash flow hedges in other equity components amount to EUR -115 million. • The fair value of derivative financial instruments is determined through the application of valuation techniques which often involve management judgment. Fortum's business is exposed to fluctuations in prices and availability of commodities used in the production and sales of energy products. The main exposure is toward energy prices and volumes. Electricity price risk is hedged by entering into electricity derivative contracts. Fortum uses hedging instruments to reduce the effect of electricity price volatility.	• Our audit procedures included an assessment of internal controls over the hedge accounting documentation and effectiveness testing, measurement of fair value measures, and evaluating the methodologies, inputs, judgments made and assumptions used by management in determining fair values. • For Fortum's fair valuation models, we evaluated rationale of the models and accounting treatment applied. We compared observable inputs against independent sources and externally available market data. • We have assessed the existence and completeness of outstanding derivative contracts as of 31 December 2016 by requesting confirmations from the counterparties. • We have assessed that financial instruments included in hedge relationships are accounted for in accordance with IAS 39. • We have assessed the adequacy of the presentation for derivative financial instruments and hedge accounting applied in the financial statements.

Key audit matter	How our audit addressed the key audit matter
Nuclear related assets and liabilities Refer to Note 30. • Nuclear related assets and liabilities in consolidated balance sheet amount to EUR 830 million. • Fortum's nuclear related provisions and the related part of the Finnish State Nuclear Waste Management Fund are both presented separately as disclosed in note 30. • Fortum's share in the Finnish State Nuclear Waste Management Fund is accounted for according to IFRIC 5 which states that the fund assets are measured at the lower of fair value or the value of the related liabilities. • Due to complexity and materiality, the accounting treatment for nuclear decommissioning is complex and requires application of special accounting practice and management judgment when forming estimates for the basis of accounting such as technical plans, timing, cost estimates and discount rate.	• We have assessed Fortum's accounting manual and principles for Nuclear Decommissioning Accounting, whether they are in line with IFRS accounting principles. • We have assessed the assumptions and judgments made and adopted by the management in the accounting for the nuclear waste provisions and share in state nuclear waste management fund have been based on current legislation and decisions set by Finnish State Nuclear Waste Management Fund. • We assessed the adequacy of related disclosures in the financial statements.

Key audit matter	How our audit addressed the key audit matter
Income taxes Refer to Note 29 and 38. • Fortum has several tax assessments ongoing. • The accounting treatment and disclosing of tax cases require management to make judgments and estimates in disclosing and accounting tax contingencies and receivables as described in note 29. • Ongoing tax assessments are lengthy and at various stages from preliminary discussions with tax authorities through to court proceedings, where obtaining the final tax assessments can take a number of years prior to concluding.	• We performed testing regarding Fortum's tax positions in the significant tax jurisdictions in which Fortum operates. • We assessed the rationale of management's assumptions and challenged the management judgment applied in relation to disclosing and accounting the tax contingencies and receivables of the tax cases. Together with our tax specialist we have also assessed the company's external opinions which have been used to support the management's assumptions. • We assessed the adequacy of related disclosures in the financial statements.

Responsibilities of the Board of Directors and the President and CEO for the financial statements

The Board of Directors and the President and CEO are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the President and CEO are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the President and CEO are responsible for assessing the parent company's and the group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

Auditor's responsibilities in the audit of financial statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the President and CEO use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit. We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Reporting Requirements

Other information

The Board of Directors and the President and CEO are responsible for the other information. The other information comprises information included in the Operating and Financial Review and in the

Financials, but does not include the financial statements and our report thereon. We obtained the Operating and Financial Review prior to the date of the auditor's report, and the Financials is expected to be made available to us after the date of the auditor's report.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to Operating and Financial Review, our responsibility also includes considering whether the Operating and Financial Review has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the Operating and Financial Review is consistent with the information in the financial statements and the Operating and Financial Review has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed, we conclude that there is a material misstatement in of the information included in the Operating and Financial Review, we are required to report this fact. We have nothing to report in this regard.

Other opinions

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the use of the profit shown on the balance sheet is in compliance with the Limited Liability Companies Act. We support that the Board of Directors of the parent company and the President and CEO should be discharged from liability for the financial period audited by us.

Espoo, 1 February 2017

Deloitte & Touche Oy
Audit Firm

Jukka Vattulainen
Authorised Public Accountant (KHT)

Operational key figures

Note: Operational key figures are unaudited.

Comparability of information presented in tables and graphs

Information in the tables and graphs presented for year 2012 or earlier is not restated due to the adoption of IFRS 10 and IFRS 11. Adoption of standards influences treatment of Fortum's holding in AB Fortum Värme samägt med Stockholms stad in the the consolidated financial statements.

Generation

Fortum's total power and heat generation in EU and Norway, TWh	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Power generation	52.2	52.6	49.3	53.7	55.3	53.9	47.4	50.1	50.2	47.5
Heat generation	26.1	25.0	23.2	26.1	22.0	18.5	10.4	8.2	6.4	7.1

Fortum's total power and heat generation in Russia, TWh	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Power generation	-	11.6	16.0	16.1	17.4	19.2	20.0	23.3	25.7	25.5
Heat generation	-	15.3	25.6	26.0	25.4	24.8	24.2	26.4	25.8	20.7

Fortum's own power generation by source, total in the Nordic area, TWh	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Hydro and wind power	20.0	22.9	22.1	22.0	21.0	25.2	18.1	22.4	25.1	20.8
Nuclear power	24.9	23.7	21.4	22.0	24.9	23.4	23.7	23.8	22.7	24.1
Thermal power	6.2	5.0	4.6	8.3	7.2	3.0	3.4	1.8	1.0	1.4
Total	**51.1**	**51.6**	**48.1**	**52.3**	**53.1**	**51.6**	**45.2**	**48.0**	**48.8**	**46.2**

Fortum's own power generation by source, total in the Nordic area, %	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Hydro and wind power	39	44	46	42	40	49	40	46	51	45
Nuclear power	49	46	44	42	47	45	52	50	47	52
Thermal power	12	10	10	16	13	6	8	4	2	3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Capacity

Power generation capacity by segment, MW	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation [1)]	9,560	9,575	9,709	9,728	9,752	9,702	9,475	9,063	8,046	8,039
Heat	1,360	1,213	1,446	1,600	1,670	1,569				
City Solutions							793	803	743	760
Russia	-	2,785	2,785	2,785	3,404	3,404	4,250	4,758	4,903	4,482
Other										53
Total	**10,920**	**13,573**	**13,940**	**14,113**	**14,826**	**14,675**	**14,518**	**14,624**	**13,692**	**13,334**

1) 2015 figure excluding 750MW mothballed capacity of Inkoo power plant of which preparations for permanent dismantling has started.

Heat production capacity by segment, MW	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Generation	250	250	250	250	250	250	250	0		
Heat	10,973	10,218	10,284	10,448	10,375	8,785				
City Solutions							4,317	3,936	3,915	3,818
Russia	-	13,796	13,796	13,796	14,107	13,396	13,466	13,466	12,696	9,920
Total	**11,223**	**24,264**	**24,330**	**24,494**	**24,732**	**22,431**	**18,033**	**17,402**	**16,611**	**13,738**

	Finland		Sweden		Russia		Poland		Other		Total	
Fortum's power generation capacity by type and area, MW	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Hydropower	1,535	1,535	3,117	3,088	0	-	0	-	0	-	4,652	4,623
Nuclear power	1,472	1,465	1,539	1,539	0	-	0	-	0	-	3,011	3,004
Combined heat and power	456	438	9	0	4,482	4,903	186	197	109	93	5,242	5,631
Condensing power	376	376	0	12	0	-	0	-	0	-	376	389
Other	0	-	38	30	0	-	0	-	15	15	53	45
Total	**3,839**	**3,815**	**4,703**	**4,669**	**4,482**	**4,903**	**186**	**197**	**124**	**108**	**13,334**	**13,692**

	Finland		Sweden		Russia		Poland		Other		Total	
Fortum's heat production capacity by area, MW	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Heat	2,024	1,974	35	0	9,920	12,696	961	1,129	798	812	13,738	16,611

Sales

Fortum's total power and heat sales in EU and Norway, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Electricity sales	2,370	2,959	2,802	3,110	2,868	2,700	2,462	2,344	1,921	1,893
Heat sales	1,096	1,157	1,095	1,309	1,278	1,201	538	468	423	449

Fortum's total power and heat sales in Russia, EUR million	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Electricity sales	-	332	390	505	590	713	822	758	661	691
Heat sales	-	141	219	287	324	300	290	285	228	199

Fortum's total power sales by area, TWh	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Finland	29.0	28.7	26.1	30.7	24.6	21.6	23.4	21.6	22.3	22.8
Sweden	27.6	28.5	26.9	28.3	29.4	30.1	23.3	28.2	29.8	28.8
Russia	-	14.8	19.5	18.7	20.2	23.3	25.6	26.5	29.4	29.5
Other countries	3.1	3.0	3.2	3.2	3.6	3.8	4.3	3.8	2.8	3.6
Total	**59.7**	**75.0**	**75.7**	**80.9**	**77.8**	**78.8**	**76.6**	**80.1**	**84.3**	**84.7**

Fortum's total heat sales by area, TWh	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Finland	11.1	10.8	8.0	9.6	8.5	5.8	5.5	3.2	3.1	3.6
Russia	-	15.3	25.6	26.8	26.7	26.4	24.1	26.0	25.4	20.7
Sweden	9.2	9.1	9.8	10.9	8.5	8.5	-	-	-	0.1
Poland	3.5	3.6	3.7	4.0	4.3	4.3	4.1	3.4	3.4	3.6
Other countries	3.3	3.4	3.5	3.6	3.4	2.9	3.1	2.8	1.2	1.4
Total	**27.1**	**42.2**	**50.6**	**54.9**	**51.4**	**47.9**	**36.8**	**35.4**	**33.2**	**29.4**

Volume of distributed electricity in distribution networks, TWh	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Finland	9.2	9.3	9.4	10.0	9.5	9.8	9.5	2.8	-	-
Sweden	14.3	14.0	14.0	15.2	14.2	14.4	14.1	13.7	6.4	-
Norway	2.3	2.3	2.3	2.5	2.3	2.4	2.5	1.1	-	-
Estonia	0.2	0.2	0.2	0.2	0.1	0.0	-	-	-	-
Total	**26.0**	**25.8**	**25.9**	**27.9**	**26.1**	**26.6**	**26.1**	**17.6**	**6.4**	**-**

Quarterly financial information

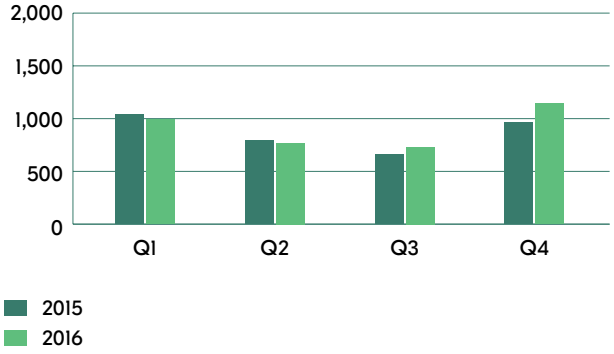
Note: Quarterly financial information is unaudited.

Selected data based on quarterly consolidated income statement

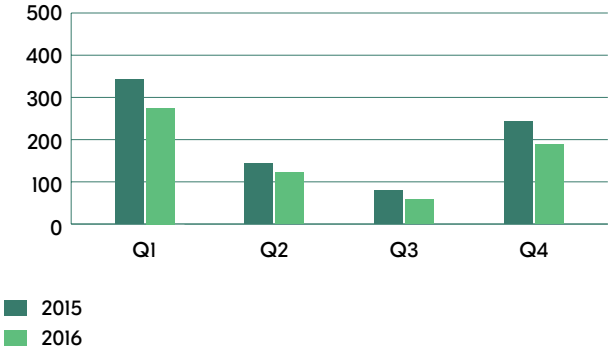
EUR million	Q1/2015	Q2/2015	Q3/2015	Q4/2015	2015	Q1/2016	Q2/2016	Q3/2016	Q4/2016	2016
IS Sales	1,040	794	661	964	3,459	989	768	732	1 143	3,632
Comparable EBITDA continuing operations	396	228	163	315	1,102	357	209	151	298	1,015
IS Comparable operating profit	343	143	79	243	808	275	122	58	188	644
IS Operating profit	350	144	-682	38	-150	369	67	-6	202	633
IS Share of profit/loss of associates and joint ventures	58	22	-95	35	20	67	38	11	15	131
IS Finance costs - net	-57	-24	-42	-52	-175	-47	-44	-44	-34	-169
IS Profit before income tax	350	143	-818	20	-305	390	61	-40	184	595
IS Income tax expense	-55	-25	160	-2	78	-59	-4	9	-37	-90
IS Profit for the period from continuing operations	295	118	-659	19	-228	331	57	-31	147	504
IS Profit for the period from discontinued operations	63	4,306	-	-	4,369	-	-	-	-	-
IS Profit for the period	358	4,424	-659	19	4,142	331	57	-31	147	504
IS Non-controlling interests	-4	-1	5	-5	-4	-5	-1	0	-3	-8
IS Profit for the period, owners of the parent	354	4,424	-654	14	4,138	326	57	-31	145	496
Earnings per share for profit attributable to the equity owners of the company (EUR per share)										
Total Fortum	0.40	4.98	-0.74	0.02	4.66	0.37	0.06	-0.03	0.16	0.56
Continuing operations	0.33	0.13	-0.74	0.02	-0.26	0.37	0.06	-0.03	0.16	0.56
Discontinued operations [1]	0.07	4.85	0.00	0.00	4.92	-	-	-	-	-

1) Includes impact from sales gains of the Swedish distribution business amounting to EUR 4.82 in Q2 2015.

Sales by quarter, EUR million



Comparable operating profit by quarter, EUR million



Quarterly sales by segment

EUR million	Q1/2015	Q2/2015	Q3/2015	Q4/2015	2015	Q1/2016	Q2/2016	Q3/2016	Q4/2016	2016
Generation [1]	500	404	377	440	**1,722**	467	384	371	435	**1,657**
City Solutions [1]	406	244	185	352	**1,187**	397	260	237	530	**1,424**
Russia	263	211	154	266	**893**	249	182	175	289	**896**
Other [1]	29	29	28	28	**114**	31	30	29	31	**121**
Netting of Nord Pool transactions [2]	-119	-64	-57	-97	**-336**	-120	-69	-66	-129	**-384**
Eliminations	-38	-31	-26	-26	**-122**	-34	-20	-15	-13	**-82**
IS Total for continuing operations	**1,040**	**794**	**661**	**964**	3,459	**989**	**768**	**732**	**1 143**	3,632
Discontinued operations	180	95	0	0	**274**	-	-	-	-	**-**
Eliminations [3]	-20	-11	0	0	**-31**	-	-	-	-	**-**
Total	**1,200**	**878**	**660**	**964**	3,702	**989**	**768**	**732**	**1 143**	3,632

1) Sales, both internal and external, includes effects from realised hedging contracts. Effect on sales can be negative or positive depending on the average contract price and realised spot price.

2) Sales and purchases with Nord Pool Spot is netted on Group level on an hourly basis and posted either as revenue or cost depending on if Fortum is a net seller or net buyer during any particular hour.

3) Sales to and from discontinued operations.

Quarterly comparable operating profit by segments

EUR million	Q1/2015	Q2/2015	Q3/2015	Q4/2015	2015	Q1/2016	Q2/2016	Q3/2016	Q4/2016	2016
Generation	203	114	102	142	**561**	155	98	77	87	**417**
City Solutions	58	11	-13	53	**108**	58	7	-16	63	**112**
Russia	97	35	0	69	**201**	79	34	12	66	**191**
Other	-15	-17	-10	-21	**-63**	-16	-18	-15	-28	**-76**
IS Comparable operating profit	**343**	**143**	**79**	**243**	808	**275**	**122**	**58**	**188**	644
Impairment charges	0	-15	-784	-119	**-918**	0	0	0	27	**27**
Capital gains and other	7	0	14	1	**22**	44	2	-10	2	**38**
Changes in fair values of derivatives hedging future cash flow	-3	13	5	-95	**-78**	50	-57	-57	-1	**-65**
Nuclear fund adjustment	3	3	3	7	**16**	0	0	2	-14	**-11**
IS Operating profit	**350**	**144**	**-682**	**38**	-150	**369**	**67**	**-6**	**202**	633

The first and last quarters of the year are usually the strongest quarters for power and heat businesses.

Investor information

Fortum's 2016 reporting entity comprises the Online Annual Review, CEO Letter, Financials, Corporate Governance Statement, Remuneration Statement, Tax Footprint as well as the Sustainability Report. Our reporting for the year 2016 is based on the integrated reporting principles and includes material information on aspects we estimate to have a significant effect on Fortum's ability to create value for its stakeholders.

Annual General Meeting

The Annual General Meeting of Fortum Corporation will be held on Tuesday, 4 April 2017, starting at 2:00 p.m. EET at Finlandia Hall, address: Mannerheimintie 13 e, Helsinki, Finland. The reception of shareholders who have registered for the meeting will commence at 12.30 p.m. EET.

Payment of dividends

The Board of Directors proposes to the Annual General Meeting that Fortum Corporation pays a dividend of EUR 1.10 per share for 2016, totalling approximately EUR 977 million based on the registered shares as of 1 February 2017. The possible dividend related dates planned for 2017 are:

- the ex-dividend date 5 April 2017,
- the record date for dividend payment 6 April 2017 and
- the dividend payment date 13 April 2017.

Financial information in 2017

Fortum will publish three interim reports in 2017:

- January-March interim report on 27 April
- January-June half year financial review on 20 July, and
- January-September on 26 October.

The reports are published at approximately 9:00 EET in Finnish and English, and are available on Fortum's website at ▸ *www.fortum.com/investors*

Fortum's management hosts regular press conferences, targeted at analysts and the media. A webcast of these conferences is available online at ▸ *www.fortum.com*. Management also gives interviews on a one-on-one and group basis. Fortum observes closed and silent period of 30 days prior to publishing its results.

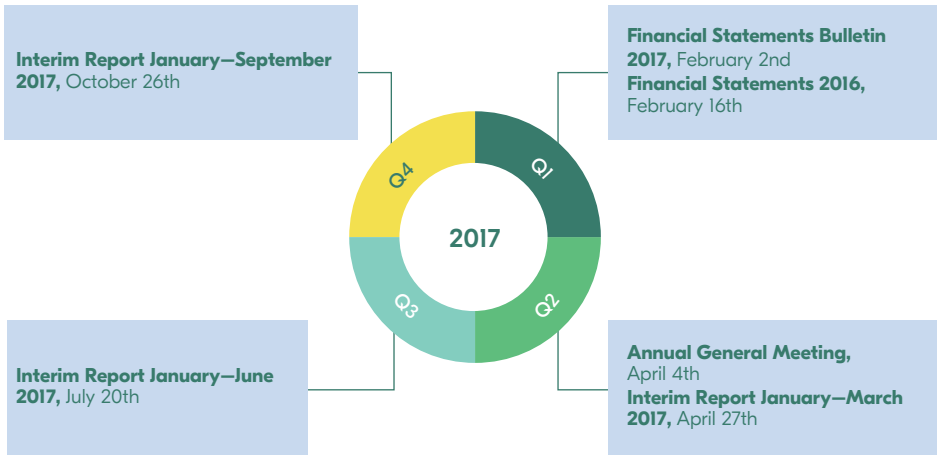
Fortum share basics

Listed on Nasdaq Helsinki
Trading ticker: FORTUM
Number of shares, 1 February 2017: 888,367,045.
Sector: Utilities

Fortum's activities in capital markets during 2016

Fortum's Investor Relations (IR) activities cover equity and fixed-income markets to ensure full and fair valuation of the Company's shares, access to funding sources and stable bond pricing. Investors and analysts primarily are met on a regular basis in Europe and North America.

In 2016, Fortum met approximately 200 professional equity investors individually or in group meetings and at investor conferences, whilst maintaining regular contact with equity research analysts at investment banks and brokerage firms. In November, Fortum held Capital Markets Day for institutional investors and analysts that gathered some 80 professionals to the company's head offices.



Join the change

fortum

Governance 2016

Corporate Governance Statement 2016

Fortum Corporation (FORTUM) has been listed on Nasdaq Helsinki since 18 December 1998. Fortum's industrial sector, according to the Global Industry Classification Standard, is Electric Utilities. The State of Finland is the majority owner in Fortum with 50.76% of the shares as of 31 December 2016.

Corporate governance at Fortum is based on Finnish laws and the company's Articles of Association. Fortum complies fully with and has prepared this corporate governance statement in accordance with the Finnish Corporate Governance Code 2015. The corporate governance statement is issued separately from the operating and financial review, and it has been reviewed by the Audit and Risk Committee of Fortum's Board of Directors.

Fortum prepares consolidated financial statements and interim reports in accordance with the International Financial Reporting Standards (IFRS), as adopted by the EU, the Finnish Securities Markets Act as well as the appropriate Financial Supervision Authority's regulations and guidelines and Nasdaq Helsinki's rules. The company's operating and financial review and the parent company financial statements are prepared in accordance with the Finnish Companies Act, Accounting Act, Securities Markets Act, and the opinions and guidelines of the Finnish Accounting Board.

The auditor's report covers the consolidated financial statements and the parent company financial statements. The Finnish Corporate Governance Code 2015 is available on the website of the Securities Market Association: ▸ *www.cgfinland.fi*

Description of Governance

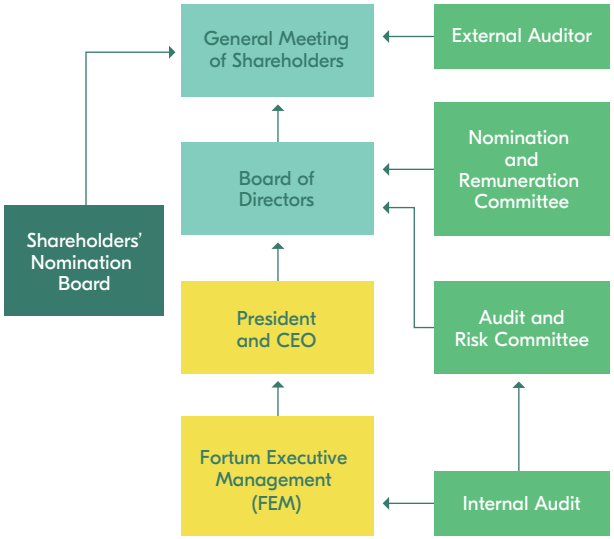
Governing bodies of Fortum

The decision-making bodies managing and overseeing the Group's administration and operations are the General Meeting of Shareholders, the Board of Directors with its two Committees, the Audit and Risk Committee and the Nomination and Remuneration Committee, and the President and CEO, supported by the Fortum Executive Management.

Fortum also has an informal Advisory Council consisting of representatives of Fortum's stakeholder groups as invited by the Board of Directors. The Advisory Council aims to advance Fortum's businesses by facilitating a dialogue and exchange of views between Fortum and its stakeholders. During 2016, the Advisory Council consisted of 14 representatives of Fortum's stakeholder groups and three employee representatives.

As sustainability is an integral part of Fortum's strategy, the highest decision making of these issues falls on the duties of the Board of Directors, who share joint responsibility on sustainability matters. Therefore Fortum has not established a specific Sustainability Committee for decision making on economic, environmental and social issues. The Audit and Risk Committee, members of the Fortum Executive Management, and other senior executives support the Board of Directors in the decision-making in these matters, when necessary.

Governing bodies of Fortum



General Meeting of Shareholders

The General Meeting of Shareholders is the highest decision making body of Fortum. Every shareholder has the right to attend the General Meeting, propose items for the agenda of the General Meeting and exercise his/her power of decision in matters belonging to the General Meeting by law, as stipulated in the Finnish Companies Act. Each share is entitled to one vote. A shareholder who is present at the General Meeting of Shareholders also has the right to request information on matters to be considered at the meeting. Before the end of each financial year Fortum states on the Annual General Meeting website and in the Investor Relations calendar the date by which a shareholder must declare his/her proposals to the General Meeting.

Decisions at the General Meeting of Shareholders are primarily made by a simple majority of votes. Such decisions include, for example, resolutions on the adoption of the financial statements, payment of dividends, discharging the members of the Board of Directors and the President and CEO from liability, appointment of the Board of Directors and the external auditors, and deciding on their remuneration.

In accordance with Fortum's Articles of Association and the Finnish Companies Act, a notice to convene the General Meeting of Shareholders is issued by the Board of Directors. The notice is delivered no more than three months and no less than three weeks before the General Meeting of Shareholders by publishing the notice on the company's website or in two newspapers chosen by the Board of Directors. The Annual General Meeting of Shareholders is to be held once a year, in June at the latest.

An Extraordinary General Meeting of Shareholders shall be held whenever the Board of Directors finds it necessary or when it is required by law to convene such a meeting.

Main duties of Annual General Meeting of shareholders Include:

- Adoption of the parent company financial statements and consolidated financial statements
- Resolution on the use of the earnings shown on the balance sheet and the payment of dividends
- Resolutions on the discharge from liability of the members of the Board of Directors and the CEO
- Resolution on the remuneration of the members of the Board of Directors
- Resolution on the number of members of the Board of Directors
- Election of the chairman, deputy chairman and members of the Board of Directors
- Resolution on the remuneration of the external auditor
- Election of the external auditor

General Meetings in 2016

Fortum's Annual General Meeting was held at the Finlandia hall in Helsinki on 5 April. No Extraordinary General Meeting of Shareholders was held in 2016.

Shareholders' Nomination Board

The Annual General Meeting on 9 April 2013 established a permanent Shareholders' Nomination Board. The purpose and task of the Shareholders' Nomination Board is to prepare and present to the Annual General Meeting, and, if necessary, to an Extraordinary General Meeting, a proposal on the remuneration, size and members of the Board of Directors. In addition, the Shareholders' Nomination Board seeks candidates for potential board members.

The Shareholders' Nomination Board consists of four members, three of which are appointed by the company's three largest shareholders, who shall appoint one member each. The Chairman of the Board of Directors serves as the fourth member. The members are nominated annually and their term of office ends when new members are nominated to replace them. Fortum's three largest shareholders that are entitled to appoint members to the Shareholders' Nomination Board are determined on the basis of the registered holdings as of the first working day in September in the year concerned. In the event that a shareholder does not wish to exercise their right to appoint a representative, it shall pass the right to the next-largest shareholder who would not otherwise be entitled to appoint a member to the Nomination Board. The Shareholders' Nomination Board forwards its proposals for the Annual General Meeting to the Board of Directors by 31 January each year.

Diversity Principles for the Board of Directors

In line with the new Corporate Governance Code 2015, the Shareholders' Nomination Board has in the fall 2016 adopted diversity principles for the Board of Directors which are applied in preparing proposal concerning nomination of board members. The diversity principles include, among others, that the board composition shall include expertise from the geographical areas where Fortum conducts its business, the background profession of the board members shall include such competences that support realization of Fortum's strategy and that enable board members to challenge management decisions and to exercise their role of having oversight. In addition, the board composition shall include both genders. Fortum's target is to comply with the principles issued in the Government Resolution dated 17 February 2015 on equal gender representation in the boards of listed companies with the aim of the board consisting of at least 40% each of women and men by 2020. The Shareholders Nomination Board reviews the diversity principles and their implementation annually.

Fortum reports the objectives, actions and progress of the diversity principles in its corporate governance statement. The Shareholders' Nomination Board has applied the diversity principles in preparing the proposal concerning nomination of board members for the Annual General Meeting 2017. The Shareholders' Nomination Board deems that the current board composition and the proposed board members for the Annual General Meeting 2017 include all the competences defined in the diversity principles in well balanced manner.

The proposal for the board members for the Annual General Meeting 2017 consists of 3 women and 5 men. The current Board of Directors consists of 3 women and 5 men, corresponding to a ratio of 37.5% and 62.5%.

Shareholders' Nomination Board prior to the Annual General Meeting 2017

In September 2016, the following members were invited to the Shareholders' Nomination Board: the Government Ownership Steering Department of the Prime Minister's Office, Ilmarinen Mutual Pension Insurance Company and the Social Insurance Institution of Finland (KELA). The following persons were appointed to the Shareholders' Nomination Board: Eero Heliövaara, b. 1956, M.Sc. (Econ.) and M.Sc. (Eng.), Director General of the Government Ownership Steering Department, Prime Minister's Office; Timo Ritakallio, b. 1962, D.Sc. (Tech.), LL.M., MBA, President and CEO, Ilmarinen Mutual Pension Insurance Company and Liisa Hyssälä, b. 1948, M.Sc. (Soc.)., D.D.S., Director General, Social Insurance Institution of Finland (KELA). The Chairman

of the Board of Directors, Sari Baldauf, acts as a member of the Shareholders' Nomination Board. The Nomination Board convened 3 times and the attendance rate was 100%.

Following the retirement of Liisa Hyssälä, Director General of KELA, her successor Elli Aaltonen (b. 1953, D.Sc. (Soc.), docent, Director General) replaced her as a member of the Shareholders' Nomination Board as of 1 January 2017. Ms Hyssälä participated in two meetings and Ms Aaltonen in one meeting.

The Shareholders' Nomination Board will propose to the Annual General Meeting 2017, which will be held on 4 April 2017, that the fees to be paid to the members of the Board of Directors are for a term ending at the end of the Annual General Meeting 2018 as follows: for the chairman, EUR 75,000 per year; for the deputy chairman, EUR 57,000 per year; and for each member, EUR 40,000 per year, as well as for the chairman of the Audit and Risk Committee EUR 57,000 per year if he/she is not at the same time acting as chairman or deputy chairman of the Board of Directors. In addition, for each Board of Directors and Board Committee meeting a fee of EUR 600 is proposed. For Board of Directors members living outside Finland in Europe, the proposed fee for each meeting will be doubled, and for Board of Directors members living outside Europe, the proposed fee for each meeting will be tripled. For Board of Directors members living in Finland, the proposed fee for each Board of Directors and Board Committee meeting will be doubled for meetings held outside Finland and tripled for meetings held outside Europe. For Board of Directors and Committee meetings held as a telephone conference, the proposed fee will be paid as single to all members. No fee will be paid for decisions made without a separate meeting.

In addition, the Shareholders' Nomination Board has decided to propose to the Annual General Meeting 2017 that the Board of Directors comprise eight members and that the following persons be elected to the Board of Directors for the upcoming term: Sari Baldauf (Chairman), Heinz-Werner Binzel, Eva Hamilton, Kim Ignatius, Tapio Kuula, and Veli-Matti Reinikkala, as well as new members Matti Lievonen (Deputy chairman), and Anja McAlister.

Shareholders' Nomination Board prior to the Annual General Meeting 2016

In September 2015, the following persons were appointed to the Shareholders' Nomination Board: Eero Heliövaara, Director General of the Government Ownership Steering Department, Prime Minister's Office; Reima Rytsölä, Executive Vice President, Investments, Varma Mutual Pension Insurance Company and Liisa Hyssälä, Director General, Social Insurance Institution of Finland (KELA). In addition, the Chairman of the Board of Directors, Sari Baldauf, was a member of the Shareholders' Nomination Board. Of the three largest shareholders, The State Pension Fund informed Fortum that they would not use their right to nominate.

The Shareholders' Nomination Board convened 5 times and the attendance rate was 100%. The Shareholders' Nomination Board presented its proposal covering the members of the Board of Directors and the remuneration be paid to them, on 22 January 2016.

Board of Directors

The Board of Directors is responsible for the company's strategic development and for supervising and steering the company's business and management. Further, under the Articles of Association and in line with the Companies Act, the Board of Directors represents the company and is responsible for the proper arrangement of the control of the company's accounts and finances. The Board of Directors is also responsible for defining the company's mission and values.

The Board of Directors comprises five to eight members who are elected at the Annual General Meeting for a one-year term of office expiring at the end of the first Annual General Meeting following the election. The Annual General Meeting also elects the Chairman and the Deputy Chairman of the Board of Directors.

The Board of Directors convenes according to a previously agreed schedule to discuss specified themes and issues on its charter. The Chairman of the Board of Directors prepares the agenda for the Board of Directors meeting based on the proposal by

the President and CEO. The members of the Board of Directors have the right to suggest specific matters and have them included on the agenda. More than half of the members must be present at the meeting to constitute a quorum. Decisions of the Board of Directors shall be made by a simple majority. The Board of Directors has approved a written charter for its work, the main content of which is disclosed herein, including the duties of the Board of Directors.

The President and CEO, the Chief Financial Officer, and the General Counsel, as secretary to the Board of Directors, attend the Board meetings on a regular basis. Other Fortum Executive Management members and senior executives attend as required.

As part of its duties, the Board of Directors conducts an annual self-assessment in order to further develop its work. In accordance with the Finnish Corporate Governance Code, the Board of Directors also annually evaluates which of the directors are independent of the company and which are independent of its significant shareholders.

Board of Directors in 2016

Until the Annual General Meeting held on 5 April 2016, the Board of Directors comprised the following eight members: Chairman Sari Baldauf, Deputy Chairman Kim Ignatius, Minoo Akhtarzand, Heinz-Werner Binzel, Eva Hamilton, Tapio Kuula, Petteri Taalas and Jyrki Talvitie.

The Annual General Meeting on 5 April 2016 re-elected Chairman Sari Baldauf, Deputy Chairman Kim Ignatius, Minoo Akhtarzand, Heinz-Werner Binzel, Eva Hamilton, Tapio Kuula and Jyrki Talvitie, and, in addition, Veli-Matti Reinikkala, was elected as new member to the Board of Directors until the end of the Annual General Meeting in 2017.

The Chairman, the Deputy Chairman and the members of the Board of Directors were, with the exception of Tapio Kuula (Mr. Kuula acted as President and CEO of Fortum until 31 January 2015), independent of the company and all were independent of the company's significant shareholders. Three members, including the Chairman, are female and five members are male.

The Board of Directors met 15 times, and the attendance rate was 99%.

The Board of Directors focused especially on the development and implementation of the company's strategy, including the reorganisation of the company, investments, acquisitions as well as people and competence development. Other focus areas included the market outlook and market development, as well as Fortum's competitiveness and growth options in the energy market transition. Based on the self-assessment conducted during the previous year, the Board of Directors set certain focus areas and amended certain processes in an effort to further enhance the efficiency of the board work.

Main duties of the Board of Directors include:

- Ensuring that the administration and operations of the company are properly organised
- Ensuring that the accounting, financial administration and the risk management are arranged appropriately
- Confirming the Group's business plan on an annual basis
- Reviewing the interim reports and approving the consolidated financial statements, the parent company financial statements, and the operating and financial review
- Defining the dividend policy
- Strategic development and steering of the company's business and divisions
- Appointing and dismissing the President and CEO; deciding on his/her remuneration
- Confirming the Group's organisational structure at the top management level, and appointing and dismissing the members of the Fortum Executive Management
- Setting and following up the annual performance targets for the company and its management
- Deciding on major investments, divestments and business arrangements
- Confirming the Group's Code of Conduct, operating principles and Group policies, including the sustainability policy and risk policy, and overseeing their implementation
- Convening the Annual General Meeting and the Extraordinary General Meeting, when necessary
- Appointing the Chairman and Deputy Chairman as well as members of the Fortum Corporation Advisory Council
- Deciding on donations to charities

Fortum's Board of Directors on 31 December 2016

	Born	Nationality	Education	Occupation	Member since	Attendance at Board Meetings	Attendance at Board Committee Meetings	Share ownership (31 Dec 2016)
Ms. Sari Baldauf, Chairman	1955	Finnish	M.Sc. (Econ.)	Non-executive director Independent member of Fortum's Board of Directors	2009	15/15	Nomination and Remuneration Committee, 6/6	2,300
Mr. Kim Ignatius, Deputy Chairman	1956	Finnish	B.Sc. (Econ.)	CFO of Sanoma Corporation Independent member of Fortum's Board of Directors	2012	15/15	Audit and Risk Committee, 7/7	2,400
Ms. Minoo Akhtarzand	1956	Swedish	M.Sc. (Electrical Engineering)	Governor in the County of Västmanland Independent member of Fortum's Board of Directors	2011	15/15	Audit and Risk Committee, 7/7	0
Mr. Heinz-Werner Binzel	1954	German	Economics and electrical engineering degree	Independent consultant Non-executive director Independent member of Fortum's Board of Directors	2011	15/15	Audit and Risk Committee, 7/7	0
Ms. Eva Hamilton	1954	Swedish	B.A. Journalism	Non-executive director Independent member of Fortum's Board of Directors	2015	14/15	Nomination and Remuneration Committee, 5/ 6	40
Mr. Tapio Kuula	1957	Finnish	M.Sc. (Eng.) M.Sc. (Econ.)	Non-executive director Independent of the significant shareholders, not independent of the company	2015	15/15	Nomination and Remuneration Committee, 6/6	201,200
Mr. Jyrki Talvitie	1966	Finnish	Executive MBA, LL.M.	Sperbank, Vice President, Strategic Partners and Investors Independent member of Fortum's Board of Directors	2014	15/15	Audit and Risk Committee, 7/7	0
Member of Fortum's Board of Directors as of 5 April 2016								
Mr. Veli-Matti Reinikkala	1957	Finnish	Executive MBA	Non-executive Director Independent member of Fortum's Board of Directors	2016	10/10	Nomination and Remuneration Committee, 4/4	3,000
Member of Fortum's Board of Directors until 5 April 2016								
Mr. Petteri Taalas	1961	Finnish	Ph.D. in Meteorology	Director General of the Finnish Meteorological Institute	2014	5/5	Nomination and Remuneration Committee, 1/2	-

Board Committees

The committees of the Board of Directors are the Audit and Risk Committee and the Nomination and Remuneration Committee. The committees assist the Board of Directors by preparing and reviewing in more detail matters falling within the duties of the Board of Directors.

The Board of Directors appoints members of the Audit and Risk Committee and the Nomination and Remuneration Committee from amongst its members. Each committee shall have at least three members. The members shall have the expertise and experience required by the duties of the respective committee.

Members are appointed for a one-year term of office expiring at the end of the first Annual General Meeting following the election. All the members of the Board of Directors have the right to attend the committee meetings. The Chairman of the committee reports on the committee's work to the Board of Directors regularly after each meeting, and the committee meeting materials and minutes are available to all members of the Board of Directors. The Board of Directors has approved written charters for the committees; the charters are reviewed regularly and updated as needed.

Audit and Risk Committee

The Audit and Risk Committee assists the Board of Directors in matters relating to financial reporting and control in accordance with the duties specified for audit committees in the Finnish Corporate Governance Code. The Board of Directors regularly determines the role and duties of the Audit and Risk Committee in a written charter. The committee monitors the Group's reporting process of financial statements and the efficiency of the internal controls, internal audit and risk management systems. In addition, the committee monitors and assesses the legal compliance and the business ethics compliance.

Pursuant to the Finnish Corporate Governance Code, the members of the Audit and Risk Committee shall have the qualifications necessary to perform the responsibilities of the committee, and at least one of the members shall have expertise specifically in accounting, bookkeeping or auditing. The members shall be independent of the company, and at least one member shall be independent of the company's significant shareholders.

The external auditors, Chief Financial Officer, Head of Internal Audit, Corporate Controller, and General Counsel, as secretary to the committee, attend the committee meetings on a regular basis. Other senior executives attend the meetings as invited by the committee.

The Audit and Risk Committee carries out a self assessment of its work and approves the internal audit charter and the internal audit plan and its budget. The committee evaluates the independence of the external auditors, reviews the external auditor's audit plan and meets with them regularly to discuss the audit plan, audit reports and findings.

Audit and Risk Committee in 2016

After the Annual General Meeting on 5 April 2016, the Board of Directors elected from amongst its members Kim Ignatius as the Chairman and Minoo Akhtarzand, Heinz-Werner Binzel and Jyrki Talvitie as members of the Audit and Risk Committee. Until the Annual General Meeting on 5 April 2016, the committee comprised Kim Ignatius as the Chairman, and Minoo Akhtarzand, Heinz-Werner Binzel and Jyrki Talvitie as members.

In 2016, the members were all independent of the company and of its significant shareholders. The Audit and Risk Committee met 7 times in 2016 and the attendance rate was 100%.

Main duties of the Audit and Risk Committee include:

- Monitoring the financial position of the company
- Supervising the financial reporting process
- Monitoring the reporting process of financial statements
- Monitoring the statutory audit of the financial statements and consolidated financial statements
- Preparing for the Board of Directors the proposal for resolution on the election of the auditor
- Evaluating the independence of the statutory auditor or audit firm, particularly the provision of related services to the company to be audited and pre-approval of non-audit services
- Monitoring the efficiency of the company's internal control, internal audit, compliance and risk management systems
- Reviewing the description in the company's Corporate Governance Statement of the main features of the internal control and risk management systems in relation to the financial reporting process
- Reviewing annually the Group risk policy and risk exposures
- Approving the internal audit charter, the annual audit plan, the budget of the internal audit function, and reviewing the internal audit reports
- Monitoring and assessing legal compliance and business ethics compliance

Nomination and Remuneration Committee

The Nomination and Remuneration Committee assists the Board of Directors in issues related to nomination and remuneration of the company's management. The committee has a written charter in which its duties have been defined. Pursuant to the Finnish Corporate Governance Code, the majority of the members of a remuneration committee shall be independent of the company.

The regular participants at the committee meetings are the President and CEO, Senior Vice President of Strategy, People and Performance, and General Counsel as Secretary to the Committee.

The Nomination and Remuneration Committee conducts annually a self-evaluation of its work.

Nomination and Remuneration Committee in 2016

After the Annual General Meeting on 5 April 2016, the Board of Directors elected from amongst its members Sari Baldauf as the Chairman and Eva Hamilton, Tapio Kuula and Veli-Matti Reinikkala as members of the Nomination and Remuneration Committee. Until the Annual General Meeting on 5 April 2016, the committee comprised Sari Baldauf as the Chairman and Eva Hamilton, Tapio Kuula and Petteri Taalas as members.

In 2016, the members were all independent of the company, with the exception of Tapio Kuula (Mr Kuula acted as President and CEO of Fortum until 31 January 2015), and of its significant shareholders. The committee met 6 times during 2016 and the attendance rate was 92%.

Main duties of the Nomination and Remuneration Committee include:

- Preparing nomination and remuneration issues and proposals to the Board of Directors concerning the President and CEO, the executives reporting directly to the President and CEO as well as the Fortum Executive Management
- Reviewing and preparing succession plans for the President and CEO
- Evaluating the performance and the remuneration of the President and CEO, the executives reporting directly to the President and CEO as well as the Fortum Executive Management
- Preparing for the Board of Directors recommendations on the Group's and its management's pay structures and bonuses and incentive systems
- Monitoring the functioning of the bonus systems to ensure that the management's bonus systems will advance the achievement of the company's strategic objectives and that they are based on performance
- Monitoring, planning and promoting competence development in the Group based on strategic target setting

President and CEO

Mr. Pekka Lundmark is the President and CEO of Fortum Corporation. The President and CEO holds the position of Managing Director under the Companies Act and is the Chairman of the Fortum Executive Management. The President and CEO is in charge of the day-to-day management of the Group, in accordance with the Companies Act and the instructions and orders issued by the Board of Directors. Under the Companies Act, the President and CEO is responsible for ensuring that the accounts of the company comply with the applicable laws and that its financial affairs have been arranged in a reliable manner.

Fortum Executive Management

The President and CEO is supported by the Fortum Executive Management. The Fortum Executive Management assists the President and CEO in implementing the strategic and sustainability targets within the framework approved by the Board of Directors, preparing the Group's business plans, and deciding on investments, mergers, acquisitions and divestments within its authorisation.

Financial and sustainability results are reviewed in the monthly reporting by the Fortum Executive Management. Quarterly Performance Review meetings with the management are embedded in the Fortum Performance Management process.

Each member of the Fortum Executive Management is responsible for the day-to-day operations and the implementation of operational decisions in their respective organisations. The Fortum Executive Management meets on a monthly basis.

Fortum Executive Management in 2016

In February 2016, Fortum announced that it will reorganise its corporate structure as of 1 April 2016. The target of the new organisation was to enable the implementation of the company's new vision and strategy, which were announced on 3 February 2016. The new organisation comprises three business divisions: Generation, City Solutions and Russia. In addition, two development units focusing on growing new businesses were established: M&A and Solar & Wind Development, as well as Technology and New Ventures. The new organisation has four staff functions: Finance; Legal; Strategy, People and Performance; as well as Corporate Affairs and Communications.

Generation

Generation division is responsible for the large scale power production, physical optimisation and trading activities in the Nordic area. The division comprises nuclear, hydro and thermal power production, portfolio management and trading, industrial intelligence and nuclear services.

City Solutions

City Solutions division is responsible heating and cooling, waste to energy, biomass and other circular economy solutions as well as electricity sales and services. It includes the service business previously organised in the Power Solutions unit with the exception of nuclear services.

Russia
Russia division comprises Fortum's power and heat generation and sales activities in Russia.

Technology and New Ventures
Technology and New Ventures unit is responsible for Fortum's research and development activities and is the in-house incubator for start-ups. It is also responsible for direct and indirect investments in external start-ups as well as cooperation with universities and research institutions.

M&A and Solar & Wind Development
M&A and Solar&Wind Development is responsible for Fortum's mergers and acquisitions activities and developing Fortum's solar and wind portfolio.

Fortum Executive Management on 31 December 2016

	Position and responsibility area	Born	Education	Member since	Share ownership (31 December 2015)
Pekka Lundmark	President and CEO, Chairman of the Fortum Executive Management	1963	M.Sc. (Eng.)	2015	56,250
Alexander Chuvaev	Executive Vice President, Russia Division	1960	M.Sc. (Eng.)	2009	14,713
Timo Karttinen	Chief Financial Officer	1965	M.Sc. (Eng.)	2004	87,090
Kari Kautinen	Senior Vice President, M&A and Solar & Wind Development	1964	LL.M	2014	29,246
Per Langer	Senior Vice President, Technology and New Ventures	1969	M.Sc. (Econ.)	2009	29,212
Risto Penttinen	Senior Vice President, Strategy, People and Performance	1968	M.Sc. (Econ.)	1 April 2016	8,795
Markus Rauramo	Executive Vice President, City Solutions	1968	M.Sc. (Econ. and Pol. Hist.)	2012	27,847
Matti Ruotsala	Deputy CEO	1956	M.Sc. (Eng.)	2009	46,509
Arto Räty	Senior Vice President, Corporate Affairs and Communications	1955	Lieutenant General (Ret.)	1 April 2016	0
Sirpa-Helena Sormunen	General Counsel	1959	LL.M	2014	3,000
Tiina Tuomela	Executive Vice President, Generation	1966	M.Sc. (Eng.), MBA	2014	12,991

All the members of the Executive Management Team report to the President and CEO, apart from the General Counsel who administratively reports to the CFO.

The main features of the Internal Control and Risk Management Systems

The internal control and risk management systems relating to financial reporting are designed to provide reasonable assurance regarding the reliability of financial reporting and aim to ensure compliance with applicable laws and regulations.

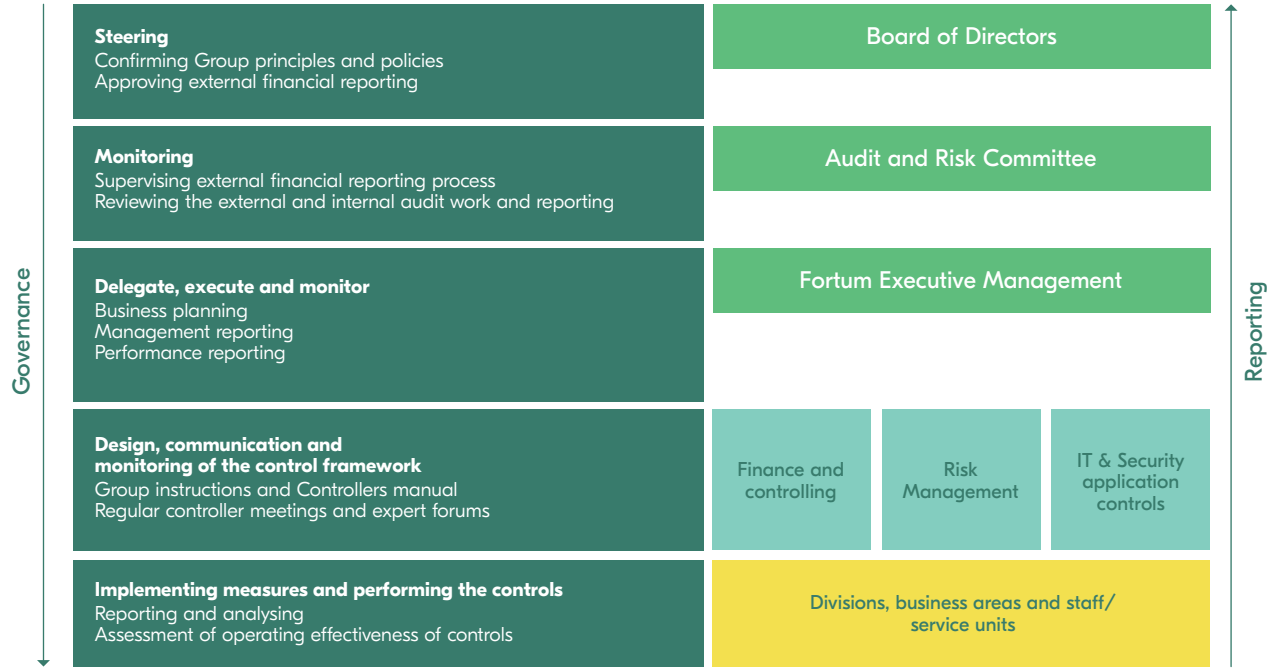
Risk management systems

Fortum's Board of Directors approves the Group Risk Policy that defines the objective, main principles and division of responsibilities for risk management. The Group Risk Policy also includes a description of the main features of the risk management process which is applicable to all processes including financial reporting.

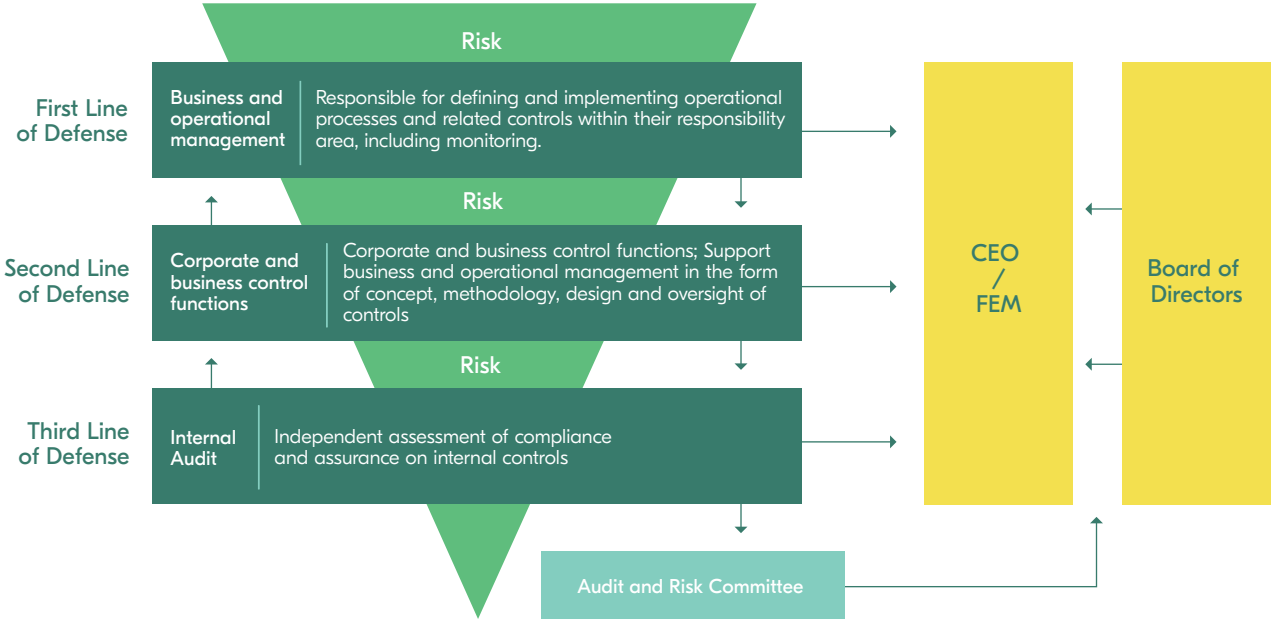
Internal controls in relation to financial reporting

Fortum's internal control framework includes the main elements from the framework introduced by the Committee of Sponsoring Organisations of the Treadway Commission (COSO). The controls for processes, including financial reporting controls, have been defined based on the main risks in the process. Internal Controls are an integral part of Fortum Total Compliance owned by Group Legal covering key areas of business ethics and regulatory compliance.

Financial reporting framework in Fortum



Fortum's Control Governance



Control environment

The standards, processes and structures in internal control are set through Group policies, Group instructions and the Fortum internal control framework. Fortum's internal control framework is designed to support regulatory compliance and reliability of the financial reporting. In the internal control framework, the key controls and minimum requirements for the controls in key processes are defined. Corporate Accounting and Control is responsible for the overall control structure of the financial reporting process. The control process is based on instructions and guidelines relating to financial reporting defined in the Fortum Controllers' manual which is reviewed and updated regularly.

Fortum's organisation is decentralised, and a substantial degree of authority and responsibility is delegated to the divisions in the form of control responsibilities. Fortum's control governance follows the so-called "Three lines of defense" as illustrated in the graphic.

Risk assessment

Risks are continuously identified and analysed as part of the risk management process. Material risks and uncertainties, that might, if realised, have financial impact or lead to non-compliance are reported at least annually, and the follow-up of actions and improvements are integrated in operational management. The risk assessment in the Internal Controls Quality Programme and continuous improvement identify the needs for changes in the internal controls.

Control activities

Control activities are applied in the processes and, from the financial reporting perspective, they ensure that errors or deviations are prevented or detected and corrected.

The Corporate Accounting and Control unit determines the control requirements, the scope and the design of the control points covering the financial reporting process. Divisions and units define their controls based on these common requirements. Responsibilities are assigned for performing the controls and also for ensuring that the control coverage is in accordance with the defined requirements and scope.

Control requirements for the financial reporting process include controls regarding the initiation, recognition, measurement, approval, accounting and reporting of financial transactions as well as disclosure of financial information. The general IT controls support the completeness of financial reporting controls in areas like access and back-up management.

Responsibilities are assigned to finance functions and business controllers ensuring that analyses of the business performance, including analyses on volumes, revenues, costs, working capital, and asset values are performed in accordance with the control requirements.

Information and communication

The Controllers' manual includes the Fortum Accounting manual, Investment manual and reporting instructions, and other instructions relating to financial reporting. Regular core controllers' meetings, headed by the Corporate Controller, steer the Group's development projects within the Finance function. The regular Accounting Network Forum meetings are to inform about upcoming changes in IFRS, new accounting policies and other changes in reporting requirements.

Monitoring and follow-up

Financial performance and the key short-term risks and uncertainties related to business operations are reported monthly to the Fortum Executive Management.

As part of the Fortum internal control framework, divisions and units regularly assess the maturity of the controls they are responsible for including the financial reporting process controls. The Head of Internal Controls reports the results of the maturity assessments and improvement actions to the management and to the Audit and Risk Committee. Internal control design and operating effectiveness are also assessed as part of the audits by Corporate Internal Audit. Audit results, including corrective actions and status, are regularly reported to the management and to the Audit and Risk Committee.

Auditing

Internal Audit

Fortum's Internal Audit is responsible for assessing and assuring the adequacy and effectiveness of internal controls in the Group. Furthermore, it evaluates the effectiveness and adequacy of the business processes and risk management as well as compliance with laws, regulations and internal instructions and guidelines. The Standards for the Professional Practice of Internal Audit form the basis for the work of Internal Audit.

External Audit

The company and the Group has one external auditor, which shall be an audit firm certified by the Central Chamber of Commerce. The external auditor is elected by the Annual General Meeting for a term of office that expires at the end of the first Annual General Meeting following the election.

Fortum's Annual General Meeting on 5 April 2016 elected Authorised Public Accountant Deloitte & Touche Oy as the company's external auditor, with Authorised Public Accountant Jukka Vattulainen having the principal responsibility. Jukka Vattulainen has had the principal responsibility since 2010.

The Annual General Meeting decided on 5 April 2016 that the auditor's fee be paid pursuant to invoice approved by the company. The fee paid to the auditor for services rendered and invoiced in 2016 totalled approx. EUR 1,305,000. In addition, the audit firm was paid a total of approx. EUR 213,000 in fees for non-audit services rendered and invoiced.

Code of Conduct and Total Compliance Programme

Fortum's Code of Conduct is based on the shared corporate values of accountability, creativity, respect and honesty, which form the ethical basis for all work at Fortum. Fortum's updated Code of Conduct was implemented in the fall of 2015 (originally launched in 2007) and is published in ten languages. The Code of Conduct has been approved by the Board of Directors. Fortum employees are responsible for reporting any suspected misconduct to their own supervisors, to other management members or, if necessary, directly to Internal Audit. Additionally, Fortum employees and partners can report suspicions of misconduct can be reported confidentially to the Fortum Head of Internal Audit via the "raise-a-concern channel" on Fortum's internal and external web pages. The report can be submitted in several languages and anonymously if necessary. In Russia, Fortum even has a separate compliance organisation with compliance officers in place.

Prevention of corruption is one of the Code of Conduct's focus areas. Fortum has procedures for anti-corruption including prevention, oversight, reporting and enforcement based on the requirements prescribed in international legislation. Fortum also has a country and partner risk evaluation process to support the understanding and management of compliance needs at the local business and partner level. These also cover export control and anti-money laundering aspects.

During 2016, Fortum has launched a Total Compliance programme which covers key areas of regulatory compliance and business ethics. It is managed with risk-based prioritisation. Internal Controls are integral part of the Total Compliance and both the Group Compliance Officer and the Head of Internal Controls report to the General Counsel independently of the business.

The Code of Conduct and compliance topics and instructions are communicated through internal and external communication channels. Alignment is enforced by top management with their full commitment.

Insider Administration

Fortum complies with the EU regulation No. 596/2014 on market abuse (MAR) and EU regulation No. 1227/2011 on wholesale Energy Market Integrity and Transparency (REMIT) and related regulation. Fortum complies also with the Guidelines for Insiders issued by Nasdaq Helsinki.

Persons discharging managerial responsibilities

Persons discharging managerial responsibilities and the persons associated with them are under a duty to disclose their transactions with Fortum's financial instruments. Fortum has defined persons discharging managerial responsibilities to be the members of the Board of Directors and Fortum Executive Management.

Duty to disclose and Closed Window

Fortum's Board of Directors and Executive Management members as well as persons related to them are under a disclosure duty towards Fortum and the Finnish Financial Supervision Authority regarding their transactions with Fortum's financial instruments. Fortum makes the said transactions public with a stock exchange release.

Fortum's Board of Directors and Executive Management members as well as other Fortum personnel defined to have access to sensitive financial information of Fortum may not trade in Fortum's financial instruments within 30 days prior to the publication of interim reports and financial statements (Closed Window).

Internal supervision of insider affairs

Fortum's own internal insider rules are regularly updated and made available to all employees of Fortum. Fortum arranges training on insider rules. The coordination and control of insider affairs are included in the responsibilities of Fortum's General Counsel. Fortum regularly monitors the trading of its insiders.

Board of Directors 31 December 2016

Sari Baldauf
Chairman

Born 1955, nationality: Finnish
M.Sc. Business Administration. Honorary doctorate degrees in Technology (Helsinki University of Technology) and Business Administration (Turku School of Economics and Business Administration, and Aalto University School of Business)
Independent member of Fortum's Board of Directors since 2009, Chairman of the Nomination and Remuneration Committee

Main occupation:
Non-executive Director

Primary work experience:
- Nokia Corporation, several senior executive positions. Member of the Group Executive Board until 2005.

Key positions of trust:
- Vexve Holding Oy, Chairman of the Board
- Akzo Nobel N.V., Daimler AG, and Deutsche Telekom AG: Member of the Supervisory Board
- DevCo Partners Oy, Senior Advisor
- Tukikummit-säätiö, Kasvuryhmä ry, Teknologiateollisuuden 100-vuotissäätiö: Member of the Board

Fortum shares as of 31 December 2016:
2,300 (31 Dec 2015: 2,300)

Kim Ignatius
Deputy Chairman

Born 1956, nationality: Finnish
B.Sc. (Econ.) Helsinki School of Economics and Business Administration
Independent member of Fortum's Board of Directors since 2012, Chairman of the Audit and Risk Committee

Main occupation:
Sanoma Corporation, CFO

Primary work experience:
- TeliaSonera AB, Executive Vice President and CFO 2003–2008
- Sonera Oyj, Executive Vice President and CFO 2000–2002
- Tamro Oyj, Group CFO 1997–2000

Fortum shares as of 31 December 2016:
2,400 (31 Dec 2015: 2,400)

Born 1956, nationality: Swedish
M.Sc. Electrical engineering
Independent member of Fortum's Board of Directors since 2011, Member of the Audit and Risk Committee

Main occupation:
Governor in the County of Västmanland as of 1 February 2016

Primary work experience:
- Governor in the County of Jönköping 2010–01/2016
- Swedish National Rail Administration, Director-General 2008–2010
- Regional Labour Agency, Director 2006–2008
- Vattenfall AB, various senior executive positions 1984–2006
- Stockholm Energi, various positions 1980–1984

Key positions of trust:
- Södertörn University, Chairman of the Board
- The National Society for Road Safety in the County of Jönköping, Chairman of the Board
- The Swedish Export Credit Agency, Vice Chairman of the Board 2010–2016
- Stiftelsen SKAPA, Chairman
- Chairman of 20 different Councils

Fortum shares as of 31 December 2016:
0 (31 Dec 2015: 0)

Born 1954, nationality: German
Economics and electrical engineering degree
Independent member of Fortum's Board of Directors since 2011, Member of the Audit and Risk Committee

Main occupation:
Independent consultant

Primary work experience:
- RWE Energy AG, Member of the Executive Board, procurement and sale of electricity, gas, and water 2003–2005
- RWE Solutions AG, Member of the Executive Board as CFO 1999–2002 and as CEO 2002-2003
- NUKEM GmbH, several senior executive positions in Germany and the USA 1981–1999

Key positions of trust:
- TÜV Rheinland Holding AG, Member of the Supervisory board, Chairman of the Audit Committee

Fortum shares as of 31 December 2016:
0 (31 Dec 2015: 0)

Born 1954, nationality: Swedish
B.A. Journalism. Honorary doctorate degree at Mid Sweden University (Mittuniversitetet)
Independent Member of Fortum's Board of Directors since 2015, Member of the Nomination and Remuneration Committee

Main occupation:
Senior Adviser

Primary work experience:
- Sveriges Television (SVT), CEO, 2006–2014
- Sveriges Television (SVT), Head of SVT Fiction, 2004–2006
- Sveriges Television (SVT), Head of News, 2000–2004
- Sveriges Television (SVT), Foreign Correspondent, Brussels 1993–1996
- Aftonbladet 1978–1979, Svenska Dagbladet 1979–1988, Dagens Industri 1988–1989: news reporter

Key positions of trust:
- Kungliga Dramatiska Teatern AB, Member of the Board
- Nexiko Media AB, Chairman of the Board
- LKAB, Member of the Board
- Lindex AB, Member of the Board
- IVA (Royal Swedish Academy of Engineering), Member of the Board, Chairman of Näringlivsrådet
- Nobel Center, Member of the Board
- Arholma Landsort AB, Member of the Board

Fortum shares as of 31 December 2016:
40 (31 Dec 2015: 40)

Born 1957, nationality: Finnish
M.Sc. (Tech.), M.Sc. (Econ.), Dr. Tech. h.c.
Member of Fortum's Board of Directors since 2015, independent of the significant shareholders, not independent of the company (acted as President and CEO of Fortum until 31 January 2015), Member of the Nomination and Remuneration Committee

Main occupation:
Non-executive Director

Primary work experience:
- Fortum Corporation, President and CEO 2009–31 January 2015
- Fortum Corporation, Senior Vice President 2005–2009
- Fortum Corporation, Power and Heat Sector, President 2000–2005
- Member of the Management Team of Fortum since 1997
- Several managing director positions in utility companies in Finland

Key positions of trust:
- Nokian Tyres Plc., Member of the Board, Chairman of the Personnel and Remuneration Committee
- Northern Dimension Business Council, Co-Chairman

Fortum shares as of 31 December 2016:
201,200 (31 Dec 2015: 201,200)

Veli-Matti Reinikkala

Born 1957, nationality: Finnish
Executive Master of Business Administration
Independent Member of Fortum's Board of Directors since 2016

Main occupation:
Non-executive Director

Primary work experience:
- ABB, President of Region Europe 2015 and Member of the Group Executive Committee 2006–2015
- ABB, President of Process Automation division 2006–2014, Head of Business Area Process Automation 2005
- ABB China, Automation Technologies Division Manager 2003–2004
- ABB Drives & Power Electronics, Business Area Manager 2002
- ABB Drives, Manager, 1996–2002
- ABB Industry Oy, CFO 1994–1996
- Before 1994, various positions in paper and packaging companies in Finland

Key positions of trust:
- UPM-Kymmene Corporation, Member of the Board

Fortum shares as of 31 December 2016:
3,000 (31 Dec 2015: n/a)

Jyrki Talvitie

Born 1966, nationality: Finnish
Executive MBA, LL.M.
Independent Member of Fortum's Board of Directors since 2014, Member of the Audit and Risk Committee

Main occupation:
Sberbank, Vice President, Strategic Partners and Investors

Primary work experience:
- Russian Direct Investment Fund, Director 2014–2016
- VTB Bank, Moscow, Senior Vice President 2010–2014
- East Capital, Moscow, Chief Representative, Senior Advisor 2005–2010
- URALSIB Financial Corporation, Moscow, Head of International Business, Chief Managing Director 2003–2005
- BNP-Paribas, Securities Services, Paris, Senior Vice President 2003
- The Bank of New York, London, Vice President 1997–2003

Key positions of trust:
- LUT School of Business and Management, member of Advisory Board

Fortum shares as of 31 December 2016:
0 (31 Dec 2015: 0)

Executive Management Team 31 December 2016

Pekka Lundmark
President and CEO

Born 1963, nationality: Finnish
M.Sc. (Eng.)
Member of the Executive Management Team since 2015, Employed by Fortum since 2015, President and CEO since 2015

Previous positions:
- Konecranes Plc, President and CEO, 2005–2015
- Konecranes Plc, Group Executive Vice President 2004–2005
- Hackmann Oyj Abp, President and CEO 2002–2004
- Startupfactory Oy, Managing Partner 2000–2002
- Nokia Corporation, various executive positions 1990–2000

Key positions of trust:
- Finnish Energy, Chairman of the Board
- Helsinki Metropolitan Smart & Clean Foundation, Chairman of the Board
- East Office of Finnish Industries, Member of the Board
- Climate Leadership Council, Member of the Board
- Fortum Foundation, Chairman of the Board

Fortum shareholding 31 December 2016:
56,250 (31 Dec 2015: 56,250)

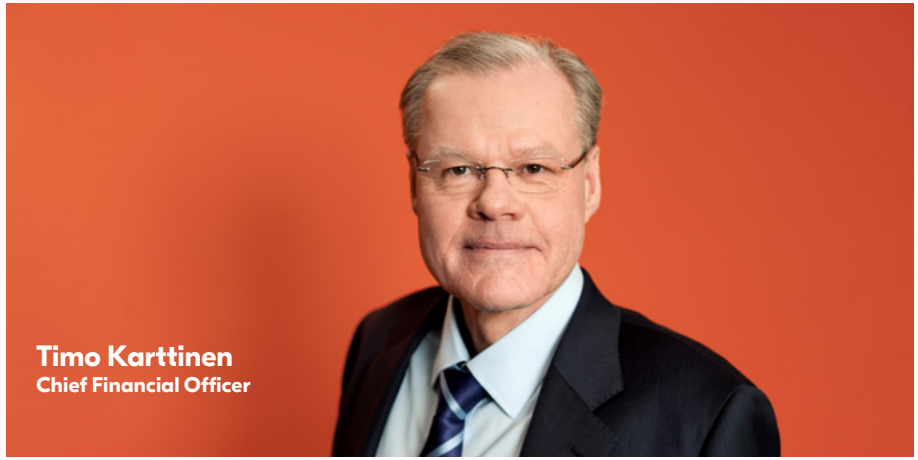
Alexander Chuvaev
Executive Vice President Russia Division

Born 1960, nationality: Russian
M.Sc. (Eng.)
Member of the Executive Management Team since 2009, Employed by Fortum since 2009, Executive Vice President, Russia Division and General Director of OAO Fortum since 2009

Previous positions:
- GE Oil & Gas, Regional Executive Director, Russia and CIS 2009
- SUEK, Investment Development Director, Russia 2008–2009
- JSC Power Machines, Managing Director, Russia 2006–2008
- GE Oil & Gas, Regional General Manager, Russia 2006
- JSC OMZ, Chief Operations Officer, Russia 2005–2006
- GE, various positions in the USA and Canada 1999–2005
- Solar Turbines Europe S.A., various positions in Europe and the USA 1991–1999

Key positions of trust:
- Energy Producers Council, Deputy Head of the Supervisory Board
- Russian Union of Industrialists and Entrepreneurs, Member of the Board, Chairman of Commission on Public Utility
- Territorial Generating Company No. 1 (TGC-1), Member of the Board
- Government Commission on the Development of the Electric Power Industry, Member
- Aggreko Aurasia LLC, Non-executive member of the Management Board

Fortum shareholding 31 December 2016:
14,713 (31 Dec 2015: 14,713)



Timo Karttinen
Chief Financial Officer

Born 1965, nationality: Finnish
M.Sc. (Eng.)
Member of the Executive Management Team since 2004, Employed by Fortum since 1991, Chief Financial Officer since 2014

Previous positions:
- Fortum Corporation, Interim President and CEO 1 February–6 September 2015
- Fortum Corporation, substitute to President and CEO 18 December 2014–31 January 2015
- Fortum Corporation, Senior Vice President, Corporate Development 2004–2009
- Fortum Power and Heat Oy, Business Unit Head, Portfolio Management and Trading 2000–2004
- Fortum Power and Heat Oy, Vice President, Electricity Procurement and Trading 1999–2000
- Imatran Voima Oy, Vice President, Electricity Procurement 1997–1999

Key positions of trust:
- Varma Mutual Pension Insurance Company, Member of the Supervisory Board

Fortum shareholding 31 December 2016:
87,090 (31 Dec 2015: 80,691)

Kari Kautinen
Senior Vice President
M&A and Solar & Wind Development

Born 1964, nationality: Finnish
LL.M.
Member of the Executive Management Team since 2014, Employed by Fortum since 1998, Senior Vice President, M&A and Solar & Wind Development as of 1 April 2016

Previous positions:
- Fortum Corporation, Senior Vice President, Strategy, Mergers and Acquisitions 2014–2016
- Fortum Corporation, Vice President, Strategy, Mergers and Acquisitions 2012–2014
- Fortum Corporation, Vice President, Mergers and Acquisitions 2007–2012
- Fortum, several managerial positions 1998–2007

Key positions of trust:
- TGC 1, Member of the Board of Directors

Fortum shareholding 31 December 2016:
29,246 (31 Dec 2015: 25,232)

Per Langer
Senior Vice President
Technology and New Ventures

Born 1969, nationality: Swedish
M.Sc. (Econ.)
Member of the Executive Management Team since 2009, Employed by Fortum since 1999, Senior Vice President, Technology and New Ventures as of 1 April 2016

Previous positions:
- Fortum Corporation, Executive Vice President, Hydro Power and Technology 2014–2016
- Fortum Power and Heat Oy, Executive Vice President, Heat Division 2009–2014
- Fortum Power and Heat Oy, President of Heat 2007–2009
- Fortum Power and Heat Oy, President of Portfolio Management and Trading 2004–2007
- Fortum Oyj, managerial positions 1999–2004
- Gullspång Kraft, managerial positions 1997–1999

Key positions of trust:
- NIP Nordic Infrastructure Partners AB, Chairman of the Board
- EFA AB, Deputy Chairman
- AW-Energy Oy, Member of the Board
- Hafslund ASA, Member of the Board

Fortum shareholding 31 December 2016:
29,212 (31 Dec 2015: 34,535)

Risto Penttinen
Senior Vice President
Strategy, People and Performance

Born in 1968, nationality: Finnish
M.Sc. (Econ.)
Member of the Executive Management Team as of 1 April 2016, Employed by Fortum since 2011, Senior Vice President, Strategy, People and Performance as of 1 April 2016

Previous positions:
- Fortum Corporation, Vice President, Corporate Strategy 2014–2016
- Fortum Power Division, Vice President, Strategic Ventures 2011–2014
- McKinsey & Company, Partner 2005–2011
- McKinsey & Company, Consultant and Project Leader 1996 and 1997–2005

Fortum shareholding 31 December 2016:
8,795 (31 Dec 2015: n/a)

Markus Rauramo
Executive Vice President
City Solutions

Born 1968, nationality: Finnish
M.Sc. (Econ. and Pol. Hist.)
Member of the Executive Management Team since 2012, Employed by Fortum since 2012, Executive Vice President, City Solutions as of 1 April 2016

Previous positions:
- Fortum Corporation, Executive Vice President, Heat, Electricity Sales and Solutions 2014–2016
- Fortum Corporation, Chief Financial Officer 2012–2014
- Stora Enso Oyj, Helsinki, CFO and Member of the GET 2008–2012
- Stora Enso International, London, SVP Group Treasurer 2004–2008
- Stora Enso Oyj, Helsinki, VP Strategy and Investments 2001–2004
- Stora Enso Financial Services, Brussels, VP Head of Funding 1999–2001
- Enso Oyj, Helsinki, several financial tasks 1993–1999

Key positions of trust:
- Wärtsilä Oyj Abp, Member of the Board
- Teollisuuden Voima Oyj, Member of the Board
- AB Fortum Värme samägt med Stockholms stad, Deputy Chairman of the Board of Directors

Fortum shareholding 31 December 2016:
27,847 (31 Dec 2015: 20,464)

Matti Ruotsala
Deputy CEO

Born 1956, nationality: Finnish
M.Sc. (Eng.)
Member of the Executive Management Team since 2009, Employed by Fortum since 2007, Deputy CEO as of 1 April 2016

Previous positions:
- Fortum Corporation, Chief Operating Officer 2014–2016
- Fortum Corporation, Power Division, Executive Vice President 2009–2014
- Fortum Power and Heat Oy, President of Generation 2007–2009
- Valtra Ltd, Managing Director 2005–2007
- AGCO Corporation, Vice President 2005–2007
- Konecranes Plc, Chief Operating Officer (COO) and Deputy CEO 2001–2005
- Konecranes Plc and Kone Corporation, several senior and managerial positions 1982–2001

Key positions of trust:
- Componenta Oyj, Chairman of the Board
- Kemijoki Oy, Chairman of the Board
- PKC Group Oyj, Chairman of the Board
- Teollisuuden Voima Oyj, Chairman of the Board
- Halton Group Ltd, Member of the Board

Fortum shareholding 31 December 2016:
46,509 (31 Dec 2015: 39,066)

Arto Räty
Senior Vice President
Corporate Affairs & Communications

Born 1955, nationality: Finnish
Lieutenant General (Ret.)
Member of the Executive Management Team as of 1 April 2016, Employed by Fortum since 2016, Senior Vice President, Corporate Affairs & Communications as of 29 February 2016

Previous positions:
- Permanent Secretary at the Ministry of Defence of Finland, 2011–2015 and Director of the National Defence Policy Unit 2005–2008
- Various positions within Finnish Defence Forces, including Deputy Chief of Staff, Operations at Defence Command 2009–2010; Chief of Staff at Army Command 2008–2009; Brigade Commander, Pori Brigade 2000–2002; Commanding Officer of the Finnish Battalion in KFOR, Kosovo 2000; Deputy Chief of the International Department, Defence Command 1997–2000
- Director of the National Defence Courses of the Finnish Government 2003–2004
- Finnish Liaison Officer at NATO HQ and PCC SHAPE, Brussels, Belgium 1994–1997

Key positions of trust:
- Chairman of the Board at Destia Oy 2015–
- Member of the Board at Ahlström Capital Cleantech Fund I 2011–

Fortum shareholding 31 December 2016:
0 (31 Dec 2015: n/a)

Sirpa-Helena Sormunen
General Counsel

Born 1959, nationality: Finnish
LL.M., Trained on the bench
Member of the Executive Management Team since 2014, Employed by Fortum since 2014, General Counsel since 2014

Previous positions:
- Patria Oyj, General Counsel 2012–2014
- Nokia and Nokia Siemens Networks, several legal and managerial positions (NSN) 2004–2012
- TeliaSonera Finland Oyj, Vice President, Head of Legal, Mergers and Acquisitions and Finance 2003–2004
- Sonera Oyj, Senior Legal Counsel, Head of Legal, Merger and Acquisitions 2000–2002

Key positions of trust:
- Nammo AS, Member of the Board of Directors
- Association of Finnish Fine Arts Foundations, Member of the Board
- Fortum Art Foundation, Chairman of the Board

Fortum shareholding 31 December 2016:
3,000 (31 Dec 2015: 3,000)

Tiina Tuomela
Executive Vice President
Generation

Born 1966, nationality: Finnish
M.Sc. (Eng.), MBA
Member of the Executive Management Team since 2014, Employed by Fortum since 1990, Executive Vice President, Generation as of 1 April 2016

Previous positions:
- Fortum Corporation, Executive Vice President, Nuclear and Thermal Power Division 2014–2016
- Fortum Power and Heat Oy, Vice President, Finance in Power Division 2009–2014
- Fortum Power and Heat Oy, Vice President, Business Control and Support, Generation 2005–2009
- Fortum, several managerial positions 1990–2005

Key positions of trust:
- Teollisuuden Voima Oyj, Member of the Board

Fortum shareholding 31 December 2016:
12,991 (31 Dec 2015: 9,090)

Join the change

fortum

Remuneration 2016

Remuneration Statement 2016

Dear Shareholders,

2016 was an intensive year for Fortum. In the beginning of the year, we redefined the company's strategy, which continues to focus on clean and efficient power generation, while securing a fair remuneration to our shareholders. Fortum also changed the organisational structure to enable the successful implementation of the new strategy and to utilise the possibilities the changing market environment presents.

The whole energy industry is in an exciting development phase. We are positioning Fortum to be successful also in the future. To achieve that, we are investing in businesses and competencies that are needed in the future. The financial headroom created by the sale of the distribution business in 2014–2015, puts Fortum in a unique position to participate in the European consolidation and restructuring development. The redeployment of funds is guided by our strategy with the aim to maximise cash flow while at the same time safeguarding our long-term competitiveness and profitability. Fair remuneration of all employees is an essential part of securing our future success. We want to ensure that we have the right people with the right skills in the right places, that our employees are committed and performing on a high level and that excellent performance is acknowledged and rewarded.

Our approach is to encourage and reward high performance delivered in line with the strategy, culture and values of our organization. We encourage sustainable long-term performance. With our reward and incentive programmes we seek to attract and retain employees of the highest calibre and to support creation of shareholder value.

Remuneration for the members of the Fortum Executive Management is determined by the Nomination and Remuneration Committee and subject to approval by the Board of Directors. Remuneration for the Board of Directors is proposed by the Shareholder's Nomination Board and approved by the shareholders at the Annual General Meeting.

Over the year our management and employees have worked hard on delivering the business strategy. The year was challenging for the whole industry due to the low market prices. Fortum's results were further burdened by low hydro production volumes due to low precipitation. However, the financial targets in the short-term incentive (STI) plan were reached since our performance under the prevailing market conditions was good.

Due to satisfactory performance during the earnings period 2013–2015 the 2013–2018 long-term incentive (LTI) plan exceeded the minimum performance criteria and vested at 42%. This resulted in approximately 260,000 shares being awarded to eligible participants in 2016. The performance for the earnings period 2014–2016 was lower but exceeded the minimum performance criteria and the 2014–2019 LTI plan vested at 27%.

During 2016, the Nomination and Remuneration Committee reviewed the structure of LTI arrangement for key employees and executives to ensure that it meets the guidance set out in the latest Government Resolution on State-Ownership Policy, European best practices and that it continues to support the business strategy. As a result of this review an amended LTI programme was approved by the Board of Directors in December. In this programme the approach to performance measures, the release of shares and the share ownership requirement for the Fortum Executive Management have been updated. These changes will take effect from the 2017–2019 LTI plan.

We have also made some changes to the presentation of the Remuneration Statement to improve transparency and usability. The Statement is presented in three parts: (i) our approach to the governance of remuneration at Fortum; (ii) the remuneration policy which sets our remuneration principles and a summary of the remuneration framework for Fortum Executive Management and (iii) the annual report on remuneration, which sets out how the Board of Directors and Fortum Executive Management were remunerated in the year under review. The Remuneration Statement has been prepared in accordance with the Finnish Corporate Governance Code and we welcome any feedback that you have and will continue to develop our reporting procedures further.

Sari Baldauf
Chairman of the Board of Directors
Chairman of the Nomination and Remuneration Committee

Remuneration Governance

Remuneration at Fortum is directed by the Group's remuneration principles and Fortum's general compensation and benefits practices. This Remuneration Statement has been prepared and issued in accordance with the Finnish Corporate Governance Code 2015.

The Shareholders' Nomination Board, the Annual General Meeting of Shareholders (AGM), the Board of Directors and the Nomination and Remuneration Committee are all involved in the preparations and decision-making regarding remuneration at Fortum.

Remuneration Policy

Remuneration Principles

At Fortum, we strive for a performance-focused culture where our people understand:

- the company, its strategy and performance targets,
- how they as individuals can impact the results,
- the link between business performance and remuneration, and
- the importance of delivering sustainable business results.

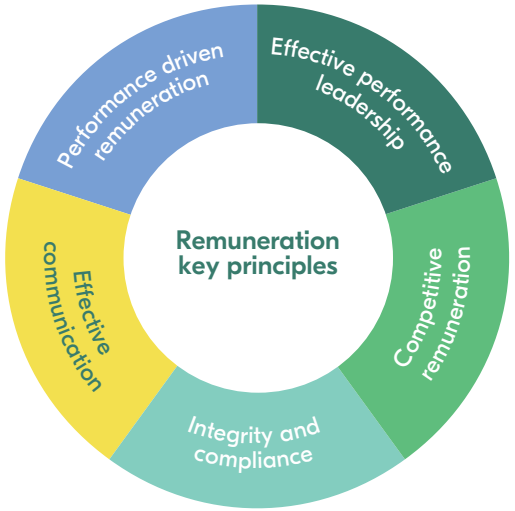
This philosophy underpins our remuneration principles which are designed to encourage and recognise high performance and behaviour in line with Fortum's values.

Terms of employment for President and CEO Pekka Lundmark

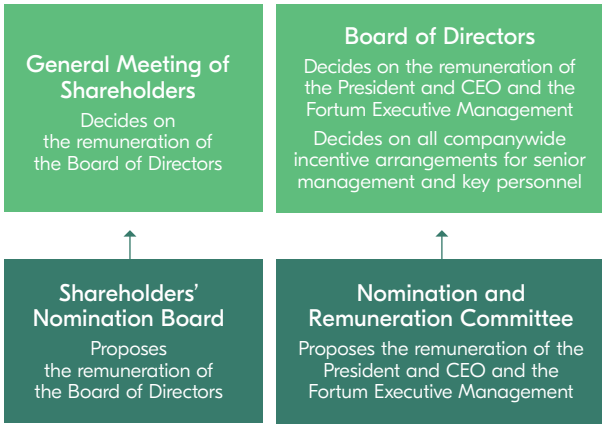
The notice period for both parties is six months. If the company terminates the contract, the President and CEO is entitled to the salary for the notice period and a severance pay equal to 12 months' salary. If the President and CEO's contract is terminated before retirement age, he is also entitled to retain the funds that have accrued in the pension fund.

The current salary of the President and CEO Pekka Lundmark is EUR 80,000/month including free car allowance and phone allowance as fringe benefits.

According to the terms of the STI and LTI programmes the President and CEO participates in the STI programme with a maximum incentive opportunity of 40% of the annual base salary and in the LTI programme starting from the 2014–2019 LTI plan. The LTI awards are calculated on a pro rata basis from 7 September 2015, when Pekka Lundmark started as President and CEO of Fortum.



Remuneration Key Principles	
Effective performance leadership	We motivate our people by setting challenging targets. We encourage initiative taking, active leadership of own and team performance as well as collaboration to enable desired behaviour and achieve business success. We emphasise setting and cascading clear targets aligned with Fortum's strategy as an essential part of good leadership on all levels. We emphasise cross-unit and cross-function collaboration in reaching our business objectives, also reflected in target setting. Rewarding is tightly linked to the overall performance leadership in Fortum.
Performance driven remuneration	We reward concrete achievements in implementing Fortum's strategy and achieving business targets and desired change. We differentiate performance and pay for real achievement. Both low and high performance have consequences.
Competitive remuneration	We take into consideration relevant market and industry practices as well as different business models and their needs when defining the level and nature of compensation and benefits, aiming to be an attractive employer for the relevant persons with needed skills and competences.
Effective communication	To gain full advantage of the compensation and benefits programs, we emphasize clear, transparent and regular communication about the company's as well as the individual's performance, in particular clarifying the link between performance and variable compensation. We invest in developing managers' knowledge of performance and reward practices and programmes.
Integrity and compliance	We run our performance and reward processes and programmes with high integrity and follow local legislation in each country where we operate. We follow the Corporate Governance Code for Finnish listed companies as well as the guidelines regarding remuneration for the management of state-owned companies. We don't accept any kind of compliance breach.



Summary of remuneration of the President and CEO and other members of the Fortum Executive Management

Base salary	Fixed salary including fringe benefits, designed to compensate for the job responsibilities and to reflect the skills, knowledge and experience of the individual.
Short-term incentives	Support achievement of the Group's financial, strategic and sustainability targets. The maximum incentive opportunity is 40% of the executive's annual base salary calculated as 12 × the salary for December of the year in question.
Long-term incentives	Focus performance on what drives business success in the long-term, rewarding long-term, sustainable high performance and ensuring alignment of interests between management and shareholders. Awards are made annually under Fortum's LTI programme with performance measured over a three-year earnings period. If the minimum performance criteria are exceeded, the resulting award, net of tax, is paid in shares which are subject to shareholding guidelines. The combined value, before taxation, of all variable compensation paid in a calendar year cannot exceed 120% of the participant's annual base salary.
Pensions	In addition to the statutory pensions the members of Fortum Executive Management have supplementary pension arrangements. All supplementary pension arrangements since year 2008, including the pension plan for the President and CEO, are defined contribution plans with a maximum premium percentage of 25% of the annual salary. For the members joining the Fortum Executive Management after the end of the year 2016 as well for those current members to whom the premium has been below 20% of the annual salary, the pension premium is 20% of the annual base salary as of 1 January 2017.
Shareholding requirement	Members of the Fortum Executive Management (including the President and CEO) are required to build and maintain a holding in Fortum shares equivalent to 100% of their annual salary.[1)]

1) Measured as the gross annual salary

Short-term incentives (STI)

Fortum's STI programme is designed to support the achievement of the company's financial and other relevant targets on an annual basis. All employees are covered by the programme or alternatively by a business specific or a comparable local variable pay arrangement.

The Board of Directors determines the performance criteria and award levels for the Fortum Executive Management. The target incentive opportunity is 20% and the maximum incentive opportunity is 40% of the annual base salary.

The awards for the members of the Fortum Executive Management are based on the achievement of divisional targets, Group financial performance as well as individual targets. The performance criteria used are agreed upon in a performance discussion held at the beginning of the year. The Board of Directors assesses the performance of the President and CEO and the members of the Fortum Executive Management on a regular basis.

Awards for other employees are based on a combination of Group, divisional, functional and personal targets. The targets are set in annual performance discussions held at the beginning of the year.

Awards under the STI programme are paid solely in cash.

Long-term incentives (LTI)

The purpose of Fortum's long-term incentive programme is to support the delivery of sustainable, long-term performance, align the interests of management with those of shareholders and assist in committing and retaining key individuals.

Fortum's LTI programme provides participants with the opportunity to earn company shares. Subject to the decision of the Board of Directors, a new LTI plan commences annually.

The Board of Directors approves the Fortum management members and key individuals entitled to participate in each annually commencing LTI plan. Participation in the LTI plan precludes the individual from being a member in the Fortum Personnel Fund.

Each LTI plan begins with a three year earnings period, during which participants may earn share rights if the performance criteria set by the Board of Directors are fulfilled.

If the minimum performance criteria are not exceeded, no shares will be awarded. If performance is exceptionally good and the targets approved by the Board of Directors are achieved, the combined gross value of all variable compensation cannot exceed 120% of the person's annual salary in any calendar year.

After the earnings period has ended and the relevant taxes and other employment-related expenses have been deducted, participants are paid the net balance in the form of shares.

For LTI plans commencing in 2013 onwards, any shares awarded to Fortum Executive Management members are subject to a three-year lock-up period in accordance with the State-Ownership Guidelines in force at the time the LTI plan was introduced. Subject to a decision by the Board of Directors, the lock-up period can be reduced to one year for those Fortum Executive Management members whose aggregate ownership of Fortum shares is greater than or equal to their annual salary. For other participants (i.e. below the Fortum Executive Management), the lock-up period is one year. For LTI plans commencing prior to 2013, the lock-up period is three years for all LTI plan participants.

If the value of the shares decreases or increases during the lock-up or retention period, the participant will carry the potential loss or gain.

To reflect the recent changes in the State-Ownership Guidelines, for LTI plans commencing in 2017 and beyond, no lock-up period will be applied for any participants. However, Fortum Executive Management members whose aggregate ownership of Fortum shares does not yet fulfil the shareholding requirement are required to retain at least 50% of the shares received until the required level of shareholding is met.

Remuneration that has been paid out without grounds shall be reclaimed in accordance with the regulations on returning an unjust enrichment and remuneration. A payment which has been influenced by the recipient's unethical conduct, may be recovered based on the terms of the LTI Programme.

Aon Hewitt and PCA Corporate Finance acted as advisers for the Nomination and Remuneration Committee in planning the amended LTI programme valid from 2017 onward.

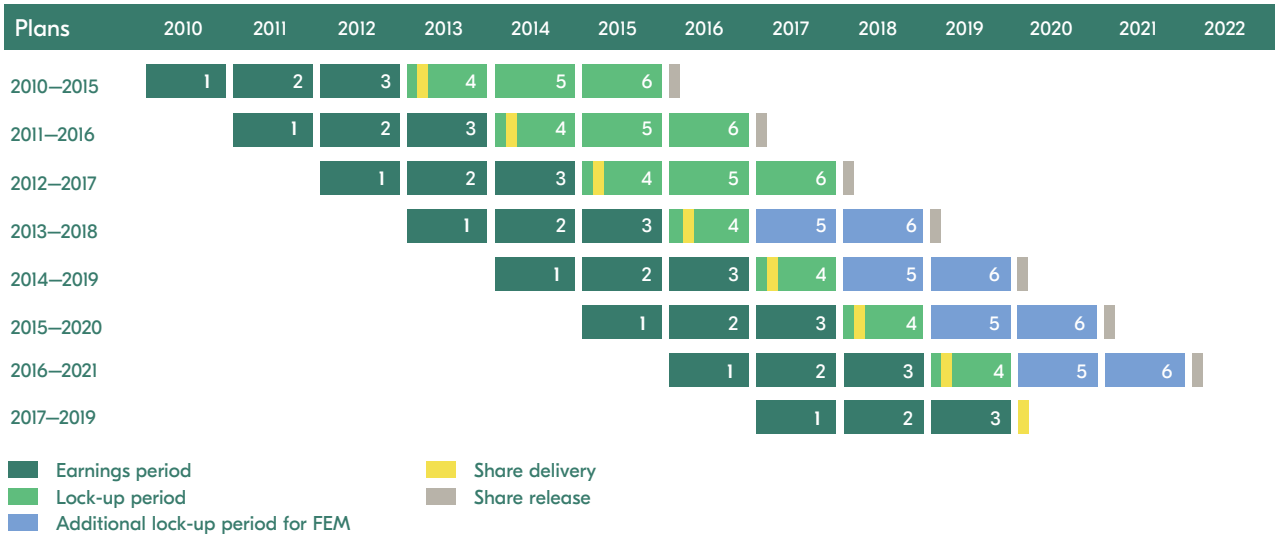
Pensions

Members of the Fortum Executive Management in Finland participate in the Finnish TyEL pension system, which provides a retirement benefit based on earnings in accordance with the prescribed statutory system. Under the Finnish pension system earnings include base pay, annual bonuses and taxable fringe benefits, but gains realised from the LTI plans are not included in that definition. Members of the Fortum Executive Management outside Finland participate in pension systems based on statutory pension arrangements and market practices in their local countries.

In addition to the statutory pensions, the members of the Fortum Executive Management have supplementary pension arrangements. The Group principle is that all new supplementary pension arrangements for the President and CEO as well as the Fortum Executive Management are defined contribution plans.

The retirement age for Fortum's President and CEO is 63, and for the other members of the Fortum Executive Management the retirement age varies between 60 and 65. For the President and CEO and other members of the Fortum Executive Management, the maximum supplementary pension premium is 25% of the annual base salary. For the members joining the Fortum Executive Management after the end of the year 2016 as well as for those current members to whom the premium has been below 20% of the annual salary, the pension premium is 20% of the annual base salary as of 1 January 2017. Members of the Fortum Executive Management, who joined Fortum prior to 1 January 2009, are entitled to a supplementary defined benefit pension plan in which the benefit is 60% or 66% of the final pensionable salary. In these cases, the pension is provided by an insurance company or Fortum's Pension Fund.

Long-term incentive programme



Fees for the Board of Directors

The Annual General Meeting on 5 April 2016 confirmed the following annual fees for the members of the Board of Directors:

Thousands of euros	2016	2015
Chairman	75	75
Deputy Chairman	57	57
Chairman of the Audit and Risk Committee [1)]	57	57
Members	40	40

1) If not Chairman or Deputy Chairman simultaneously

Every member of the Board of Directors receives a fixed yearly fee and additional fees for each meeting attended. The fees in 2016 were the same as in previous years.

A meeting fee of EUR 600 is paid for board and committee meetings. For board members living outside Finland in Europe, the meeting fee is EUR 1,200; for board members living outside Europe, the meeting fee is EUR 1,800. For board and committee meetings held as a telephone conference, the meeting fee is paid as EUR 600 to all members. No fee is paid for decisions made without a separate meeting.

Board members are not in an employment relationship or service contract with Fortum, and they are not given the opportunity to participate in Fortum's STI or LTI programme, nor does Fortum have a pension plan that they can opt to take part in. The compensation for the board members is not tied to the sustainability performance of the Group.

Board members are entitled to travel expense compensation in accordance with the company's travel policy.

Annual Remuneration Report 2016

This part of the report sets out the remuneration payable to the President and CEO and members of the Fortum Executive Management in 2016.

Remuneration of the President and CEO and the Fortum Executive Management

The table below includes the salaries and fringe benefits, STI and LTI programme payments to the President and CEO and to the Fortum Executive Management during the year. The STI payments are based on the 2015 targets and achieved results. The LTI programme includes the shares delivered during the year 2016.

The STI and LTI programme payments to Fortum Executive Management members, including the President and CEO, amounted to a total of EUR 1,957 thousand (EUR 3,479 thousand in 2015), which corresponds to 0.82% (1.32% in 2015) of the total compensation in the Fortum Group. The figures exclude payments to the employees of the divested electricity distribution business. The table also includes payments made to supplementary pension arrangements for the President and CEO and for Fortum Executive Management.

Salary and Fringe Benefits

The base salary levels are set taking into account the nature of the role, local and international market conditions and individual experience and performance. The salary for the President & CEO, Pekka Lundmark, was EUR 80,000 per month, including free car allowance and phone allowance as fringe benefits.

Short-term incentives

Short-term incentives for 2015 (paid in 2016)

The STI for 2015 for the members of Fortum Executive Management was based on:

Weighting	Measure *	Outcome
40%	Comparable Operating Profit	Below threshold
40%	Free Cash Flow from operations	Between threshold and target
5%	Major environmental, health & safety (EHS) incidents	Maximum
5%	Lost workday injury frequency	Maximum
5%	Serious accidents	Below threshold
5%	Dow Jones Sustainability Index development	Between target and maximum

*) In addition to these measures a personal multiplier based on the achievement of personal targets is applied.

The STI payments for the Fortum Executive Management were on average 7% of the salary (17% of the maximum). The aggregate STI payment to members of Fortum Executive Management for 2015 performance was EUR 0.26 million (EUR 0.8 million in 2014).

In total, EUR 9.6 million (EUR 13.7 million in 2014) was paid as short-term incentives across the Group for the financial year 2015. The amounts reported exclude payments to the personnel of the divested Swedish electricity distribution business. The amount paid decreased compared to the previous year, mainly due to the lower financial performance of the company.

Short-term incentives for 2016 (payable in 2017)

The STI for 2016 for the members of Fortum Executive Management was based on:

Weighting	Measure	Outcome
40%	Comparable Operating Profit	Between target and maximum
20%	Free Cash Flow	Between target and maximum
5%	Lost workday injury frequency	On target
5%	Serious accidents	Below threshold
30%	Individual targets	Individually assessed

The outcome of the STI performance measures were above the set target level regarding Group financial targets. The other Group level safety target (Lost workday injury frequency) reached the target level whereas the other one (Serious accidents) did not reach the threshold level.

The achieved performance based on the individual targets is evaluated in connection with the individual performance review at the beginning of the year. The accrued incentives for the year 2016 are paid out in April 2017.

	President & CEO				Other Members of Fortum Executive Management	
	2016	2015			2016	2015
Thousands of euros	Pekka Lundmark	Pekka Lundmark, (President and CEO since 7 Sep 2015)	Timo Karttinen (Interim President and CEO until 6 Sep 2015)	Tapio Kuula (President and CEO until 31 Jan 2015)		
Salaries and fringe benefits	982	305	372	279	3,581	3,367
Short-term incentive	30	-	n/a	170	233	638
Long-term incentive	-	-	n/a	1,146	1,694	1,526
Supplementary pensions	356	-	n/a	25	560	661
Total	**1,368**	**305**	**372**	**1,620**	**6,068**	**6,192**

Short-term incentives for 2017 (payable in 2018)

As in 2016, the short-term incentive targets for the Fortum Executive Management in 2017 are based on the achievement of divisional targets, Group financial performance as well as individual targets. The STI performance measures and weighting are: 60% Comparable Operating Profit (for division heads 30% Group level and 30% own division), 10% lost workday injury frequency and 30% individual strategic targets.

Long-term incentives

The table sets out the pipeline of recently granted LTI awards, including details of the shares delivered in the reporting period.

In December 2016, the Board of Directors approved the amended LTI programme. The share awards will not be subject to a minimum lock-up period but members of the Fortum Executive Management will be required to retain 50% of the shares until they have achieved their required shareholding level of 100% of the annual salary. For other key employees included in the new LTI plan no lock-up period will be applied. Under the 2017–2019 LTI plan, the Board-approved earnings criteria will be based on earnings per share (50%) and relative total shareholder return (50%) measured relative to the European Utilities Group.

LTI plan	2012–2017	2013–2018	2014–2019	2015–2020	2016–2021
Earnings period	2012–2014	2013–2015	2014–2016	2015–2017	2016–2018
Share delivery year	2015	2016	2017	2018	2019
Measures	A combination of EBITDA, EPS and share price development	A combination of EBITDA, EPS and share price development	50% EPS, 25% TSR & 25% Reputation Index	30% EPS, 30% Return on Net Assets (Group or Divisional), 20% TSR and 20% Group EBITDA	50% EPS & 50% TSR
Payment (% of annual salary)	48%	42%	27%		
Total shares delivered *)	213,072	262,989			
Lock-up Period	3 years	3 years (FEM) (reduced to 1 year if the shareholding requirement is achieved)			
Shares delivered* to members of Fortum Executive Management:					
Pekka Lundmark [1]	-	-			
Alexander Chuvaev [2]	21,781	27,897			
Timo Karttinen	4,261	6,399			
Kari Kautinen	2,956	4,014			
Per Langer	3,751	4,677			
Risto Penttinen [3]	n/d [4]	n/d [4]			
Markus Rauramo	5,029	7,383			
Matti Ruotsala	6,706	7,443			
Arto Räty [3]	-	-			
Sirpa-Helena Sormunen	-	-			
Tiina Tuomela	2,648	3,902			
Former members of the Fortum Executive Management:					
Tapio Kuula [5]	30,271 [5]	-			
Helena Aatinen [6]	2,352	3,188			
Mikael Frisk [6]	3,926	5,028			
Esa Hyvärinen [6]	2,384	3,053			

*) after deduction of taxes and tax related expenses

1) President and CEO since 7 September 2015. Pekka Lundmark participates in the LTI plans starting from the 2014–2019 LTI plan
2) Share rights will be paid in cash instead of shares after the three-year lock-up period due to local legislation
3) Member of FEM from 1 April 2016
4) Shares delivered before the term in the Fortum Executive Management are not disclosed
5) President and CEO until 31 January 2015. Includes the shares Tapio Kuula received from the LTI plans commenced in 2012, 2013 and 2014. The shares are under lock-up until the spring 2018
6) Member of FEM until 31 March 2016

Shareholdings for Members of the Fortum Executive Management as of 31 December 2016

The following table shows the shareholdings of the President and CEO and other members of the Fortum Executive Management as of 31 December 2016. Members of the Fortum Executive Management are required to build and maintain a shareholding equivalent to 100% of the annual salary.

		Shareholding
Pekka Lundmark	President and CEO	56,250
Alexander Chuvaev	Executive Vice President, Russia Division	14,713
Timo Karttinen	Chief Financial Officer	87,090
Kari Kautinen	Senior Vice President, M&A and Solar & Wind Development	29,246
Per Langer	Senior Vice President, Technology and New Ventures	29,212
Risto Penttinen	Senior Vice President, Strategy, People and Performance	8,795
Markus Rauramo	Executive Vice President, City Solutions	27,847
Matti Ruotsala	Deputy CEO	46,509
Arto Räty	Senior Vice President, Corporate Affairs and Communications	0
Sirpa-Helena Sormunen	General Counsel	3,000
Tiina Tuomela	Executive Vice President, Generation	12,991

Fortum Personnel Fund

Fortum employees in Finland, who are not participating in the long-term incentive programme, belong to the Fortum Personnel Fund. The amount paid annually to the Personnel Fund is based on the achievement of annual targets. The payments to the fund in 2016 totalled EUR 0.6 million (2015: EUR 3.7 million).

Remuneration for the Board of Directors in 2015 and 2016

The following table includes the compensation paid to the Board of Directors during 2016 and 2015. The amounts include fixed yearly fees and meeting fees.

Thousands of euros	2016	Board service 2016	2015	Board service 2015
Board members at 31 December 2016				
Sari Baldauf, Chairman	87	1 Jan–31 Dec	86	1 Jan–31 Dec
Kim Ignatius, Deputy Chairman	70	1 Jan–31 Dec	68	1 Jan–31 Dec
Minoo Akhtarzand	61	1 Jan–31 Dec	61	1 Jan–31 Dec
Heinz-Werner Binzel	61	1 Jan–31 Dec	60	1 Jan–31 Dec
Eva Hamilton	56	1 Jan–31 Dec	43	31 Mar–31 Dec
Tapio Kuula	52	1 Jan–31 Dec	38	31 Mar–31 Dec
Veli-Matti Reinikkala	44	5 Apr–31 Dec	-	-
Jyrki Talvitie	70	1 Jan–31 Dec	66	1 Jan–31 Dec
Former board members				
Ilona Ervasti-Vaintola	-	-	13	1 Jan–31 Mar
Christian Ramm-Schmidt	-	-	13	1 Jan–31 Mar
Petteri Taalas	17	1 Jan–5 Apr	51	1 Jan–31 Dec

The following table shows the shareholdings of the Board of Directors as of 31 December 2016.

	Shareholding
Sari Baldauf, Chairman	2,300
Kim Ignatius, Deputy Chairman	2,400
Minoo Akhtarzand	0
Heinz-Werner Binzel	0
Eva Hamilton	40
Tapio Kuula	201,200
Veli-Matti Reinikkala	3,000
Jyrki Talvitie	0

Join the change

fortum

Tax Footprint 2016

Fortum as a tax payer 2016

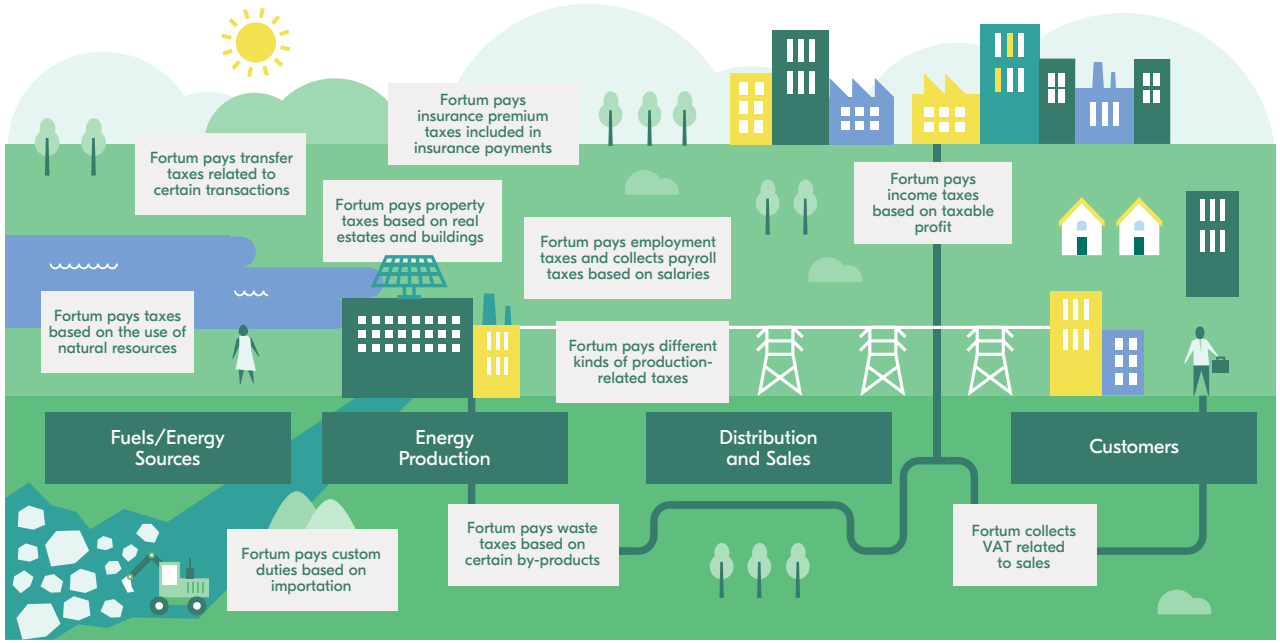
As set out in our tax policy below, we aim to identify simple and cost-efficient solutions to manage our taxes in a sustainable manner. The goal is to allow the business to continue to invest, to operate flexibly and efficiently, and to safeguard returns to our shareholders.

The energy sector, including Fortum, is in the middle of a transition. Global megatrends, such as climate change, emerging new technologies, changes in consumer behaviour, and questions regarding resource efficiency, have a major impact on the energy sector globally. As Fortum is operating in a capital-intensive sector, it is important to have predictability to be able to operate and finance our operations in an efficient and safe manner.

Fortum operates in more than 15 countries. Our business is based mainly on local fuels and energy sources, local production, local distribution of heat, and sale of energy to customers locally. Therefore our profits are typically also generated locally.

Taxation is always a consequence of business operations and is therefore always based on business decisions and needs. For us this means that our investments with long lifetimes, price levels set locally and the efficiency of financing always have tax impacts.

Taxes cover the entire value chain



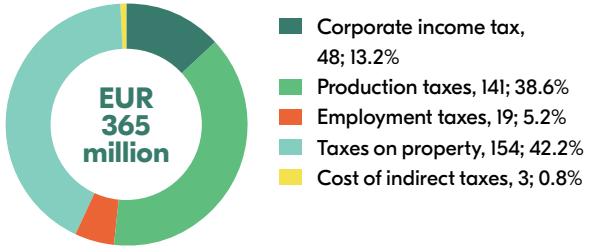
It is important that we can efficiently operate and finance our businesses, carry out investments and manage financing risks in all the countries where we operate. Financing, which underpins all our operations, is one of the very few truly international aspects of Fortum's tax profile. Taxes are paid locally on profits that are generated locally, and this applies to all our operations, including financing. Therefore predictability and stability of our operating environment are crucial for us.

The extent and nature of the taxes Fortum pays is shown by our total tax contribution. In 2016, it was EUR 741 (2015: 765) million of which EUR 365 (2015: 413) million was related to taxes borne and EUR 376 (2015: 352) million to taxes collected. Finland, Sweden and Russia are our biggest production countries. In 2016, the taxes borne in Finland were EUR 101 (2015: 130) million, in Sweden EUR 201 (2015: 210) million and in Russia EUR 23 (2015: 23) million.

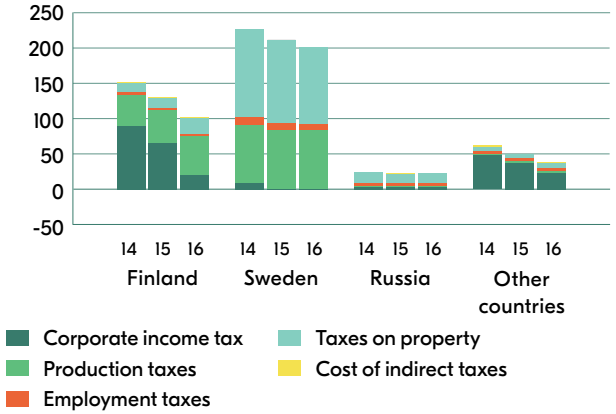
Taxes borne include corporate income taxes (excluding deferred taxes), production taxes, employment taxes, taxes on property, and the cost of indirect taxes. Taxes collected include VAT, payroll taxes, excise taxes and withholding taxes.

While income taxes are paid on taxable profit, Fortum also pays other taxes based on, for example, fuel usage, waste, production capacity, and the value of real estate.

Taxes borne 2016, EUR million and %



Taxes borne by country, EUR million



Fortum has local operations and tax contribution in more than 15 countries.

As a major part of our taxes are not based on profits, our total taxes borne in relation to our accounting profit (total tax rate) will increase if the profit level decreases. With the current low electricity prices, these non-profit-based taxes account for a more significant share of costs of operations than before. This was the actual situation in 2016. Such a large tax burden, which is unrelated to profitability, can present a real obstacle to operating an economically viable business.

Demanding and uncertain tax environment in 2016

The operating environment was affected by the global macro economic problems and the related challenges to public financing. In many of the countries in which Fortum operates, taxes on the energy sector have been increased and tax laws changed faster than in the past. Energy sector taxes, such as real estate and production taxes are not based on profits and are one of the biggest costs of power production. Combined with low electricity prices, significant increases in these taxes threaten to reduce the profitability of utilities companies, including Fortum. In some cases, very high levels of non-profit-based taxes could make some operations financially unsustainable.

The changing regulation and focus on so-called aggressive tax planning is decreasing the predictability and stability of all business operations. For example, the OECD's BEPS work, the EU Commission's anti-tax avoidance directive (ATAD), and the EU Accounting directive work are changing existing rules, policies and even fundamental aspects of taxation. This creates challenges, especially for long-term business such as ours, as there is no clarity on how the rules will be interpreted. Getting guidance or certainty on the tax treatment of particular items can, in the worst case scenario, take years. The purpose of much of the new regulation is not primarily focused on Fortum's type of business, with profit generation already by nature being local. Nevertheless, we are affected by the new rules. Fortum is managing the challenge of these new rules by further developing risk identification tools, improving our tax audit readiness already in the early phase of business processes, and creating better communication with tax authorities.

Fortum's approach to taxation — our tax policy

Fortum's tax policy is based on the fact that taxes should be handled as part of the business process. Therefore, taxes are managed based on Fortum Group's operating strategy with a focus especially on the protection of the parent company's dividend distribution capability to meet our dividend policy.

Tax planning is managed to support business efficiency and profitability in order to create shareholder value, but with respect to existing regulation. This ensures that we appropriately assess, report and pay our taxes to the tax authorities to the benefit of our stakeholders and wider society.

In 2016, more than half of Fortum's taxes borne (EUR 192 million of the total EUR 365 million) related to the real-estate tax and nuclear capacity tax in Sweden, but this will change due to the Swedish government's budget proposal in September 2016.

The budget proposal included a timetable for lowering the real-estate tax on hydro assets and for phasing out the nuclear capacity tax over coming years. The real-estate tax rate on hydro assets will be reduced in four steps by 2020 and the nuclear capacity tax will be reduced starting in July 2017 and totally abolished as of 2018.

We always operate within the law and on the basis of being open and transparent with tax authorities in all the jurisdictions where we operate. We also follow guidelines set out by the Ownership Steering Department in the Prime Minister's Office. Predictability and transparency of both national and local legislation as well as interpretations and decisions by tax authorities on all levels are critical to us, as all our investments have a long lifetime and our operations are capital intensive. We respect existing regulations, such as market-based pricing in internal transactions (the arm's length principle). We pay taxes in the country where our business operations are located and where the value added is generated, in accordance with the local regulations.

Tax risk management – We regularly assess the uncertainties related to taxation in our business and we report tax risks and how they are managed and assured annually to the Audit and Risk Committee. The risk analysis done in 2016 indicated that, in particular, the new compliance burden around transfer pricing, developments in the Finnish real-estate tax as well as the internal controls need more focus in the future. To mitigate risks, we aim to make tax issues, and especially compliance issues, an integral part of the business processes, improve communication around taxes, and raise management's awareness of them.

Our Corporate Tax Team manages and mitigates tax-related uncertainties by targeting predictability in the taxes for business operations in all our operating countries. This means that in unclear cases we discuss with tax authorities or look for advice from experts to clarify interpretations. We also pay special attention to the correctness and transparency of our tax returns, and we discuss our positions with tax authorities.

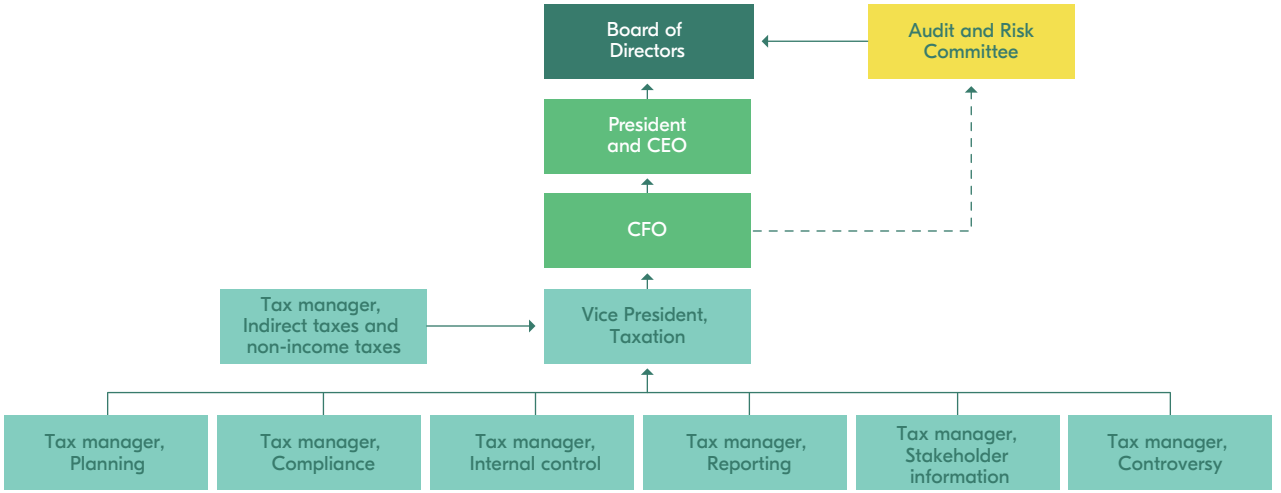
Tax governance – The group Head of Tax owns and implements our tax approach and is responsible for ensuring that policies and procedures that support the tax approach are in place, maintained and used in the same manner in all countries. Furthermore, the Head of Tax is responsible for ensuring that the Corporate Tax Team has the proficiency and experience to implement it appropriately.

The Head of Tax reports to the CFO. Furthermore, tax issues, such as tax strategy, legal processes and tax-related risks are followed on a regular basis in the Audit and Risk Committee of Fortum's Board of Directors. The chart on this page presents the different tax functions within the Corporate Tax Team.

Transparency and relationships with governments – In Fortum's tax reporting we are committed to ensuring that stakeholders are able to understand the important elements of our tax position and that the information provided is fair and accurate. We have published our tax footprint as part of our annual reporting since 2012. As the Finnish state is the majority shareholder in Fortum, we apply in our tax reporting the 2016 guidelines of the Ownership Steering Department of the Prime Minister's Office for state-majority-owned companies. We strive for effective collaboration with authorities to clarify existing rules, so that we can respond to potential challenges in a timely manner and avoid surprises.

We believe that transparency is crucial both for our external and internal stakeholders. Open, transparent and consistent communication guides our tax footprint reporting. To create the best possible understanding of us as a tax payer and of the impact of taxes on our business and on the societies we operate in, we continue to develop our tax footprint report.

At Fortum, we recognise the demands of our stakeholders for more information on tax and our disclosures reflect this. We report both our effective tax rate and total tax rate. In line with the 2016 tax reporting guidelines for state-owned companies in Finland, we apply the principle of materiality in our financial reporting, i.e. we publish tax information on the most significant countries, and we publish more detailed information about taxation for the majority of the countries in which Fortum operates in this report. Furthermore, we publish information about our companies registered in countries that are considered by the EU, the OECD and the Global Forum to be tax havens. We disclose all significant tax-related decisions concerning, for example, tax audits and appeals.



Legal structure and intra-group financing

To support our strategy and dividend policy, Fortum's legal structure is designed to mitigate various financial risks in our operations, ensure sound and efficient financing of operations and investments, and safeguard the parent company's financial strength and dividend distribution capability in accordance with Fortum's dividend policy. Financing and holding of our operations are located in the EU area, in countries where the operating environment is predictable. Our Finnish operations are owned through the parent company, our Swedish operations by our Swedish holding company and our operations in other countries mainly by our Dutch holding company. The taxes are, however, paid in the country where the revenue is generated independently of ownership structure.

We are constantly developing our legal structure to reach efficiency, certainty and cost savings. As part of this work in 2016 we have or are about to wind up and dissolve companies for example in Finland, Sweden, Luxembourg, Poland and Ireland.

Financial statement disclosures

Fortum publishes tax information as part of its financial statements. Income taxes and deferred taxes in the balance sheet are included and explained in the tax notes of the financial statements. The most relevant parts of these tax notes are reproduced below, with some commentary to explain some of the drivers of the numbers. See Note 13 Income tax expense and Note 29 Income taxes in balance sheet for further information.

The table below explains the difference between the statutory tax rate in Finland compared to the rate at which Fortum is effectively taxed as per the tax charge on the income statements.

Income tax expense

EUR million	2016	%	2015	%
Profit before tax	595		-305	
Tax calculated at nominal Finnish tax rate	-119	20.0	61	20.0
Differences in tax rates and regulations	16	-2.7	23	7.6
Income not subject to tax	0	0.0	1	0.2
Tax exempt capital gains	4	-0.7	2	0.7
Expenses not deductible for tax purposes	-5	0.8	-2	-0.6
Share of profit of associated companies and joint ventures	30	-5.0	5	1.7
Taxes related to dividend distributions	-8	1.4	-7	-2.2
Changes in tax valuation allowance related to not recognised tax losses	-6	1.0	-1	-0.4
Other items	0	0.0	-1	-0.4
Adjustments recognised for taxes of prior periods	-2	0.3	-3	-1.1
Tax charge in the income statement	**-90**	**15.2**	**78**	**25.4**

The effective income tax rate according to the income statement was 15.2% (25.4%). The tax rate used in the income statement is always impacted by the fact that the share of profits of associates and joint ventures is recorded based on Fortum's share of profits after tax. The share of profit of associated companies and joint ventures during 2016 reduced the effective income tax rate by 5%.

The comparable effective income tax rate for 2016, excluding the impact of the share of profits of associated companies and joint ventures as well as non-taxable capital gains, was 20.0% (2015: 23.5%).

Key tax indicators, %

	2016	2015	2014
Effective income tax rate	15.2%	25.4%	11.6%
Weighted average applicable income tax rate	20.2%	20.2%	21.0%
Comparable effective income tax rate	20.0%	23.5%	18.0%
Total tax rate	40.0%	N/A	30.0%
Comparable Total tax rate	47.5%	N/A	41.9%

The effective income tax rate and comparable effective income tax rate reflect the income tax expense recognised in the income statement including changes in deferred taxes. When the pre-tax profit is close to null or negative, the total tax rate does not illustrate the tax contribution in an informative way. Therefore, we use "not applicable" for total tax rate in 2015.

Deferred taxes in the balance sheet

Deferred taxes illustrate timing differences between the treatment of costs under accounting and tax rules. The timing differences give rise to deferred tax assets and liabilities, the most significant of which for Fortum are explained below.

Deferred taxes in the balance sheet

EUR million	1 Jan 2016	Change 2016	31 Dec 2016
Property, plant and equipment	-551	-167	-717
Pension obligations	11	4	14
Provisions	14	6	20
Derivative financial instruments	-42	78	36
Tax losses and tax credits carry-forward	146	-46	100
Other	18	-23	-4
Net deferred tax liability	**-404**	**-146**	**-550**

Deferred tax liabilities in 2016 mainly relate to property, plants and equipment in Finland, Sweden and Russia. During 2016 entities primarily in Sweden and Russia used a portion of the deferred tax asset relating to tax loss carry forwards. The deferred tax asset in Sweden was recognised for the taxable loss in 2015, which was mainly due to the write-down related to the early closure of the O1 and O2 nuclear units in Oskarshamn.

Case:

Timing of income taxes paid

Investments – Tax depreciations. We invest in production assets and depreciate them for accounting purposes evenly over the lifetime of the assets, which can be many years. In some countries, the cost of the asset is deducted for tax purposes over a shorter time period, or a larger proportion of the cost is deducted in earlier years and less in the later years of the asset's life. This reduces tax costs in the early years of an asset's life, but increases them as the asset ages. This acceleration of tax depreciation provides an incentive for capital expenditure, but matches the payment of income tax with the long-term investment earnings over the entire lifetime of the asset. The fact that more tax will be paid in the later years of an asset's life is recognised by booking a deferred tax liability in the balance sheet.

The timing of tax depreciation may lead to certain projects paying little tax in their early years, but will increase taxable profits in later years. The tax contribution of capital expenditure should therefore be considered over the whole life of an asset rather than over one or a few years.

Tax losses and other impacts. If a company has poor profitability, it may make tax losses that cannot be utilised in the period in which they arise, but can be carried forward and used to offset taxable profits in the future. A concrete example of tax losses is the one-time write-down of the two reactors at the nuclear power plant OKG in Sweden during 2015; this gave rise to significant losses that will only be utilised once the Swedish operations return to profit. It may take many years to fully utilise the losses. The future benefit of these losses is booked as a deferred tax asset (or reduction of deferred tax liability) in the balance sheet.

In years in which the tax loss is utilised, the company will have taxable profits, but will pay no tax, as the losses from previous years are used to offset the taxable profits arising in the current year.

Fortum's tax indicators and country-by-country taxation

In line with the 2016 guidelines of the Ownership Steering Department of the Prime Minister's Office for state-majority-owned companies, Fortum has selected key indicators that reflect the nature of its business operations and the related tax. As Fortum's operations are capital-intensive and have a long lifetime, the net assets has been selected as the best determinant of our value creation in each country. Our operations are not labour-intensive, nor is revenue the most relevant base for a value creation indicator. Therefore, for our operations, the table below presents assets used in operations along with taxes borne and taxes collected for the nine of the most significant countries of operation. To ensure a good understanding of our value creation, we also present interest-bearing loan receivables, as financing is crucial for the success of our operations. We trust this is the best determinant of value creation for our operations.

Countries of operations

	Finland *)			Sweden ****)			Russia			Poland			Estonia		
EUR million	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014
Taxes borne															
Corporate income tax	21	66	89	1	-1	9	3	3	3	4	2	1	1	2	2
Production taxes	54	46	45	83	83	82	2	2	2	1	1	1	0	0	0
Employment taxes	3	3	3	8	10	11	3	4	4	1	1	1	1	1	1
Taxes on property	23	13	13	109	118	124	15	13	15	6	5	5	0	0	0
Cost of indirect taxes	1	2	2	0	0	0	1	1	0	0	0	0	0	0	0
Total taxes borne	101	130	152	201	210	226	23	23	24	12	10	8	2	3	3
Assets used in operations **) ***)	3,958	3,051	3,417	4,341	4,559	7,005	2,967	2,347	2,444	513	350	342	196	196	199
Interest bearing loan receivables **)	522	862	1,648	860	775	1,740	0	0	3	2	0	0	0	0	0
Number of employees	2,029	1,959	2,040	724	618	1,201	3,745	4,126	4,213	894	586	603	201	214	206
Effective income tax rate	34.5%	20.2%	13.5%	-20.9%	21.1%	-26.8%	19.1%	18.9%	18.2%	15.0%	22.1%	11.1%	28.1%	30.9%	16.0%
Total tax rate	72.6%	59.9%	24.9%	81.8%	N/A	82.4%	10.5%	11.8%	13.9%	34.8%	43.6%	35.5%	18.2%	30.8%	14.5%
Taxes collected															
Net VAT	13	15	11	0	0	0	48	22	9	18	9	11	5	5	2
Sales VAT	351	311	323	292	344	355	240	244	311	105	51	51	18	19	20
VAT on Purchases	338	295	311	309	527	378	192	222	303	87	42	40	13	13	18
Payroll taxes	42	43	44	12	13	16	7	8	9	3	3	3	2	2	2
Excise taxes	4	7	6	152	151	149	0	0	0	2	0	0	0	0	0
Withholding taxes	53	59	57	0	0	0	0	0	0	0	0	0	0	0	0
Total taxes collected	112	125	118	165	163	164	55	30	18	23	12	15	7	7	4

*) Taxes on property in Finland 2016 include EUR 9 million asset transfer tax (tax on transfer of shares and real estate).

**) Group internal eliminations are not included

***) From 2016 onwards Fortum is disclosing Comparable net assets instead of Net assets (see Note 5 in Consolidated Financial Statements).

****) Assets used in operations, Interest bearing loan receivables and number of employees for 2014 include Distribution Sweden

	Netherlands			Ireland			Belgium			Luxembourg			Other countries		
EUR million	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014
Taxes borne															
Corporate income tax	8	19	32	4	0	2	6	13	4	0	0	0	1	1	7
Production taxes	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Employment taxes	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3
Taxes on property	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cost of indirect taxes	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Total taxes borne	**9**	**20**	**33**	**4**	**0**	**2**	**6**	**13**	**4**	**0**	**0**	**0**	**5**	**4**	**12**
Assets used in operations **) ***)	8	6	341	0	0	0	0	0	0	0	0	0	449	277	294
Interest bearing loan receivables **)	9,442	9,804	11,185	9,827	6,478	3,580	2,069	947	1,792	2	3,024	7,420	60	53	40
Number of employees	10	5	5	2	2	2	2	2	1	1	1	2	500	322	319
Effective income tax rate	46.7%	30.8%	24.1%	1.6%	-36.6%	1.8%	24.8%	28.0%	15.5%	155.9%	50.0%	45.5%	8.0%	3.0%	6.4%
Total tax rate	31.8%	26.4%	24.7%	3.8%	0.4%	1.7%	9.8%	11.1%	6.1%	136.4%	52.8%	48.6%	8.3%	7.9%	8.2%
Taxes collected															
Net VAT	0	0	0	0	0	0	0	0	0	0	0	0	9	9	11
Sales VAT	0	2	1	0	0	0	0	0	0	0	0	0	32	27	50
VAT on Purchases	1	3	1	0	0	0	0	0	0	0	0	0	25	18	40
Payroll taxes	0	0	0	0	0	0	0	0	0	0	0	0	5	4	4
Excise taxes	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Withholding taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total taxes collected	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**13**	**17**

**) Group internal eliminations are not included

***) From 2016 onwards Fortum is disclosing Comparable net assets instead of Net assets (see Note 5 in Consolidated Financial Statements).

The table above reflects the current challenging power and financial markets as well as tax environment. The high total tax rates in Sweden and Finland reflect lower profits in those countries, driven by the current price of power and the significant amounts of taxes that are not based on profits. We have organised the financing of our operations so that it also protects our capability to distribute dividends. This simultaneously also protects the tax base in Finland. As some of the markets risks have realised, it results in lowered taxes for our financing. The tax rates in Luxembourg and Ireland reflect one-off charges resulting from the reorganisation of the Group's financing operations.

Other payments to the public sector

In addition to taxes borne and taxes collected, we make other compulsory tax-like payments to the public sector, payments that are not compensation for goods or services received. For example, in 2016 we paid EUR 38 (2015: 39) million in employer's statutory pension contributions.

We are also a significant dividend payer. Fortum's Board of Directors proposes to the 2017 Annual General Meeting that a dividend of EUR 977 (2016: 977) million be paid for 2016. The Finnish State's share of this would be about EUR 496 (496) million.

Ongoing tax appeals

As explained in the box below, lack of clarity in tax legislation and changes in the interpretation of tax rules can result in a long delay between a transaction taking place and its tax treatment being agreed with the relevant tax authority.

Fortum had several tax audits ongoing during 2016. Fortum has received income tax assessments in Sweden for the years 2009–2014, in Finland for year 2007 and in Belgium for the years 2008–2012. Fortum has appealed all assessments received. Fortum has in December 2016 received a positive final decision in Finland in line with our expectations. Based on legal analyses, no provision has been accounted for in the financial statements related to the tax audits. See Note 38 Legal actions and official procedings for more information.

Information about companies registered in countries considered to be tax havens

The EU, the OECD and the Global Forum have established a blacklist of countries considered to be tax havens. Fortum has a fully-owned captive insurance company in Guernsey, for insurance reasons; it also has a stake in Nature Elements Asia Renewable Energy and Cleantech Fund L.P., which makes research and development investments and is located in the Cayman Islands. Fortum's earnings from both companies are subject to normal taxation in Finland and the taxes borne on these operations were EUR 33,000 in 2016 based on 20% tax rate.

Fortum operates internationally and, therefore, our international financing operations are located in EU countries with stable operating environments and predictable taxation. We have financing and leasing companies in Belgium, Netherlands, Ireland and Luxembourg. In the recent tax management debate, Luxembourg and Ireland have also been mentioned as tax havens. We pay taxes in each of these countries of operation based on local rules and normal tax rates (Netherlands 25%, Luxembourg 29%, Belgium 33.99% and Ireland 12.5%). Fortum's subsidiary companies are listed by country in the Note 42, Subsidiaries by segment, of the consolidated financial statement.

Case:

Investments – controversy costs and tax deductibility of interest expense

For Fortum to operate efficiently and minimise its financing risks, it needs to have certainty as to how its investments and related financing will be taxed. The international, long-term and capital-intensive nature of Fortum's operations can make this certainty harder to achieve, particularly as regards the tax treatment of interest on loans used to finance investments.

In recent years, the tax treatment of interest costs has received much attention both locally and internationally. This has led to uncertainty in defining the correct tax treatment for interest, even in traditional businesses and investments.

These unclear and changing rules, combined with even less clear interpretations and a lack of advance rulings on tax treatment, result in an increased likelihood of tax assessments and costly controversy processes. The final position may be agreed only 8 to 9 years after deciding on the investment or filing the tax return to which the uncertainty relates. The risk of double taxation is increasing. Ideally, a business needs to be able to have predictability in applying tax rules when initially planning an investment.

Uncertainty over the tax treatment regarding investments can take ten years.

Fortum tax footprint – Key terms

Term	Definition
Corporate income tax	All taxes that are based on the taxable profits of a company and temporary differences between accounting values and tax bases, as defined in the International Financial Reporting Standard IAS12.
Current tax	The corporate income tax due in respect of taxable profits of an accounting period, as defined in the International Financial Reporting Standard IAS12.
Deferred tax	The corporate income tax due in respect of temporary differences between accounting values and tax bases, as defined in the International Financial Reporting Standard IAS12.
Effective income tax rate	Income tax expense divided by Profit before income tax.
Comparable effective income tax rate	Income tax expense minus effects from tax rate changes divided by Profit before income tax decreased by profits from associated companies and joint ventures and by tax exempt capital gains or losses.
Weighted average applicable income tax rate	Sum of the proportionately weighted share of profits before taxes of each group operating country multiplied with an applicable nominal tax rate of the respective countries.
The Group / Fortum Group	Fortum Oyj and its subsidiaries and Fortum Group associated companies and joint ventures.
Indirect tax	Tax that is required to be paid to a government by one person or company at the expense of another person or company.
Profit before tax	Accounting profit for a period before deducting a charge for corporate income taxes.
Tax	Any amount of money required to be paid to a government without receive any services, whether by law or by agreement, including without limitation corporate income tax, production taxes, property taxes, employment taxes, sales taxes, asset transfer tax, and any other required payments.
Tax borne	Taxes that a company is obliged to pay to a government, directly or indirectly, on that company's own behalf in respect of an accounting period. Taxes borne include corporate income taxes (excluding deferred taxes), production taxes, employment taxes, taxes on property and cost of indirect taxes. Production taxes include also taxes paid through electricity purchased from associated companies.
Tax collected	Tax that a company is obliged to pay to a government on behalf of another person or a company. Taxes collected include VAT, and excise taxes on power consumed by customers, payroll taxes and withholding taxes.
Total tax rate	Taxes borne divided by profit before tax increased by taxes borne in operating profit.
Comparable total tax rate	Taxes borne divided by profit before tax increased by taxes borne in operating profit and decreased by profits from associated companies and joint ventures and by tax exempt capital gains or losses.
Other payments to and from the public sector	Other compulsory tax-like payments to the public sector, payments that are not compensation for goods or services received.
Assets used in operations	Non-interest bearing assets plus interest bearing assets related to the Nuclear Waste Fund (non-interest bearing assets do not include finance related items, taxes and assets from fair valuations of derivatives used for hedging future cash flows)

Join the change

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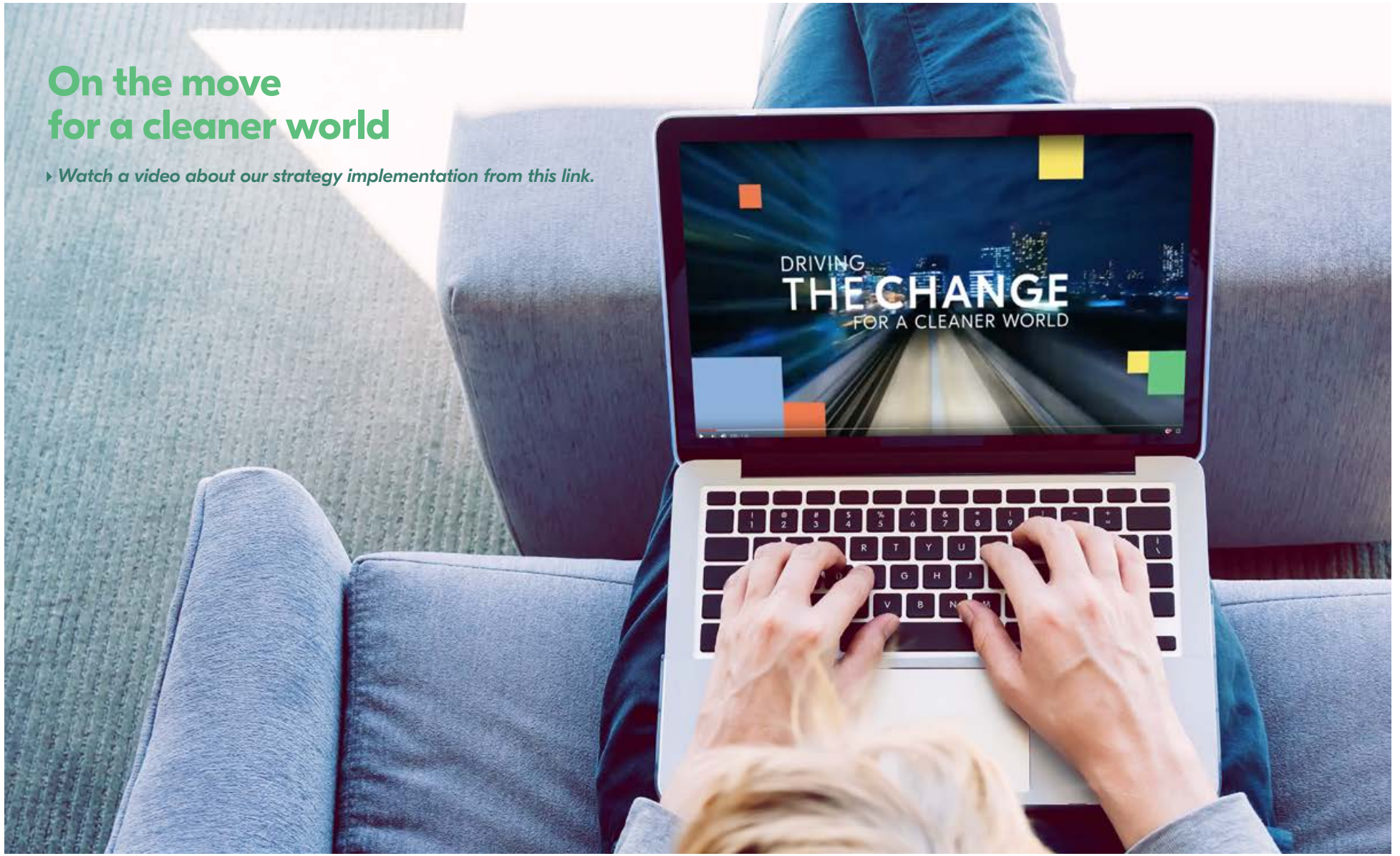
Sustainability 2016

On the move for a cleaner world

Watch a video about our strategy implementation from this link.

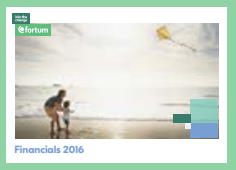


Sustainability 2016

Fortum's 2016 reporting entity

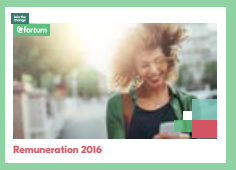

Online Annual Review

CEO Letter



Financials

Governance



Remuneration

Tax Footprint

Sustainability

Sustainability management

The entire energy sector is undergoing a transformation. Four megatrends are shaping this change: Climate change and resource efficiency, Urbanisation, Digitalisation and new technologies, and Active customers. These megatrends have a major impact on how energy is produced, sold and used.

Our role is to accelerate this change by reshaping the energy system, improving resource efficiency and providing smart solutions. This way we deliver excellent shareholder value. Our values – accountability, creativity, respect and honesty – form the foundation for all our activities.

Sustainability is an integral part of Fortum's strategy. Business and responsibility are tightly linked, underlining the role of sustainable solutions as a competitive advantage. In our operations, we give balanced consideration to economic, social and environmental responsibility.

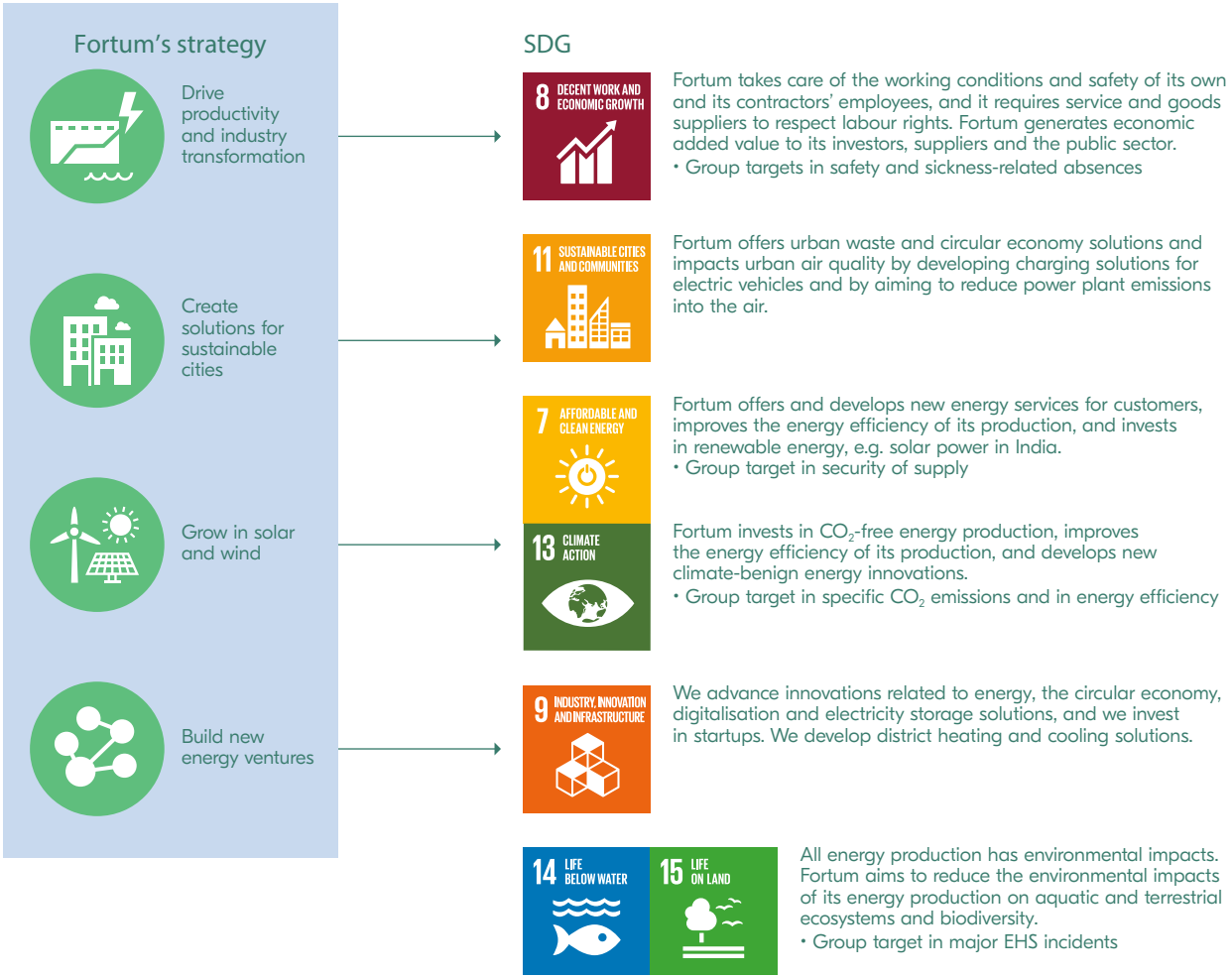
- *Fortum's vision, mission and strategy*
- *Fortum's values*

Our contribution to the Sustainable Development Goals

The ▸ *Sustainable Development Goals (SDGs)* adopted by the United Nations in 2015 define international sustainable development focus areas and goals to 2030. We want to do our part to promote the achievement of the goals in our value chain. The Sustainable Development Goals offer business opportunities as well and the opportunity to create value for our stakeholder groups.

As a producer of energy and circular economy solutions, Fortum impacts most of the Sustainable Development Goals and their specific targets. The SDGs which we impact most are presented in the picture. In line with our strategy, we are driving the change towards a cleaner world.

Our contribution to the Sustainable Development Goals (SDGs)



fortum

SUSTAINABLE DEVELOPMENT GOALS

Fortum supports the Sustainable Development Goals.

Examples of measures we implemented in 2016 that promote the achievement of the Sustainable Development Goals

Sustainable Development Goal (SDG)	Measure
7. Ensure access to affordable, reliable, sustainable and modern energy for all 13. Take urgent action to combat climate change and its impacts	• ▸ ***We invested in renewable energy production***: wind, solar and hydropower • We started construction of two solar power plants with a total capacity of 170 MW in India • We invested in wind power in Sweden, Norway and Russia • We invested in energy efficiency, e.g. at a CHP plant in Russia, at the Loviisa nuclear power plant in Finland and at hydropower plants in Sweden and Finland • We reduced specific CO_2 emissions in Espoo, Finland, with flexible heat production: we utilise wood-based fuels, waste heat, and, in the future, also geothermal heat • We increased the use of horse bedding-manure mixture as a fuel • ▸ ***Our energy efficiency investments*** totalled 245 GWh • We organised an innovation competition to develop solar energy solutions from the customer perspective
8. Promote inclusive and sustainable economic growth, employment, and decent work for all	• ▸ ***We audited 13 suppliers*** on work conditions and other issues • We renewed the process for the supplier pre-selection • We determined the divisions' level of compliance with safety instructions and took corrective measures • We updated the safety handbook and compiled online training on work safety
9. Build resilient infrastructure, promote sustainable industrialisation and foster innovation	• We initiated development of a ▸ ***virtual power plant*** for balancing electricity demand • We launched a ▸ ***pilot project for the Nordic countries' biggest electricity storage*** • We commissioned new district cooling in Tartu, Estonia • We invested in Exeger, a company developing solar power technology • We invested in the biorefining technology supplier Chempolis • We engaged in collaboration with universities in our operating countries, and Fortum Foundation awarded EUR 675 000 in grants • We used EUR 52 million in research and development
11. Make cities and human settlements inclusive, safe, resilient and sustainable	• We acquired Ekokem Corporation in Finland and started offering sustainable city solutions, like waste and circular economy services to customers • We developed charging solutions for electric vehicles in the Nordic countries: We acquired Info24 in Sweden, a developer of EV charging systems, we developed charging systems in collaboration with some 50 partners already, we participated in construction of the ▸ ***world's largest charging station*** and an electricity-storing charging station in Norway • We started collaboration in the Helsinki metropolitan area Smart & Clean fund • We participate in the ▸ ***Smart Energy City research programme*** in Stockholm • We supplied emissions-reducing combustion solutions to Estonian, Swedish, Romanian and Polish customers
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	• We implemented environmental measures valued at EUR 3.2 million for our hydropower • We started construction of equipment to trap and transport fish over the dam at the Montta hydropower plant in Finland • A record number of salmon migrated up to the River Klarälven in Sweden, thanks to the trap and transport of fish • We installed scrubbers at the Argayash power plant in Russia to reduce flue-gas emissions • We studied the sustainability criteria of wood-based biomass, and in 2017 we will examine the opportunity to apply for Chain of Custody certification for the Fortum's wood-based biomass purchases

Key sustainability topics

We have defined our most important sustainability focus areas in the areas of economic, social and environmental responsibility.

Our focus areas are based on Fortum's and our stakeholders' views of the significance of the impacts on the company and its ability to create value for its stakeholders and on the environment. Our understanding of stakeholder views is based on the results of the extensive stakeholder survey, One Fortum survey, conducted annually as well as on information gained through other stakeholder collaboration.

In 2015, a total of 2,133 stakeholder representatives, more than 60% of them representing personnel, participated in our latest separate sustainability survey. In the 2015 sustainability survey for stakeholders, decision makers, organisations, employees and the general public put special emphasis on the significance of security of supply of heat and electricity, management of sustainability-related risks, and sustainable ways of operating. Our personnel emphasised the safety of operations. The general public considered the use of renewable energy sources as important.

Sustainability targets affect every Fortum employee

Sustainability targets affect every Fortum employee and are part of Fortum's short-term incentive scheme. In addition to the Group-level targets, divisions have their own targets. Fortum's Board of Directors annually decides on the sustainability targets to be included in the incentive scheme. In 2016 the incentive scheme included the injury frequency for Fortum employees and for contractors and the number of serious occupational accidents. The injury frequency for Fortum employees and for contractors will be included in the 2017 incentive scheme. The weight of the sustainability target in the incentive scheme is 10% (2016: 10%).

Group sustainability targets and performance in 2016

	Target for the year 2016	Status at the end of 2016	Status at the end of 2015
Reputation index, based on One Fortum Survey	72.0	72.5	71.75
Customer satisfaction index (CSI), based on One Fortum Survey	CSI divisional scores at level "good" (70–74)	67–79	68–79
Environmental responsibility			
Specific CO_2 emissions			
Total energy production, g/kWh, 5-year average	< 200	188	191
Energy efficiency			
Energy efficiency improvement by year 2020, base line year 2012, GWh/a	> 1,400*	1,372	1,127**
Major EHS incidents [1)]	≤ 23	22	18
Social responsibility			
Security of supply			
CHP plant energy availability, %	> 95	97.4	96.4
Occupational safety			
Total recordable injury frequency (TRIF) [2)], own personnel	≤ 2.5	1.9	1.6
Lost workday injury frequency (LWIF) [3)], own personnel	≤ 1.0	1.0	1.1
Lost workday injury frequency (LWIF) [3)], contractors	≤ 3.0	3.0	2.7
Number of serious occupational accidents [4)]	≤ 8	13	14**
Sickness related absences, %	≤ 2.4	2.3***	2.4

1) Fires, leaks, explosions, INES events exceeding level 0, dam safety incidents, environmental non-compliances. INES = International Nuclear Event Scale

2) TRIF = Total recordable injury frequency, injuries per million working hours

3) LWIF = Lost workday injury frequency, injuries per million working hours

4) Fatality or an accident leading to permanent disability or a sick-leave of more than 30 days

* By the year 2020

** The figure revised for reporting in 2015

*** The figure has become more defined from the one presented in the interim report and the operating and financial review (2.4%).

Successes and development needs:

- Our reputation amongst the most important stakeholder groups in the One Fortum survey improved in 2016 and exceeded the target. The target for customer satisfaction was achieved in all business areas, except in electricity sales to business customers.
- We achieved our target in specific carbon dioxide emissions. In 2016, specific emissions from total energy production were 184 gCO_2/kWh.
- The replacement of the Loviisa nuclear power plant's two high-pressure turbines and the Suomenoja power plant's new district heat storage improved the energy efficiency of our production in Finland. Refurbishment of the Chelyabinsk CHP-3 unit's gas turbine improved energy efficiency in Russia. Through the projects implemented, an annual energy savings of about 245 GWh was achieved.
- We strive to be a safe workplace for own and our contractors' employees. In 2016, we achieved the lost workday injury frequency target for our own and our contractors' employees, but there were still too many serious accidents. There were no injuries leading to a fatality during the year.
- In 2016 we signed an agreement for an external service provider to conduct supplier audits; the first audit performed by an external actor was carried out in December. In 2016 we focused on auditing fuel suppliers in particular. We audited a total of 13 suppliers in seven countries.

Our targets for 2017

Our sustainability targets are based on continuous operational improvement. In our target-setting for 2017 we have taken into consideration the potential occupational safety impacts of Fortum's growth strategy and business acquisitions. It is likely that, until Fortum's occupational safety practices have been integrated in the new functions, the acquisitions will temporarily weaken Fortum's current good level of occupational safety.

There are still too many serious injuries occurring in our operations. Starting in 2017 the focus of our monitoring is on accidents that have serious consequences, rather than on the length of the sick-leave. These include accidents leading to a fatality or permanent disability and accidents that could have caused serious consequences.

A new indicator we will track in 2017 is the quality of the investigations of occupational accidents, serious EHS incidents, and near misses. The goal is that the investigation of each incident is done in accordance with guidelines, and more than 90% of the corrective actions are implemented on schedule (target level 1.0). By 2020 the goal is for 100% of the corrective actions to be implemented on schedule, the investigations to use experts from across division boundaries and the lessons learned from the incidents to be actively shared (target level 1.5).

Group sustainability targets in 2017

	Target 2017	Target 2020
Reputation index, based on One Fortum Survey	70.7	Not defined
Customer satisfaction index (CSI), based on One Fortum Survey	CSI divisional scores at level "good" (70–74)	CSI divisional scores at level "good" (70–74)
Environmental responsibility		
Specific CO_2 emissions		
Total energy production, g/kWh, 5-year average	< 200	< 200
Energy efficiency		
Energy efficiency improvement by year 2020, base line year 2012, GWh/a	Target only for year 2020	> 1,400
Major EHS incidents [1]	≤ 21	≤ 15
Social responsibility		
Security of supply		
CHP plant energy availability, %	> 95	> 95
Occupational safety		
Total recordable injury frequency (TRIF) [2], own personnel	≤ 2.5	≤ 2.0
Lost workday injury frequency (LWIF) [3], own personnel	≤ 1.0	≤ 1.0
Lost workday injury frequency (LWIF) [3], contractors	≤ 3.5	≤ 2.0
Number of severe occupational accidents [4]	≤ 5	0
Quality of occupational accidents, major EHS incident and near misses investigation process	Level 1.0	Level 1.5
Sickness related absences, %	≤ 2.3	≤ 2.3

1) Fires, leaks, explosions, INES events exceeding level 0, dam safety incidents, environmental non-compliances. INES = International Nuclear Event Scale

2) TRIF = Total recordable injury frequency, injuries per million working hours

3) LWIF = Lost workday injury frequency, injuries per million working hours

4) Accidents leading to a fatality or permanent disability and accidents that could have caused serious consequences

Governance and management

Sustainability management at Fortum is strategy-driven and is based on the company's values, the ▸ *Code of Conduct*, the ▸ *Supplier Code of Conduct* and the policies and their specifying instructions defined at the Group level. We comply with laws and regulations. All of our operations are guided by good governance, effective risk management, adequate controls and the internal audit principles supporting them.

Fortum's goal is a high level of environmental and safety management in all business activities. Calculated in terms of sales, 99.9% of Fortum's electricity and heat production operations at the end of 2016 were ISO 14001 and OHSAS 18001 certified. The divisions and sites develop their operations with internal and external audits required by environmental, occupational safety and quality management systems.

Responsibilities

Sustainability is an integral part of Fortum's strategy and the highest decision-making authority in these issues is with the Board of Directors, which has joint responsibility in matters related to sustainability. For this reason, Fortum has not designated a Sustainability Committee for decision-making on economic, environmental and social issues. The Audit and Risk Committee, members of the Fortum Executive Management, and other senior executives support the Board of Directors in the decision-making in these matters, when necessary.

The Fortum Executive Management decides on the sustainability approach and Group-level sustainability targets that guide annual planning. The targets are ultimately approved by Fortum's Board of Directors. Fortum Executive Management monitors the achievement of the targets in its monthly meetings and in quarterly performance reviews. The achievement of the targets is regularly reported also to Fortum's Board of Directors.

Fortum's line management is responsible for sustainability management, and realisation of the safety targets is part of Fortum's incentive system. Fortum's Corporate Sustainability unit is responsible for coordination and development of sustainability at the Group level and for maintaining an adequate situation awareness regarding sustainability.

Sustainability management by topic

Sustainability management in the areas of economic responsibility, environmental responsibility and social responsibility is described in more detail in the ▸ *Appendix 1*. Additionally, more detailed information about the management of different aspects and impacts is presented by topic in this Sustainability Report.

▸ *Corporate Governance Statement 2016*
▸ *Remuneration Statement 2016*

Policies and commitments

Fortum is a member of the UN Global Compact initiative and the UN Caring for Climate initiative. Fortum supports and respects the international initiatives and commitments, and national and international guidelines listed in the table, and they guide our operations in the areas of economic, environmental and social responsibility.

In December 2016, Fortum's sustainability policy was updated to be in line with our new strategy. Group-level EHS instructions and minimum requirements set requirements for all the operations for which we have operative responsibility. In 2016 we updated these requirements and published a revised version of the Corporate Safety and Security handbook together with an e-learning.

We report on the training related to the updated instructions in the sections ▸ *Business ethics and compliance*, ▸ *Occupational and operational safety* and ▸ *Supply chain management*.

The company's Group-level policies are approved by Fortum's Board of Directors. The Group-level instructions are approved by either the President and CEO or the Fortum Executive Management.

Fortum's main internal policies and instructions guiding sustainability are listed in the ▸ *Appendix 2*.

International and national initiatives, commitments and guidelines

	Economic responsibility	Environmental responsibility	Social responsibility: Labour practices and decent work	Social responsibility: Human rights	Social responsibility: Society	Social responsibility: Product responsibility
The UN Universal Declaration of Human Rights			x	x		
International Covenant on Economic, Social and Cultural Rights	x		x	x		
International Covenant on Civil and Political Rights			x	x		
The UN Convention on the Rights of the Child			x	x		x
The core conventions of the International Labour Organisation			x	x		
The UN Global Compact initiative	x	x	x	x	x	
The UN Caring for Climate initiative		x				
The UN Guiding Principles on Business and Human Rights			x	x	x	
The OECD Guidelines for Multinational Enterprises	x	x	x	x	x	x
The International Chamber of Commerce's anti-bribery and anti-corruption guidelines	x				x	
The Bettercoal initiative's Code on responsible coal mining	x	x	x	x	x	
Responsible advertising and marketing guidelines						x
Environmental marketing guidelines						x

Business ethics and compliance

We believe there is a clear connection between high standards of ethical business practices and excellent financial results. As an industry leader, we obey the law, we embrace the spirit of integrity, and we uphold ethical business conduct wherever we operate.

Code of Conduct sets the basic requirements

The Fortum Code of Conduct and Fortum Supplier Code of Conduct define how we treat others, engage in business, safeguard our corporate assets, and how we expect our suppliers and business partners to operate.

Fortum's Board of Directors is responsible for the company's mission and values and has approved the Fortum Code of Conduct. The online training on the Code of Conduct is part of the induction programme for new employees. The Supplier Code of Conduct is based on the 10 principles of the UN Global Compact and has been approved by the Head of Procurement in collaboration with the purchasing steering group.

About 95% of Fortum's total purchasing volume, excluding purchases by Ekokem and DUON, is purchased from suppliers with a purchasing volume of EUR 50,000 or more. Geographically they target mainly suppliers in Finland, Sweden, Russia and Poland. The Supplier Code of Conduct is part of purchase agreements exceeding EUR 50,000.

In line with the Code of Conduct, Fortum has zero tolerance for corruption and fraud and does not award donations to political parties or political activities, religious organisations, authorities, municipalities or local administrations.

Compliance risks

The compliance risks related to our business operations include the potential risk of bribery or corruption, fraud and embezzlement, non-compliance with legislation or company rules, conflicts of interest, improper use of company assets, and working under the influence of alcohol or drugs.

Compliance risk management is an integrated part of business operations, and key compliance risks, including action plans, are identified, assessed and reported annually. This applies also to the management of risks related to sustainability. During 2016, Fortum has launched a Total Compliance programme which covers key areas of regulatory compliance and business ethics.

Training

As part of the Total Compliance programme, an training plan is developed annually.

In 2016, training on compliance with regulations was provided in Russia and India. The new Fortum employees acquired through an acquisition in Poland received Fortum's Code of Conduct training related to business ethics.

Training on the new Market Abuse Regulation and insider regulations was provided for certain management teams. Training on internal controls was also arranged for division-level management teams. Training on competition law issues was provided for the functions responsible for sales and for the individuals joining Fortum through acquisitions.

The pre-selection process for Fortum's goods and service suppliers was renewed in spring 2016. Related training was provided for procurement personnel in all countries, except Poland and Russia. The training will be arranged in Poland during spring 2017. The pre-selection process will be taken into use in Ekokem's procurements during autumn 2017.

Reporting misconduct

In addition to internal reporting channels, Fortum has an external *"Raise a concern" channel*. The same mechanism is used for reporting any suspected misconduct relating to the environment, labour practices or human rights violations, and it is available to all stakeholders. In Russia, Fortum has a separate compliance organisation in place and employees there are encouraged to use the channels provided by the compliance organisation. They may, however, also use the "Raise a concern" channel should they so wish.

Suspected misconduct and measures related to ethical business practices and compliance with regulations are regularly reported to the Fortum Executive Management and to the Board's Audit and Risk Committee.

Suspected cases of misconduct

A total of 149 reports of suspected misconduct were made. Of these cases, 72 led to an investigation; at the end of the year, there were four ongoing investigations. About one third of the investigated cases were related to non-compliance either with laws and regulations or with company rules which constituted majority of the cases. In these cases, corrective action was taken by reviewing and developing existing processes and instructions and by providing training for employees.

Fortum has zero tolerance towards alcohol and drug use. About a fifth of the cases were related to alcohol abuse by either Fortum's or contractors' employees during working hours.

As a result of the investigations, four employment contracts were terminated either by immediate dismissal or by mutual agreement, and four written warnings were given. There were 13 cases of misconduct reported to the police. There was no cause for action to be taken in 16 of the cases investigated.

Three cases of suspected corruption or bribery related to Fortum's operations were investigated in 2016. Misconduct was not detected in the investigations.

Fortum also requires its goods and service suppliers as well as its business partners to comply with a zero tolerance policy towards corruption and bribery. As part of supply chain management, we requested a report from the goods and service suppliers we had knowledge of possible cases of misconduct. We requested the reports to include information about e.g. the corrective measures

taken related to the supplier's own operations. The reports were considered sufficient and didn't lead to the termination of a contract. Other misconduct led to the termination of a contract with one goods and service supplier.

We deal with potential cases of corruption in a professional manner, in accordance with the defined compliance investigation process, in line with applicable laws and with respect to the rights and personal integrity of all parties involved.

Restricting competition

There were three ongoing investigation cases in Russia in 2016, one of which was completed during the year. The court found no violation of competition law.

During the year Fortum was not subject to any significant monetary fines for competition law violations.

Other significant fines

There were no other significant fines.

- *Fortum Code of Conduct*
- *Fortum Supplier Code of Conduct*
- *Environmental grievances*
- *Labour practices and human rights grievances*
- *Incidents of discrimination*
- *Fines related to environmental non-compliances*

Stakeholders

Our way of operating responsibly includes continuously identifying the views of our stakeholders and finding a balance between the different expectations our stakeholders have. Dialogue, feedback and good collaboration are the key ways to promote a mutual understanding with our stakeholders.

Stakeholder collaboration

Collaboration with different stakeholder groups helps Fortum to assess and meet the expectations that stakeholder groups have towards the company. We engage in an active dialogue with the different stakeholders associated with our operations. We conduct annual stakeholder surveys. We monitor and assess the public dialogue in the countries where we operate, and we have increased the dialogue with our stakeholders also through social media channels. Feedback from customers drives the development of our products and services. Additionally, our activities in national and international organisations help to deepen our understanding of global sustainability issues and their connections to our business.

Management of stakeholder collaboration at Fortum is assigned particularly to communications, corporate relations, human resources, the sustainability unit, the functions responsible for electricity and heat sales and energy production, as well as many of our experts. Responsibilities for managing stakeholder collaboration are primarily determined by stakeholder group or interaction theme. Key interaction areas, e.g. public affairs, and corporate communications, have annual plans that guide the activities.

Fortum has an informal Advisory Council consisting of representatives of Fortum's stakeholder groups as invited by the Board of Directors. The Advisory Council aims to increase the dialogue and the exchange of views between the company and its stakeholders.

Information through surveys

In collaboration with third parties, we annually conduct surveys regarding stakeholder collaboration. The aim of these surveys is to help Fortum assess and respond to the important stakeholder groups' expectations of the company. The surveys also measure the success of our stakeholder collaboration. Additionally, the surveys provide information about emerging sustainability trends and risks we should acknowledge. We use the survey results in business planning and development and in identifying material aspects in corporate responsibility.

The One Fortum survey and its results in terms of customer satisfaction and reputation are presented in the section ▸ ***Customer satisfaction and reputation***. As part of the One Fortum survey, we regularly survey what our stakeholders consider to be the ▸ ***most important areas of sustainability***.

Feedback from customers drives the development of our products and services.

Our stakeholder surveys

Survey	Target groups	Target countries	Frequency
One Fortum Survey	Customers General public Public administration Capital markets NGOs Opinion leaders Personnel Media	Finland, Sweden, Norway, Poland, Baltic countries, Russia, India	Customer satisfaction is measured semi-annually Reputation is measured annually
Media tracking	Media	All operating countries	Daily
Brand tracking	General public and customers	Finland, Sweden, Norway, Poland, Baltic countries	Continuously in Finland and Sweden, annually in other countries
Fortum Sound personnel survey	Own personnel	All operating countries	Every second year

Stakeholder expectations and responses to them

Stakeholders	Stakeholder expectations	Fortum's actions
Lenders and shareholders	• Long-term value creation • High-yield share • Responsible operations	• We updated our growth strategy in 2016 and its realisation is ongoing • We are committed to achieving our financial targets • Our goal is to pay a stable, sustainable and over time increasing dividend of 50-80% of earnings per share excluding one-off items • We take economic, social and environmental responsibility into consideration in our business
Customers	• Competitively priced products • Useful additional services and advice • Reliability	• With efficient operations and high-quality products, we ensure that we are competitive and our customers feel they get their money's worth • We develop new products and services in collaboration with customers so that we can serve them better in the evolving markets: In 2016 ▸ ***'Customer in the centre' programme*** • We deliver what we promise to our customers, and we offer constantly better customer service through different channels
Personnel	• Equal treatment and open interaction • Job security and incentivising compensation • Opportunities for professional development • Occupational safety and work wellbeing	• We operate in line with Fortum's Code of Conduct and values • Our employee compensation is based on standardised principles: ▸ ***We renewed our compensation scheme*** in 2016 • We promote job rotation, career development and supervisory skills • We improve ▸ ***occupational safety*** and ▸ ***work wellbeing***: In 2016 we launched the Energise Your Day work wellbeing programme
Service and goods suppliers	• Good financial position and the ability to take care of the agreed obligations • Fair and equal treatment of suppliers • Long-term business relations and development of business and products/services • Responsible operations	• We comply with Fortum's Code of Conduct, and with agreements, legislation and practices that are consistent with good procurement principles • We renewed the ▸ ***supplier pre-selection process*** in 2016 • We manage supplier relationships in a systematic manner • We train contractors in work safety
Authorities and decision makers	• Compliance • Integration of sustainability with strategy and business, risk management • Transparency and reliable reporting • Maintaining dialogue	• We comply with laws, regulations and permits • We develop our business and the management of environmental and safety risks: Sustainability policy and ▸ ***EHS instructions were renewed*** in 2016 • We report ESG factors as part of the company's value creation, and we publish our tax footprint: Fortum's 2015 Annual Report was awarded as the winner in the Taxpaying category and as the best in sustainability reporting in Finland according to investors • We communicate openly and we actively engage in a dialogue with authorities and decision makers about key issues in the energy sector: In 2016, we actively participated in the renewal work of EU's emissions trading directive both at the EU level and nationally
Media	• Relevant, reliable and transparent communication	• In line with our ▸ ***Disclosure policy***, we communicate proactively and openly • We communicate about issues of topical and media interest through multiple channels • We meet regularly with media representatives • We are easily accessible through the media desk and through social media • We continuously improve our crisis communication preparedness
Energy sector organisations	• Advocating on behalf of shared interests • Dialogue and expertise	• We advocate our shareholders' and the sector's shared interests and actively participate in organisational activities in our sector: in 2016 a favourable solution for the energy sector was achieved in Sweden in nuclear and hydropower taxation • We publish position papers and views on energy-sector development, and we actively communicate them through multiple channels: In 2016, we published two ▸ ***Fortum Energy Reviews***
Non-governmental organisations	• Responsibility of operations and risk management • Promoting renewable energy production • Reliable and open reporting	• We develop environmental and safety risk management • We invest in renewable energy: In 2016, a total of EUR 223 million • We collaborate with Finnish and Swedish nature conservation associations regarding our environmentally benign electricity products • We communicate actively and we report openly
Local communities	• Operational safety • Developing employment, infrastructure and recreational use • Reducing emissions, noise and other inconveniences	• We invest in infrastructure and operational safety • We collaborate with local communities in all our operating countries: ▸ ***Examples of our activities in 2016*** • We aim to reduce emissions and local environmental impacts

Most important concerns of stakeholders in 2016

Coal use

With the Paris Agreement on climate change, the use of coal has become a topic of active discussion. Several countries (including Finland) have announced their discontinuation of coal use for energy production in the upcoming decades. Implementation of this, however, is challenging, and a total ban may lead to claims for compensation. The energy sector considers a ban on use as negative for competition and for the sector's business operations, and it sees emissions trading as the primary mechanism for steering energy choice.

An increasing number of investors are paying attention also to the carbon risk of their investment targets and have initiated actions to reduce it by, e.g., announcing that they will divest their holding in companies in which sales of coal-based production exceed the investor-defined limit. Discontinuing the use of coal has long been on the agenda of environmental and non-governmental organisations. 4% of Fortum's electricity production and 17% of its heat production was based on coal in 2016.

Biomass fuel use

Increasing the use of biomass fuels plays a central role in achieving the EU's climate and energy targets. The sustainability of biomass fuels has been actively discussed in the energy sector in recent years. In November 2016 the EU Commission published its proposal on legislation that would extend the current regulations on liquid biofuels to cover also solid biomass. Fortum's position, whereby common, binding sustainability criteria are needed for all biomass fuels, aligns with the Commission's view.

Environmental organisations have expressed their concern related to increasing the use of biomass fuels. The organisations have put particular emphasis on the threat of forest biodiversity degradation and the diminishing carbon sinks.

Taxes

The country-specific reporting of taxes has become an important topic in international and national public and political discussions. The aim of public, country-specific tax reporting is to impact primarily so-called aggressive tax planning. Fortum has published its tax footprint since 2012. Our tax report has received both praise and criticism. Our tax report has been criticised for not containing information about all the companies in line with the principle of materiality we apply and for including also other taxes beyond income taxes. Fortum's taxation has been discussed publically also in terms of Fortum's various tax processes.

It is important for us that our tax reporting creates an understandable, comprehensive picture of Fortum as a tax payer. This requires the reporting of material income taxes and also the reporting of other non-income taxes as well as the publishing of taxation-related principles. For the sake of transparency, information about various tax processes of significance must also be disclosed. We engage in dialogue with non-governmental organisations and continuously develop reporting to improve understandability.

Sustainability indexes

Fortum was ranked as the top company in the utilities sector in the annual CDP (formerly Carbon Disclosure Project) Nordic rating 2016. Fortum scored A- (scale from D to A, A being the highest score). CDP represents 827 institutional investors.

Fortum is included in the STOXX Global ESG Leaders indices which list global leaders in terms of environmental, social and governance (ESG) criteria. The family of indices is made up of three specialised indexes for the categories mentioned and one broad index which sums up the specialized indexes.

Fortum is included in the ECPI® Indices. These indices are used for benchmarking, thematic investments, risk management purposes and to create index-tracking investment strategies or ETF's (Exchange-traded funds). ECPI is a leading rating and index company dedicated to ESG Research (Environmental, Social and Governance) since 1997.

German oekom research AG has awarded Fortum a Prime Status (B-) rating. Prime Status means that Fortum is among the best companies in its sector and fulfils industry-specific best-in-class requirements. Oekom research AG annually assesses about 3,000 companies.

Fortum has been included in the NASDAQ OMX and GES Investment Service's OMX GES Sustainability Finland index. It provides investors with reliable and objective information about company performance in sustainability. GES Investment Services compares leading companies listed on NASDAQ OMX Helsinki and their responsibility in environmental, social and governance issues. The 40 top-ranking companies in the assessment are included in the index.

Fortum has been integrated into the Euronext Vigeo Eurozone 120 index as of December 2016. This index distinguishes the 120 companies in the Eurozone region achieving the most advanced environmental, social and governance performances. The assessment is based on a review of up to 330 indicators.

Economic responsibility

For Fortum, economic responsibility means competiveness, performance excellence and market-driven production that create long-term value for our stakeholders and enable sustainable growth. Satisfied customers are key to our success and active consumers will have a crucial role in the future energy system.

Fortum has indirect responsibility for its supply chain. We conduct business with viable companies that act responsibly and comply with the Fortum Code of Conduct and the Supplier Code of Conduct.

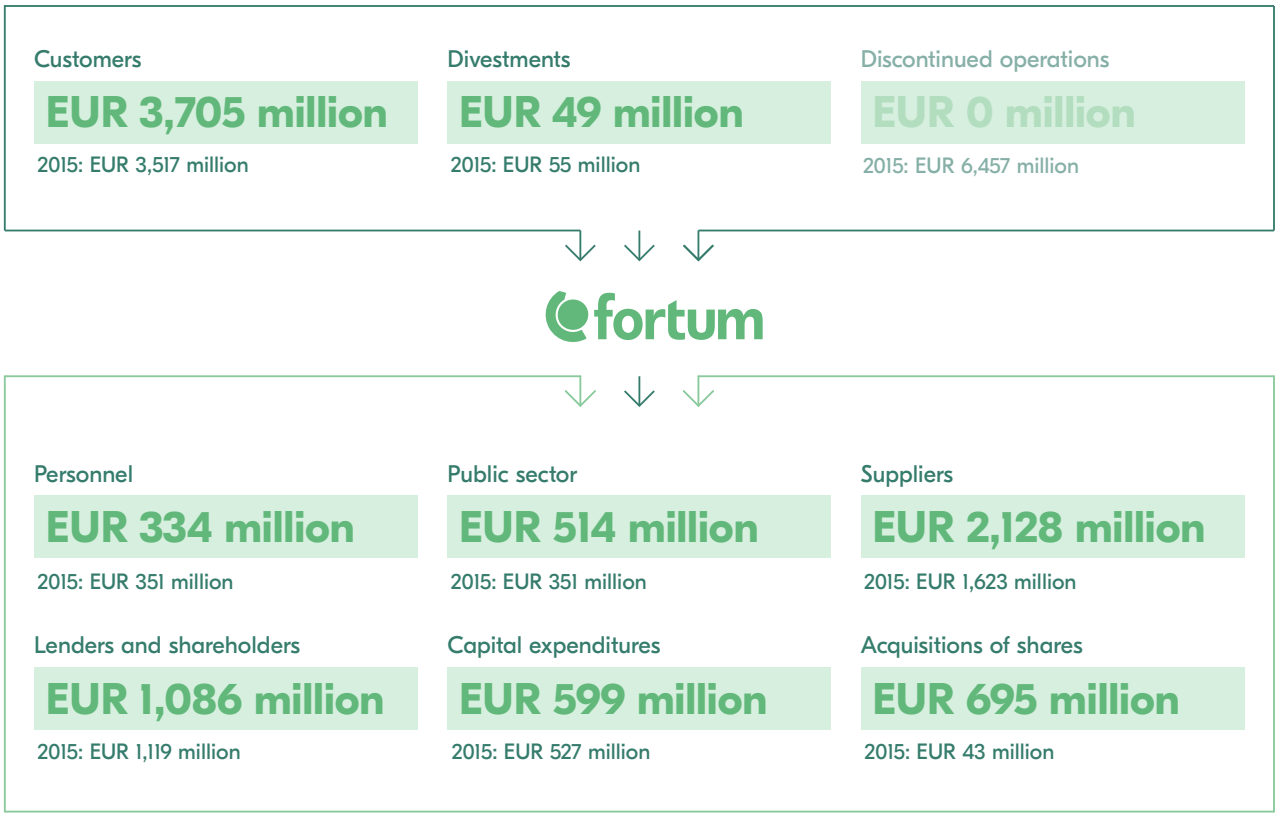
Economic impacts

Fortum is a significant economic actor in Finland, Sweden, Russia, Poland and the Baltic countries. We continuously monitor the impact and well-being generated by our operations to our stakeholders. The key stakeholders include lenders and shareholders, customers, personnel, suppliers of goods and services, and the public sector.

The most significant direct monetary flows of Fortum's operations come from sales revenue from customers, procurements from suppliers of goods and services, compensation to lenders and dividend to shareholders, growth and maintenance investments, employee wages and salaries, and taxes paid.

Our operations also have indirect economic impacts. The Finnish State owns 50.8% of Fortum's shares, and we contribute to a functioning society by, among other things, paying taxes and dividends. These secure society's basic functions and build well-being. Investments and the procurement of goods and services provide employment both locally and outside our operating areas. New investment proposals are assessed against sustainability criteria. In terms of suppliers of goods and services, we also assess the global impacts, paying particular attention to suppliers of goods and services operating in risk countries. The wages and taxes paid have a positive impact on local communities.

Distribution of added value



The discontinued operations include the total net cash flow from the divestment of the Swedish electricity distribution business in 2015, including the proceeds from the divestment.

Monetary flows by stakeholder group in 2014—2016 (GRI G4-EC1)

EUR million		2016	2015	2014
Generation of added value				
Income from customers	Income from customers on the basis of products and services sold and financial income.	3,705	3,517	4,309
Divestments	Income from divestment of shares, business activities or plants	49	55	499
Purchases from suppliers	Payments to suppliers of raw materials, goods and services	-2,128	-1,623	-2,105
Fortum produced added value		1,627	1,950	2,703
Distribution of added value				
Employees compensations	Wages, salaries and remunerations and other indirect employee costs	-334	-351	-369
Lenders and shareholders compensations	Dividents paid to lenders, interest, realised foreign exchange gains and losses and other financial expenses	-1,086	-1,119	-951
Public sector	Income and production taxes paid, support for society and donations	-514	-351	-455
Distributed to stakeholders, total		-1,934	-1,821	-1,776
Surplus/deficit cash		**-307**	**128**	**928**
Capital expenditures		-599	-527	-622
Acquisitions of shares		-695	-43	-69
Discontinued operations [1]			6,457	2,911
Surplus/deficit including investments and discontinued operations		**-1,601**	**6,015**	**3,148**

1) Includes the electricity distribution business divested in 2014 and 2015.

In 2016, the difference between added value generated and distributed to stakeholders was negative, EUR -307 (2015: 128) million.

The distribution of the economic added value generated by our operations to the most significant operating areas is reported in the following parts of the annual reporting:

- ***Sales by market area based on customer location: Financial Statements, Note 5***
- ***Employee costs by country***
- ***Tax footprint***

We have included investments in our own assessment of economic impacts, as their annual volume and impact on the society is significant. In 2016 we invested EUR 262 (2015: 223) million in CO_2 free energy production. Capital expenditure by country and by production type is presented in the Financial Statements, Note 19.2 Capital Expenditure.

Provisions related to nuclear power are covered in the Financial statements, Note 30 Nuclear related assets and liabilities. Financial implications and other risks and opportunities due to climate change, as well as emissions trading are reported in the section ***Climate change mitigation***. Our pension arrangements conform to the local regulations and practices in each operating country; the arrangements are discussed in the Financial Statements, Note 32 Pension obligations.

In 2016 we received financial support from the public sector in the form of investments, R&D and other significant grants totalling EUR 4 (2015: 6) million. The figure excludes free emission allowances and electricity certificates as well as electricity and heat price related subsidies.

Customer satisfaction and reputation

For Fortum, customer satisfaction and reputation are a top priority in implementing the company's strategy and in growing the business. We have set Group-wide targets for customer satisfaction and for our reputation.

Customer in the centre

The Group-wide Customer in the centre development programme was launched in 2015 with the aim of promoting a customer-centric culture in our company. The programme continued in 2016. Our new strategy, published in February and further defined in autumn, also put customers in sharper focus. In conjunction with the publication of the strategy, we launched five must-win battle (MWB) development programmes, one of which is "Put the customer in the centre". The programme contains specific projects to improve the customer experience and our offering, e.g., by utilising the opportunities brought by digitalisation. In our development efforts, we are engaging in increasingly closer collaboration with our customers.

One Fortum survey provides information about all stakeholder groups

We use the extensive One Fortum survey to annually measure customer and stakeholder satisfaction as well as changes in the company's reputation and the factors that impact it. The survey covers customers, public administrations, capital markets, non-governmental organisations and opinion makers as well as Fortum's personnel. In Finland and Sweden, we also survey the views of the general public and media.

We conducted the survey in 2016 in Finland, Sweden, Norway, Poland, the Baltic countries, Russia and India. Over 4,000 customers and nearly 3,300 other stakeholders were interviewed for the One Fortum survey. In addition, we added a new component to our research side: in autumn we conducted a follow-up survey among customers so that we can indentify our customers' changing needs even faster. We also monitor other publically available research sources, but we define Group targets and our identified development areas on the basis of the One Fortum survey results.

Customer satisfaction

In the annual survey conducted in spring 2016, our customer satisfaction remained very stable in virtually all customer segments. The autumn follow-up survey brought slightly more changes, as satisfaction among electricity sales customers in Sweden, particularly in the consumer side, was clearly slipping. However, at the same time, we succeeded in increasing the satisfaction among district heat business customers in several countries – and in Finland and Lithuania we achieved our best-ever result. Our customer satisfaction is at a good level in most countries and customer segments.

Our Group-level target for all business areas is to achieve a customer satisfaction rating of "good", i.e. 70–74, in the One Fortum survey. Customer satisfaction in 2016 was at a good level in all business areas, except electricity sales to business customers. The results of the One Fortum survey clearly indicate that these days customers are looking for advice and additional services related to their energy use.

Other public customer satisfaction results

The international and independent EPSI Rating annually surveys the level of satisfaction of electricity retail company customers in Finland, Sweden and Norway. Our customer satisfaction dropped in all three countries, particularly in Sweden.

In 2016 a customer satisfaction survey using the same format was conducted for the first time in Ekokem in all operating countries. Ekokem's overall rating in the survey was 4.1 on a scale of one to five; this result is considered as good.

Customer satisfaction [1] in 2014–2016 (GRI G4-PR5)

	2016	2015	2014
Finland	73	75	74
Sweden	53	64	63
Norway	73	76	70

1) EPSI research method in Finland and Norway; Svenskt Kvalitetsindex in Sweden

Reputation

Our reputation is strongest among public administration, opinion makers and nongovernmental organisations. Among the latter group, our reputation index grew significantly compared to the previous year. The biggest drop occurred in the capital markets stakeholder group, where our reputation index fell to the same level as the rating given by media. Our reputation continues to be weakest among the general public. Based on the survey results, we should continue our efforts to improve social responsibility and customer centricity.

The Group-level target for our reputation in 2016 was a rating of 72.0 in the One Fortum survey, measured as the average rating given by public administration, opinion makers, nongovernmental organisations, and personnel. In 2016, we achieved a rating of 72.5 among these stakeholder groups. The target set for 2017 (70.7) includes the above-mentioned stakeholder groups as well as the opinions of representatives of media, capital markets and the general public. The reference value is the reputation index (69.7) given by these stakeholder groups for 2016. Rankings given by customers are not included in the reputation index calculation, because we treat customer satisfaction as a separate entity.

Brand

In addition to our reputation, we also monitor brand development, i.e. what impression the general public has about our brand. The survey includes the measurement of e.g., recognition, preference and brand attributes. Fortum is very well recognised in Finland, but less so in our other operating countries; we are working to boost our recognition. At the same time, our aim is to change our brand image and to enhance our attractiveness among various stakeholder groups.

▸ *Stakeholders*

Supply chain management

Fortum is a significant purchaser of goods and services. We actively strive to reduce the environmental impacts caused by our operations and to improve economic and social wellbeing. We also manage risks related to our supply chain. The aim is that open and efficient collaboration creates value for both parties.

Fuel purchases and investments in a significant role

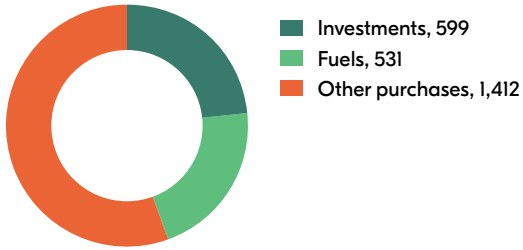
Fortum's purchasing volume in 2016 was EUR 2.5 (2015: 2.2) billion. Fuel purchases, investments, and electricity purchased by the Electricity Sales business area from the Nordic wholesale electricity market for retail sales accounted for the majority of Fortum's purchases.

Fortum's fuel purchases in 2016 totalled EUR 531 (2015: 567) million. We purchase fuels from international and local suppliers. Our fossil fuel purchases totalled about EUR 454 (2015: 482) million, biomass fuels about EUR 39 (2015: 46) million, and nuclear fuel about EUR 38 (2015: 39) million.

Of our purchases, EUR 599 (2015: 527) million targeted various investments. The biggest investments, EUR 214 million, were made in Russia. A large share of the investments are contracted out in full with materials, installation and other service as well as contractor work included in the total purchase.

The rest of our purchases, EUR 1.4 (2015: 1.1) billion, consist of other goods and services. The figure includes electricity purchased by the Electricity Sales business area from the Nordic wholesale electricity market for retail sales. The other goods and services purchases were related to operation and maintenance as well as to other functions, such as IT solutions, marketing and travel.

Purchases, EUR million



Half of purchases from Europe

About half, i.e. 52%, of the purchasing volume was purchased from suppliers operating in Europe, mostly in Finland, Sweden and Poland. This does not include electricity purchases from the Nordic wholesale market. 46% of Fortum's purchases were from risk countries. The majority of these purchases were from Russia.

Violations related to work conditions and human rights are more likely in risk countries than in non-risk countries. Fortum's risk-country classification is based on the ILO's Decent Work Agenda, the UN's Human Development index and Transparency International's Corruption Perceptions index.

In 2016 we had about 15,000 (2015: 9,700) suppliers of goods and services. The increase in the number of suppliers was impacted by Fortum's acquisition of Ekokem and DUON. About 1,600 of the suppliers were in risk countries. Excluding the Russia Division's local suppliers, there were about 270 suppliers in risk countries.

Purchases [1] excluding investments in 2014–2016

EUR million	2016	2015	2014
Nordic countries	1,106	935	1,017
Russia	505	546	670
Poland	279	138	141
Estonia	26	26	29
Other countries	27	32	123
Total	**1,943**	**1,677**	**1,980**

1) Includes purchases of fuel, power and other materials and services.

Sustainable fuel purchasing

The most significant environmental impacts of our supply chain are related mainly to fuels, particularly to coal and biomasses. There are significant environmental aspects associated with open-pit coal mining, including natural resource efficiency, emissions to air, water and soil, and impacts on biodiversity. Significant occupational health and safety risks can be related to working in underground mines. The sustainability aspects of biomass sourcing are related primarily to biodiversity, but risks particularly outside the EU can also include, for instance, illegal logging or human rights violations.

In fuel purchasing, special attention is paid to the origin of the fuel and to responsible production. In 2016 we had 170 suppliers in our fuel supply chain, 6% of them operated in risk countries.

Origin of fuels used at Fortum in 2016 [1)]

Fuel	Country of origin
Biomass	Finland, Russia, the Baltic countries, Poland
Coal	Russia, Kazakhstan, Poland
Natural gas	Russia, Poland
Uranium	Russia
Oil	Russia
Peat	Finland, Estonia

1) The biggest countries of origin in 2016

Natural gas

The natural gas used in Russia, the Baltic countries and Finland originated from several suppliers in Russia. The natural gas used in Poland was purchased mainly from Poland.

Coal

The coal used in Finland originated from Russia. The coal used in Poland originated mainly from Poland. The power plants in Russia used coal originating from Russia and Kazakhstan.

In Finland, we have a legal obligation to have an amount of fuels in reserve equivalent to three months of average electricity production. There are no similar legal obligations in other countries, but we do maintain sufficient reserves for uninterrupted energy production in all countries where we operate.

Fortum is a member of the Bettercoal initiative, and uses the Bettercoal Code and tools in assessing the sustainability of the coal supply chain.

Biomass

The biomass we used consisted mainly of forest residue chips, chips from roundwood and industrial wood residues that originated from Finland, Russia, the Baltic countries and Poland. About 60% of the forest biomass used by Fortum in 2016 originated from certified, sustainably managed forests or from the sphere of the FSC Controlled Wood system. The share was over 80% in Finland.

Our goal in 2016 was to define minimum requirements related to legality and traceability for wood-based biomass and to set a target for increasing the share of certified forest biomass. As the work advanced, we decided to combine these two goals, and in 2017 we will examine the opportunity to apply for Chain of Custody certification for the Fortum's wood-based biomass purchases.

The bio-oil plant integrated with Fortum's Joensuu power plant has a sustainability system approved by The Finnish Energy Authority. The system is used to prove compliance with nationally legislated sustainability criteria for bio-oil.

Uranium

The fuel assemblies used at the Loviisa power plant in Finland are completely of Russian origin. The fuel supplier acquires the uranium used in the fuel assemblies from Russian mines in accordance with Fortum's agreement. In 2016, the uranium originated from the Krasnokamensk, Khiagda and Dalur mines.

Both ARMZ Uranium Holding Co., a uranium producer, and TVEL, which is responsible for refining and manufacturing uranium, have environmental and occupational safety systems in place in all their plants. All three uranium mines have ISO 14001 environmental certification. The Khiagda mine has also an OHSAS 18001 certified occupational health and safety management system. The zirconium material manufacturing plant and the plant responsible for manufacturing uranium oxide pellets and fuel assemblies have ISO 14001 environmental management system certification and OHSAS 18001 occupational health and safety management system certifications.

We regularly assess the quality, environmental, and occupational health and safety management systems of our nuclear fuel suppliers and the manufacturing of nuclear fuel assemblies. In summer 2016 Fortum's representatives assessed the operations of Fortum's Russian fuel supplier's uranium enrichment plant. The plant was in good condition technically, and its quality, environmental, occupational health and safety management systems were certified.

Fuel consumption 2016

Sustainable supply chain

We expect our business partners to act responsibly and to comply with the Fortum Code of Conduct and the Supplier Code of Conduct. Fortum's key tools in supply chain management are country and counterparty risk assessments, pre-selection of suppliers and supplier audits.

Codes of conduct cover basic requirements

The Fortum Code of Conduct forms the foundation for ethical business conduct and defines how we treat others, engage in business, and safeguard our corporate assets.

The Supplier Code of Conduct includes the sustainability requirements for suppliers of services and goods. The Supplier Code of Conduct is based on the principles of the United Nations Global Compact initiative and is divided into four sections: business practices, human rights, labour standards, and the environment. The country and counterparty risk assessment follows the same basic structure with regards to sustainability, and addresses issues like the implementation of the guiding principles of human rights.

The Supplier Code of Conduct is used in all our countries of operation and is included in all purchase agreements exceeding EUR 50,000. The Supplier Code of Conduct was updated at the end of 2014; by publication date of this report, the training related to the updated Supplier Code of Conduct had been held in all our operating countries, except Norway and Russia.

Pre-selection of suppliers

We assess the level of operations of our business partners through pre-selection and supplier audits. The pre-selection process was renewed during the spring 2016. The related training has been arranged in all our operating countries, except Poland and Russia. In Poland the training will be held in spring 2017. The pre-selection process will be taken into use in Ekokem's procurements during autumn 2017.

The pre-selection is made whenever the purchase volume exceeds EUR 50,000. During the first phase of the pre-selection, the credit check is made, and the supplier is sent a short written questionnaire. The questionnaire surveys the supplier's possible operations in risk countries, certified management systems, and the occupational safety level of the contractors. We pay special attention also to anti-corruption practices.

If potential risks in the supplier's operations are identified through the questionnaire, a more extensive self-assessment questionnaire may be sent or a supplier audit is conducted. The extensive self-assessment questionnaire is always sent to fuel suppliers and the suppliers of Fortum India.

The Russia Division uses its own supplier pre-selection process. Pre-selection is done in accordance with Russian procurement law, and bidding is open to all companies. In the Russian operations, we set supplier requirements for business principles and ethics.

Supplier audits support assessments

In supplier audits, we assess the supplier's compliance with the requirements in Fortum's Supplier Code of Conduct. Audits are always done on-site, and they include production inspections, employee interviews, and reviews of documents. If non-compliances are found, the supplier makes a plan for corrective actions and we monitor the implementation of them.

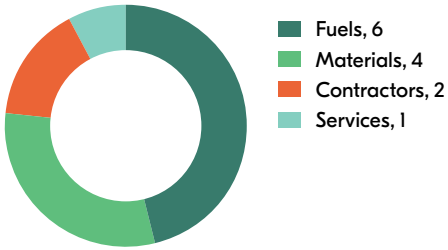
In 2016 we signed an agreement for an external service provider to conduct supplier audits; the first audit performed by an external actor was carried out in December. By collaborating with an international auditing company, we aim to utilise the expertise of the local auditors and, if necessary, increase the number of audits. Fortum's personnel will also continue to conduct supplier audits, especially in Fortum's own operating countries.

During the year we audited a total of 13 (2015: 9) suppliers in China, India, Russia, Poland, Latvia, Lithuania and Finland. Our goal in 2017 is to audit 20 suppliers.

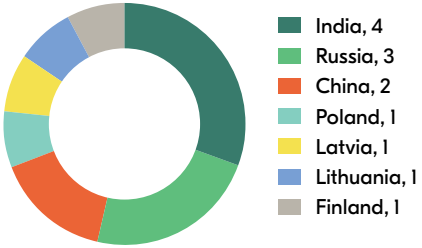
In 2016, most of the non-compliances identified in the audits were related to occupational safety, overtime hours, remuneration, and management of the suppliers' own subcontractors. The audits conducted did not reveal non-compliances related to freedom of association, discrimination, or child or forced labour, but we issued a recommendation to a Chinese supplier to strengthen its practices to prevent the potential use of child labour and to ensure the non-discrimination of employees in the recruiting process. Recommendations given in environmental issues are related to the establishment of environmental systems and the defining of environmental targets.

Fortum uses the Bettercoal Code and tools in assessing the sustainability of the coal supply chain. Bettercoal audits are always conducted by a third, accredited party. In 2016, one of Fortum's Polish coal supplier was audited. One of Fortum's Russian coal suppliers was audited in 2015.

Suppliers audited in 2016 by supplier type



Suppliers audited in 2016 by country



Environmental responsibility

Fortum's aim is to provide our customers with environmentally benign products and services. We strive to continuously reduce the environmental impacts of our operations by using best available practices and technologies. We emphasise a circular economy, resource and energy efficiency, the use of waste and biomass, and climate change mitigation in environmental responsibility.

Our company's know-how in carbon dioxide-free hydro and nuclear power production and in energy-efficient combined heat and power production, investments in solar and wind power, as well as solutions for sustainable cities play a key role in environmental responsibility.

Environmental impacts

Some of the environmental impacts of energy production are global or wide-reaching, some are regional or local. In terms of Fortum's operations, the key environmental aspects include:

- Climate change
- Use of renewable energy sources
- Circular economy
- Flue-gas emissions
- Hydropower's environmental impacts and biodiversity
- Fuel procurement

Climate change mitigation

We can reduce our greenhouse gas emissions by increasing carbon dioxide-free energy production and the use of renewable energy sources, and improving energy efficiency of production. 62% of the total electricity we produced in 2016 was carbon dioxide-free. We made several investment decisions that will significantly grow our wind and solar power production in the years ahead.

Circular economy boosts resource efficiency

We recycle significant amounts of waste and energy production by-products generated in our operations. Additionally, our circular economy services separate from municipal waste streams substances that can be utilised as materials and for energy production.

The continuous improvement of resource and energy efficiency is important in terms of the sufficiency of natural resources and climate change mitigation. In improving the energy efficiency of our own production, we have gained expertise that we have put to use in providing energy efficiency services to other energy companies.

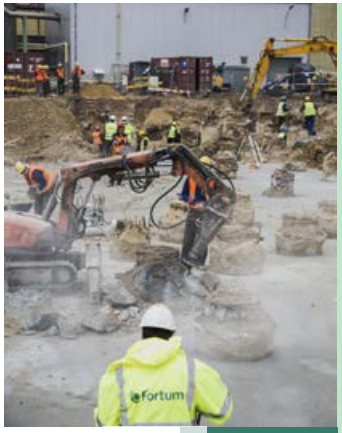
Advanced combustion technology

Fuel use generates sulphur dioxide, nitrogen oxide and particle emissions that degrade air quality and cause acidification of soil and water systems. These emissions can be effectively reduced with various flue-gas cleaning technologies. Special expertise in combustion technology is one of Fortum's strengths, and we have supplied our own power plants and many other energy companies with combustion technology solutions to reduce nitrogen oxide.

Mitigation of hydropower's environmental impacts

Damming rivers and regulating water systems change the natural water levels and discharges and cause changes in aquatic habitats. We actively take part in research activities in the sector and implement voluntary and permit-based measures to develop the biodiversity, fish populations and the multi-use of water systems where we produce hydro power.

Environmental impacts by production form



New combined heat and power plant in Zabrze, Poland

2016 marked the beginning of an intensive construction phase for Fortum's new combined heat and power (CHP) plant in Zabrze, Poland. The plant is planned to start commercial operations by the end of 2018, providing district heating to some 70,000 households in Zabrze and Bytom. The new plant has a capacity of max 75 MW electricity and 145 MW heat and will replace two coal-fired units from the 1950s.

The plant will be primarily fuelled by refuse-derived fuel (RDF) and coal, but it can also use a mixture of fuels and, with a small additional investment, biomass. The amount of RDF can be up to 40% of the total fuel usage. The investment is expected to significantly improve the efficiency of operations and to reduce carbon dioxide and other emissions, such as nitrogen and sulphur oxide emissions. The new power plant complies with high environmental standards and with principles of best available techniques.

New technical solutions significantly reduce the workers' exposure to harmful conditions and decrease the probability of accidents at work for own personnel and contractors. More than 300 contractors' employees work at the construction site every day. About 2,000 workers have received safety training. Thanks to the high safety standards and excellent cooperation between Fortum and the contractors, there has been only one minor accident over the course of 420,000 working hours.

Environmental key figures

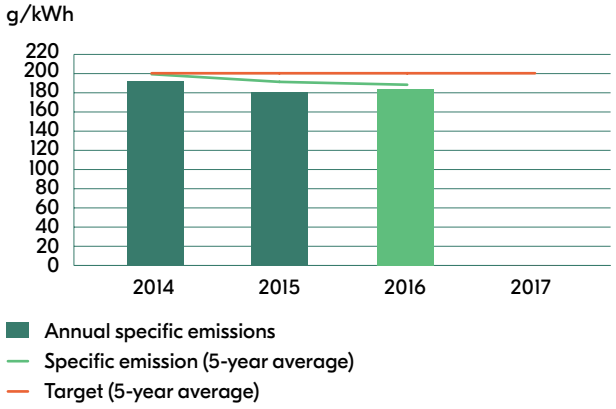
The table and graphs present our key targets and figures for environmental responsibility.

Key figures for environmental responsibility

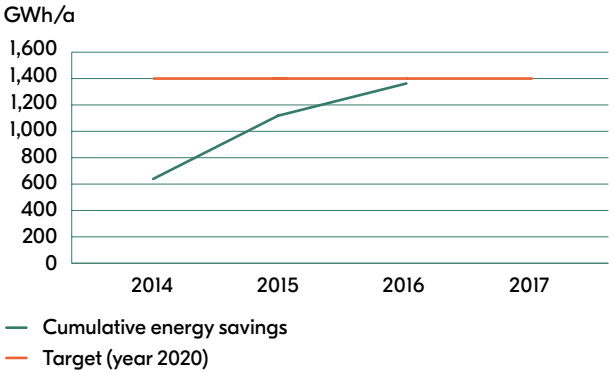
	2016	2015	2014
Carbon dioxide emissions (Scope 1), million tonnes	18.6	19.2	20.3
Sulphur dioxide emissions, tonnes	22,500	19,900	20,400
Nitrogen oxide emissions, tonnes	26,000	26,800	28,700
Particle emissions, tonnes	16,800	17,800	21,300
Specific CO_2 emissions of power generation, g/kWh	173	166	177
Specific CO_2 emissions of power generation in the EU, g/kWh	28	21	39
Specific CO_2 emissions of total energy production, g/kWh	184	181	189
5-year average, g/kWh	188	191	198
Share of CO_2-free energy in power generation, %	62	64	64
Share of renewable energy in power generation, %	30	34	32
Share of renewable energy in heat production, %	7	8	6
Energy efficiency improvement, GWh/a	245	479*	559*
Utlisation of gypsum originated from energy production, %	100	100	100
Uilisation of ash originated from energy production, %	37	33	34
Waste reused as material, t	66,000		
Water withdrawal, million m^3	2,322	2,138	2,186
of which cooling water, million m^3	2,228	2,060	2,094
Major EHS incidents, pcs	22	18	27
of which environmental permit violations, pcs	11	14	15
ISO14001-certified operations in power and heat production, % of sales	99.9	99.9	99.9

* Figures revised for reporting in 2015.

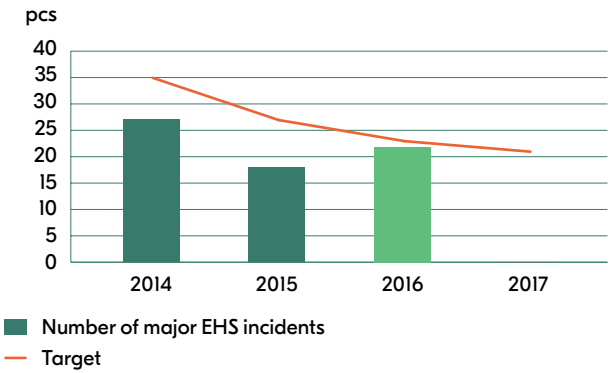
Specific carbon dioxide emissions of Fortum's total energy production in 2014–2016



Annual energy savings achieved in 2014–2016



Number of major EHS incidents in 2014–2016



Sustainable energy production

Our energy production is based primarily on carbon dioxide-free hydro and nuclear power and on energy-efficient combined heat and power production. In line with our strategy, we are targeting a gigawatt-scale solar and wind portfolio.

Fortum's power generation in 2016 was 73.1 (2015: 75.9) TWh and heat production 27.8 (2015: 32.2) TWh. 62% (2015: 64%) of our power generation was carbon dioxide-free and 30% (2015: 34%) was produced from renewable energy sources. About 7% (2015: 8%) of our heat production was produced from renewable, carbon-free energy sources.

Power generation and heat production by energy source are presented in the accompanying tables. The tables have been consolidated in accordance with the boundaries applied in financial reporting. The figures for power generation include also production shares in the hydro, wind and nuclear power plants of associated companies.

New, energy-efficient production capacity

In Russia, the second new CHP unit at the Chelyabinsk GRES power plant was completed in March 2016. Fuelled by natural gas, its electricity production capacity is 248 MW and heat production capacity 174 MW. The first power plant unit of the same size was completed in late 2015.

In Russia, the modernisations of the Nyagan GRES power plant's second unit increased production capacity by about 30 MW in autumn 2016. Similar modernisations of the first unit were completed in autumn 2015.

Construction of the new multi-fuel CHP plant in Zabrze, Poland continued, and the plant is scheduled for completion in 2018. In Russia and Poland, investments will improve the efficiency of electricity and heat production and reduce carbon dioxide and other emissions into the environment with relation to produced energy.

Refurbishments of hydropower plants in Sweden and Finland introduced 9.5 MW of new, renewable electricity production capacity. Two high-pressure turbines at the Loviisa nuclear power plant were replaced during the 2016 annual outage and, together with smaller improvements made, increased the electricity capacity by 12 MW.

The 13-MW district cooling project was started in Tartu, Estonia.

Power generation by energy source in 2014–2016 (GRI G4-EN3)

TWh	2016	2015	2014
Hydropower	20.7	25.0	22.3
Nuclear power	24.1	22.7	23.8
Natural gas	24.3	24.1	22.5
Coal	2.8	2.9	3.6
Biomass fuels	0.8	0.8	0.9
Waste-derived fuel	0.2	0.1	0.0
Other [1)]	0.2	0.3	0.3
Total	**73.1**	**75.9**	**73.4**

1) Wind, solar, peat, other

Heat production by energy source in 2014–2016 (GRI G4-EN3)

TWh	2016	2015	2014
Natural gas	19.7	24.2	26.7
Coal	4.7	5.0	5.1
Biomass fuels	1.9	2.0	2.0
Waste-derived fuel	0.8	0.4	0.3
Heat pumps, electricity	0.3	0.3	0.1
Peat	0.4	0.3	0.3
Fuel oil	0.0	0.1	0.1
Total	**27.8**	**32.2**	**34.6**

Energy production from waste

Fortum acquired the Nordic circular economy company Ekokem Corporation in August 2016. The circular economy business is specialised in waste and material treatment, recycling and combustion, final disposal solutions, soil remediation and environmental construction services.

Fortum's new circular economy business operates hazardous waste treatment and combustion facilities in Finland, Sweden and Denmark. The waste-to-electricity capacity in Riihimäki, Finland, is 18 MW and heat production capacity 90 MW, in Kumla, Sweden, 9 MW and 35 MW, respectively, and in Nyborg, Denmark, 16 MW and 19 MW.

More solar energy

Fortum currently has 15 MW of solar capacity in India. Two solar energy projects were launched in India in 2016: the 70-MW Bhadla solar power plant in Rajasthan and the 100-MW Pavagada solar power plant in Karnataka. The projects are expected to be completed in 2017. In addition to the large-scale solar energy plants in India, Fortum offers its customers solar energy kits in the Nordic countries.

More wind power

Fortum invested actively in wind power in 2016. At the Blaiken wind farm, 22.5 MW of capacity was commissioned, and Fortum's share of ownership was 3.4 MW.

Energy production (on our website)

Decided investments in wind power

Wind farm	Country	Capacity, MW	Share of ownership, %	Commissioned
Blaiken	Sweden	247.5	15	2012-2016
Solberg	Sweden	75	50	2018 expected
Nygårdsfjellet	Norway	32	100	2006, 2011
Ånstadblåheia	Norway	ca. 50	100	2018 expected
Sørfjord	Norway	ca. 90	100	2019 expected
Ulyanovsk	Russia	35	100	2017 expected

Solar power is proceeding in India

Fortum is targeting a gigawatt-scale wind and solar power portfolio. India is the first country we have decided to enter in solar power, as the country offers one of the best solar resources and sound government support for the development of the solar sector. Fortum's ongoing projects will generate about 370 GWh annually and in total will reduce carbon dioxide emissions by 350,000 tonnes.

The 70-MW project in Bhadla, Rajasthan, is being executed by Tata Power Solar, which was selected following Fortum's supplier pre-selection process. Both a desk review of Tata's practises as well an audit of its ongoing construction site were carried out to see how Tata would comply with Fortum's requirements. After the work was awarded, both Tata Power Solar's and Fortum's top management participated in person at the project's kick-off meeting in India to emphasise the importance of safety and good working conditions for Fortum.

This project has set an example for good working and living conditions in India: proper employee facilities with kitchen and hygiene stations are provided to the construction employees as well as drinking water and shelters from the sun and heat during employee breaks. The site's EHS procedures are very robust with good access control and training, visual materials and safety talks, as well as supervision and observations with safety walks.

Climate change mitigation

Our vision – **For a cleaner world** – defines our ambition to move towards a low-emission energy system and optimal resource efficiency. Our main tools in climate change mitigation are increasing renewable energy production, improving energy efficiency and providing smart energy solutions for our customers.

Climate change is a threat and an opportunity

We believe that our know-how in carbon dioxide-free hydro, nuclear, wind and solar energy, and in energy-efficient CHP production will prove to be a competitive advantage for the company. We expect the concern about climate change to increase the demand for low-carbon and energy-efficient energy products and solutions. Our developing circular economy services also meet this demand, as the use of non-recyclable waste in energy production replaces fossil fuel and reduces the formation of greenhouse gases at landfills.

Our operations are exposed to physical risks caused by climate change, including changes in weather patterns that could alter energy demand and, for instance, hydropower production volumes. Higher precipitation and temperatures may affect hydropower production, dam safety, and bioenergy supply and availability. In addition to climate change mitigation, we are also adapting our operations to the changing climate and taking it into consideration, for example, in production planning and in evaluating growth projects.

Towards low-emissions production

In Europe, we produce carbon dioxide-free electricity with hydro, nuclear and wind power and at combined heat and power (CHP) plants that utilise biomass, bio liquids and waste-derived fuels. In the EU area, 96% (2015: 97%) of our electricity production was carbon-free in 2016. The rest of the electricity was produced mainly with coal. We produce solar power in India.

Our electricity production in Russia is based entirely on fossil fuels, mainly on natural gas. Our new plant units in Russia are based on gas turbine technology, which represents the best available technology in natural gas combustion. 62% (2015: 64%) of our total electricity production was carbon dioxide-free.

The following projects, among others, directly or indirectly reducing carbon dioxide emissions were completed in 2016:

- Refurbishment of Chelyabinsk CHP-3 unit's gas turbine in Russia
- Replacement of two high-pressure turbines at Loviisa nuclear power plant in Finland
- Refurbishments of hydropower plants in Sweden and Finland
- Optimisation of energy production and a new thermal energy storage at Suomenoja power plant in Finland
- Replacement of the heavy fuel oil with wood pellets at the Kivenlahti heat plant in Espoo, Finland
- Implementation of new district cooling in Tartu, Estonia

We have calculated that these projects will reduce annual carbon dioxide emissions by about 48,000 tonnes.

▸ *Sustainable energy production* section describes the power plants under construction and the decided new power plant projects.

Climate-benign products and services

We offer our customers a range of energy products and services to help them improve their energy efficiency and reduce their carbon footprint:

- CO_2-free electricity products
- Real-time monitoring and optimisation of electricity consumption
- Solar panel kits
- Electric vehicle charging systems

We are expanding our offering also by investing in startups that are developing new technologies. For example, in 2016 we invested in Chempolis, a company developing biorefining technology in Finland, and Exeger, a company developing innovative solar cell solutions in Sweden.

▸ *Fortum HorsePower* is a service concept in which Fortum delivers bedding to horse stables and picks up the bedding-manure mixture for combustion. In 2016, bedding-manure mixture was collected from about 80 horse stables in southern Finland. Fortum combusts the bedding-manure mixture at the Järvenpää CHP plant, and it was delivered also to other energy companies.

The Joensuu bio-oil plant produced bio-oil, of which majority was used in a heat plant at Joensuu power plant area and at the Vermo heat plant in Espoo, Finland.

Emissions trading

Over 88% of carbon dioxide emissions from our energy production in Finland, Poland and the Baltic countries is within the sphere of the EU's emissions trading scheme. We had a total of 45 (2015: 48) plants in four member countries within the EU's emissions trading scheme in 2016. Fortum was granted free emission allowances corresponding to 1.0 (2015: 1.3) million tonnes in 2016. Our carbon dioxide emissions within the EU's emissions trading scheme were 2.7 (2015: 2.1) million tonnes. So, in terms of the emissions allowances, we had a deficit and had to purchase the shortfall of emissions allowances from the markets.

Fortum's view is that emissions trading is the most cost-efficient way to achieve emissions targets. In our view, the Emissions Trading Scheme (ETS) as a mechanism has functioned as planned, and it should be the key means for realising the EU climate targets also in the future. A revision of the EU's emissions trading directive for 2021-2030 was reviewed by the Parliament and the Commission in 2016, and the directive is expected to be approved during 2017.

We also want to promote the establishment of a global carbon pricing and carbon market. Fortum has signed the Carbon Price Communiqué, an international business statement for setting a price on carbon emissions. We also participate in several international business initiatives promoting the role of business in climate change mitigation. These include the UN Global Compact's Caring for Climate initiative and the World Bank's Carbon Pricing Leadership Coalition initiative. In Finland, Fortum is a member of the Climate Leadership Council.

Carbon funds

Fortum is a participant in the international Prototype Carbon Fund (PCF) climate fund. In 2016, we received a total of about 10,000 CER emission reduction units from this fund. So far, we have received a total of 1,250,000 emission reduction units, and we estimate that we will still receive about 145,000 units during the PCF's operating period.

Fortum's position on the development of the EU climate policy

Greenhouse gas emissions

Our greenhouse gas emissions in 2016 totalled 23.6 (2015: 24.1) million tonnes. Scope 1 emissions were 18.8 million tonnes, Scope 2 emissions 0.1 million tonnes, and Scope 3 emissions 4.7 million tonnes.

Greenhouse gas emissions are reported on a pro forma basis and the figures of the comparison years have not been adjusted because of partially insufficient data. We have estimated that, taking the divestment of the Tobolsk power plant into consideration, greenhouse gas emissions from continuing operations increased in 2016 by about 2.5 million tonnes as a result of the commissioning of the Chelyabinsk GRES power plant's new units, the Meri-Pori power plant's increased condensation power production, and the acquisition of Ekokem.

Direct greenhouse gas emissions — Scope 1

The majority of our greenhouse gas emissions was generated from the use of fossil fuels in electricity and heat production. A small amount of emissions is generated from the use of company vehicles and leaks related to the natural gas distribution.

Our direct greenhouse emissions were 18.8 (2015: 19.3) million CO_2-equivalent tonnes. The share of carbon dioxide from our direct greenhouse gas emissions was 99%. The share of direct greenhouse gas emissions from our total greenhouse gas emissions was 79%.

Of the direct carbon dioxide emissions, 83% (2015: 89%) originated from the Russian operations and 10% (2015: 7%) from Finland. Fortum's direct biogenic carbon dioxide emissions were 1.3 (2015: 1.3) million tonnes.

The calculation of greenhouse gas emissions covers carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), fluorinated hydrocarbons (HFCs) and SF_6. Carbon dioxide emissions as well as methane and nitrous oxide emissions have been calculated on the basis of plant-specific fuel data. The amounts of HFC compounds and SF_6 are reported on the basis of the amounts of gas added to the equipment. Specific emission factors of gases are based on IPCC publications.

Indirect greenhouse gas emissions — Scope 2

Greenhouse gas emissions from the production of electricity purchased for our own use were 95,500 (2015: 85,400) tonnes of carbon dioxide-equivalent. Carbon dioxide emissions accounted for 99.5% of this. The share of Scope 2 greenhouse gas emissions of our total greenhouse gas emissions was 0.4%.

57% of Scope 2 emissions have been estimated on the basis of information received from electricity suppliers. The rest has been estimated on the basis of country-specific breakdowns of electricity production because electricity supplier-specific greenhouse gas emissions data was not received from Russia in particular.

Other indirect greenhouse gas emissions — Scope 3

The majority of our Scope 3 emissions are caused by the production and transportation of fuels, the purchases of goods and services, and investments. The transportation of customer waste also creates greenhouse gas emissions. Other activities (e.g. employee travel and waste management) account for less than 1%.

Our Scope 3 greenhouse gas emissions in 2016 were an estimated 4.7 (2015: 4.7) million tonnes. The share of Scope 3 emissions was 20.1% of our total greenhouse gas emissions. We estimate that all our Scope 3 greenhouse gases come from fossil energy sources.

We report Scope 3 greenhouse gas emissions in accordance with the requirements of the Corporate Value Chain (Scope 3) Accounting and Reporting standard. The volumes describing

Direct greenhouse gas emissions in 2014—2016 (GRI G4-EN15)

Mt CO_2-eq	2016	2015	2014
CO_2	18.6	19.2	20.3
CH_4	0.01	0.01	0.01
N_2O	0.17	0.14	0.15
HFCs	0.00	0.00	0.00
Total	**18.8**	**19.3**	**20.5**

Direct carbon dioxide emissions by country in 2014—2016 (GRI G4-EN15)

million t	2016	2015	2014
Finland	2.0	1.3	2.2
Russia	15.5	17.0	16.7
Poland	0.8	0.8	0.8
Other countries	0.3	0.1	0.6
Total	**18.6**	**19.2**	**20.3**

Indirect greenhouse gas emissions (Scope 2) in 2014—2016 (GRI G4-EN16)

t CO_2-eq	2016	2015	2014
CO_2	95,000	85,003	135,505
CH_4	76	52	57
N_2O	375	344	389
Total	**95,500**	**85,400**	**136,000**

Indirect greenhouse gas emissions (Scope 3) in 2014—2016 (GRI G4-EN17)

t CO_2-eq	2016	2015	2014
Fuel procurement	4,347,900	4,557,000	4,800,000
Purchased goods and services	233,700	83,000	112,000
Capital goods	142,700	50,000	51,000
Other activities	17,500	18,000	21,000
Total	**4,741,800**	**4,708,000**	**4,984,000**

the scope of the various activities have been obtained from our monitoring and reporting system.

About 20% (2015: 37%) of the purchases were excluded from the purchasing categories defined by Fortum's Procurement function, due to insufficient reporting. The emissions for these are estimated with the average emissions factor of the specified purchasing categories. The specific emission factors used in calculating the greenhouse gas emissions are based on different literature sources.

Specific carbon dioxide emissions

Our specific carbon dioxide emissions (Scope 1) from total energy production were 184 (2015: 181) g/kWh. The five-year average, including 2016, was 188 (2015: 191) g/kWh, which is below the target of 200 g/kWh.

Our specific carbon dioxide emissions (Scope 1) from power production in the EU were 28 (2015: 21) g/kWh. The specific carbon dioxide emissions from our power production, measured as gCO_2/kWh, are low compared to other European power producers. Our specific emissions in 2015 were about 7% of the 311 g/kWh average specific emissions of major European utilities.

Including our Russian power production, our specific emissions in 2016 were 173 (2015: 166) g/kWh. Our specific emissions in 2015 were about 54% of the average level of European utilities. European reference data for 2016 is not yet available.

188 g/kWh

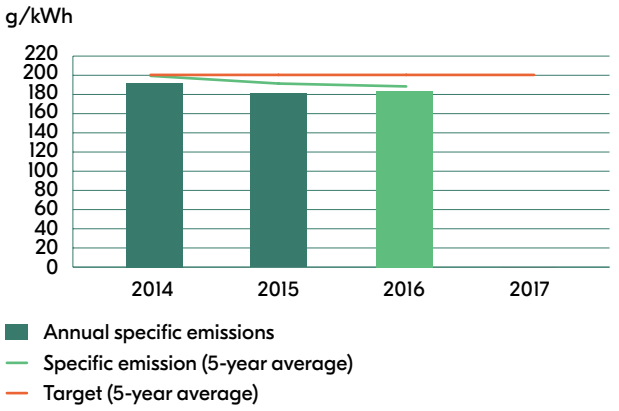
Specific CO_2 emissions, 5-year average

Target: <200 g/kWh

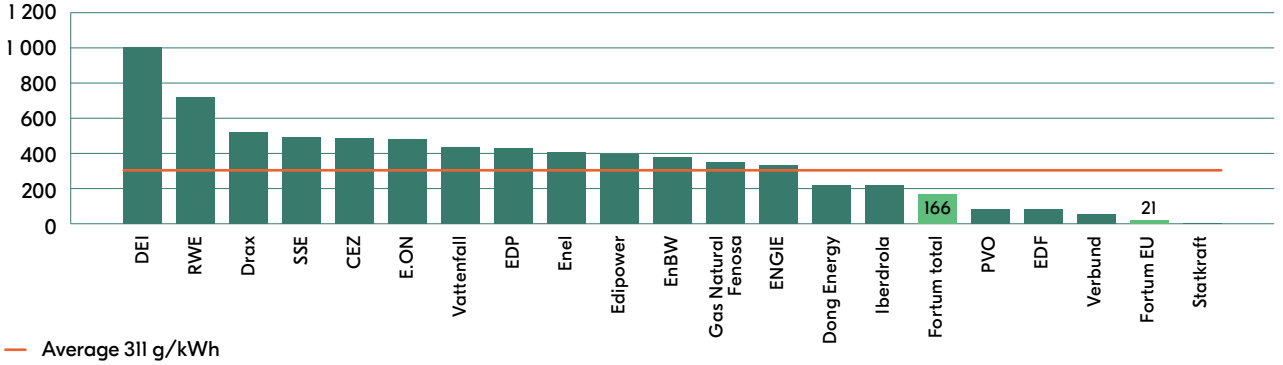
The boundary for electricity production's specific carbon dioxide emissions differs from other environmental reporting. Fortum's production shares in associated companies are also included. This production is based on hydro, wind and nuclear power and doesn't cause direct carbon dioxide emissions.

In the calculation of electricity production's specific emissions, CHP plant emissions have been allocated for electricity and heat using the efficiency method presented in the Greenhouse Gas Protocol guidelines, with heat production efficiency of 90% and electricity production efficiency of 40%.

Specific carbon dioxide emissions of Fortum's total energy production in 2014–2016 (GRI G4-EN18)



Specific CO_2 emissions of major utilities in Europe, g CO_2/kWh electricity, 2015



Note: All figures, except Fortum total, include only European generation. In 2016 most of E.ON's generation was transferred to Uniper. Fortum's specific emissions of the power generation in 2016 in the EU were 28 g/kWh and in total 173 g/kWh.
Source: PWC, November 2016, Climate Change and Electricity, Fortum

Improving energy efficiency

Energy efficiency is a key factor in energy production – from both an economic and environmental perspective. Improving energy efficiency at power plants refers to measures we implement to increase the efficiency of production processes or reduce the energy consumption of plants or equipment. This enables us to produce more electricity or heat for our customers without increasing fuel consumption.

The energy efficiency of power plants can be increased through investments and technical improvements, preventive maintenance, and by training personnel in the optimal operation of the plant and in monitoring the plant's operating economy. Improving power plant availability also increases energy efficiency, as unplanned plant start-ups are reduced.

Energy-efficiency investments

In fuel-based energy production, we aim to utilise the fuel's energy as efficiently as possible. Our most important means to improve the energy efficiency of fuel use is to increase combined heat and power (CHP) production. In CHP production, up to 90% of the energy content of the fuels can be utilised. Separate electricity production's efficiency is about 60% at best.

In March 2016, we commissioned a second natural gas-powered CHP unit at our Chelyabinsk GRES power plant in Russia.

Also several new projects have been implemented at the Loviisa nuclear power plant after 2012 to increase the efficiency of the plant units. The most recent and most significant was the replacement of two high-pressure turbines. With these replacements and other smaller improvements, the Loviisa power plant can produce about 98 GWh more electrical energy in an average year.

In addition, other projects to improve energy efficiency were completed in 2016, among them:

- Refurbishment of Chelyabinsk CHP-3 unit's gas turbine in Russia, 50 GWh
- Refurbishments of hydropower plants in Sweden and Finland, 30 GWh
- Optimisation of energy production and a new thermal energy storage at Suomenoja power plant in Finland, 40 GWh

The energy-efficiency improvement projects are calculated to yield an annual energy savings of about 245 GWh.

Target within reach

Fortum is participating in the European electricity sector's ▸ *Energy Wisdom* programme. We report to the programme on significant projects that improve energy efficiency and reduce greenhouse gases. Fortum's target is to achieve an annual energy savings of more than 1,400 GWh by 2020 compared to 2012. By the end of 2016, about 1,372 GWh or 98% of the target set for 2020, had been reached.

In 2015, we reported 1,240 GWh for achieved energy savings. The corrected energy savings in 2015 was 1,127 GWh, because some of the energy efficiency projects planned for years 2014 and 2015 in Russia were postponed for implementation at a later date.

Energy-efficiency services for homes

Fortum has introduced energy-efficiency services for private customers in Finland and Sweden. Fortum's customers can, for instance, control and optimise the heating of their homes based on electricity price and demand or they can monitor energy consumption with an in-home display.

Energy efficiency services for businesses

Fortum's operation and maintenance services have been improving the energy efficiency of our customers' power plants already for decades. Our energy-efficiency services and expertise also bring our customers financial benefits and save the environment.
We made advancements to the service in 2016, such as instead of an individual power plant, we can examine the development of a broader area, such as power and heat plants of a city or a company, and the profitability and environmental impacts of investments related to them.

▸ *Energy-efficiency services for homes*
▸ *Energy-efficiency services for businesses*

1,372 GWh/a
Energy efficiency improvement
Target: >1,400 GWh/a by 2020

Energy intensity

In 2016, our fuel consumption in electricity and heat production was 111 (2015: 116) TWh, or 398 (2015: 417) PJ. Additionally, we acquired 460 (2015: 398) GWh of electricity from external electricity suppliers. With these energy resources, we produced 35,970 GWh of electricity, 27,185 GWh of heat, 20 GWh of cooling, and 5 GWh of bio-oil. The total energy consumption, calculated as the difference between the procured energy resources and net production, was 47,900 GWh, or 172 (2015: 178) PJ.

In combustion-based energy production, we aim to utilise the fuel as efficiently as possible. In 2016, our average fuel use efficiency was 64% (2015: 64%). The efficiency has been calculated by dividing the electricity and heat energy produced with the fuel by the energy content of the fuel used in the production.

The energy intensity of our own production was 1.40 (2015: 1.33). The intensity figure has been calculated by dividing the amount of used energy resources by the total net production of energy products, including hydropower, wind power and solar power.

Fuel consumption

The most significant fuel was natural gas, which accounted for 62% (2015: 65%) of the total fuel consumption. The next highest fuel use was uranium 23% (2015: 22%) and coal 10% (2015: 9%).

Russia's share of our total fuel use was about 66%. Russia accounted for 98% of our use of natural gas and 51% of our use of coal.

Biomass and bioliquids accounted for 2.6% (2015: 2.7%) of our total fuel consumption and waste-derived fuels accounted for 1.5% (2015: 0.6%). The share of waste-derived fuels grew due to the acquisition of Ekokem. In the implementation of our new strategy, we will maximise the added value from waste and biomass.

The energy-specific fuel consumption has been calculated based on the usage volumes and fuel-specific caloric values measured at the power plants. Uranium consumption has been calculated as the thermal heat generation in the reactors.

▸ *Our fuels*

Fuel use in 2014–2016, energy (GRI G4-EN3)

petajoules	2016	2015	2014
Natural gas	247.6	272.0	276.1
Nuclear fuel	91.1	90.5	81.6
Coal	40.6	38.8	46.8
Waste-derived fuel, fossil	3.6	1.0	0.8
Peat	1.8	1.4	1.6
Other fossil	0.6	0.8	0.6
Non-renewable fuels total	**385.4**	**404.4**	**407.5**
Biomass fuels	10.2	11.4	12.5
Waste-derived fuel, renewable	2.5	1.7	1.5
Renewable fuels total	**12.7**	**13.1**	**14.0**
Fuels total	**398.1**	**417.5**	**422.0**

Fuel use in 2014–2016, mass/volume (GRI G4-EN1)

	2016	2015	2014
Non-renewable fuels			
Natural gas, million m^3	6,710	8,023	8,148
Coal, 1,000 t	2,208	2,062	2,539
Waste-derived fuel, fossil, 1,000 t	344	97	87
Peat, 1,000 t	178	135	161
Fuel oil, 1,000 t	21	20	13
Nuclear fuel, t	20	22	23
Renewable fuels			
Biomass fuels, 1,000 t	1,041	1,126	1,264
Waste-derived fuel, renewable, 1,000 t	225	198	177

Fuel use by country in 2016 (GRI G4-EN1)

	Finland	Russia	Poland	Estonia	Other countries	Total
Natural gas, million m^3	99	6,588	4	6	12	6,710
Coal, 1,000 t	474	1,364	370			2,208
Biomass fuels, 1,000 t	277		139	439	186	1,041
Waste-derived fuel, 1,000 t	213				356	569
Peat, 1,000 t	106			72		178
Fuel oil, 1,000 t	10	7			4	21
Nuclear fuel, t	20					20

Circular economy

Climate change, urbanisation, population growth, and limited natural resources are examples of megatrends shaping the world. These megatrends are pushing us to maximise the efficient use of resources, such as waste and biomass. Fortum has long experience in the recycling and reuse of waste and by-products from power and heat production. As a part of our new strategy, we have expanded our business portfolio to include also circular economy services for our customers. For us, the circular economy means that materials are recycled as much as possible and hazardous substances are removed from circulation.

In August 2016, we acquired the Nordic circular economy company Ekokem Corporation, which provides environmental management and material efficiency services. In December 2016, we also acquired the Swedish waste management company Turebergs Recycling AB, which has long experience in the treatment and recycling of incinerated bottom ash from waste-to-energy plants.

Received and processed waste from our customers in 2016

Waste management services

Efficient and reliable waste management is important in a society based on sustainability. Fortum's aim is to promote the transition towards a more extensive circular economy. We offer waste management services for customers in Finland, Sweden, Denmark and Lithuania.

In 2016, we received a total of 396,300 tonnes of non-hazardous waste and 239,000 tonnes of hazardous waste from our customers. As much of the waste stream as possible is recycled, recovered or reused. Waste that is unsuitable for recycling or reuse as a material is incinerated in waste-to-energy plants.

For additional information about our energy production, see the section ▸ *Sustainable energy production*.

Recovery of materials

Various types of waste can be reused as raw materials. In 2016, of the waste and by-products received from our customers, we recovered as materials about 65,900 tonnes; ash accounted for 28,000 tonnes of that amount and processed new raw materials and products 17,700 tonnes. In addition, Fortum recycled about 244,800 tonnes of materials originating from its own energy production plants.

Received and processed waste from our customers in 2016 [1)]

	Finland	Sweden	Denmark	Lithuania	Total
Received waste and by-products (t)					
Non-hazardous waste	123,200	16,100		257,000	396,300
Hazardous waste	54,700	38,400	145,900		239,000
Contaminated soil	52,800	46,500			99,400
Recovery and disposal (t)					
Recovery of materials	46,800	7,700	8,900	2,500	65,900
Energy recovery (amount of waste)	213,200	35,200	63,800	257,000	569,200
Final disposal	92,900	10,100	7,000	81,100	191,200

1) Ekokem operations in Finland, Sweden and Denmark are included in all figures from 1 September 2016.

The Circular Economy Village

In June 2016, the Circular Economy Village was inaugurated in Riihimäki, Finland. The Circular Economy Village is a refinery complex developed by Ekokem, which Fortum acquired in 2016.

In the village, municipal waste is processed through the Eco Refinery, an automated sorting plant, the Plastic Refinery, the first in Finland to produce recycled plastic, and the Bio Refinery, which produces biogas and is owned by our partner Gasum. The concept of the Circular Economy Village is unique, both nationally and internationally.

Once fully operational, the Eco Refinery of the Circular Economy Village will annually receive around 100,000 tonnes of municipal waste, from which the refinery will separate biowaste (about 30% of the waste), plastic (4%), metal (3%) and recovered fuel suitable for industrial use (50%). The remaining amount is reject, which is not suitable for recovery.

The biowaste will be turned into biogas and fertilisers, and the plastic and metal into recycled raw material for industry. The reject will be used to generate electricity and district heat in our waste-to-energy plants in Riihimäki.

The Circular Economy Village is a pioneer in future waste management. The principle is that waste should be utilized as a raw material when it is economically viable. The strict targets of the Circular Economy Package adopted by the European Commission will not be achieved without recycling solutions like these.

We are continuously developing activities that increase the proportion of waste materials kept in circulation:

- We refine new plastic out of waste plastic received from customers. In October 2016, we launched CIRCO, our recycled plastic product family.
- We pick up and process our customers' waste oils to be refined and reused as industrial lubricants
- We recycle scrap metals generated in the maintenance activities of our power plants and other facilities. We also recover and separate metals from customers' municipal waste and slag.
- We process ash, sand, sludge, dredging masses and slurries from energy production and other industries for reuse in various types of environmental construction and earthwork.

Hazardous waste treatment

We take hazardous waste out of circulation in a sustainable manner by offering solutions to treat hazardous waste while also producing clean energy and ensuring a safe final disposal. High-temperature incineration ensures the best available solution for the destruction of unwanted substances.

We have three high-temperature incineration plants in the Nordics. These plants for hazardous waste are located in Riihimäki, Finland; Kumla, Sweden; and Nyborg, Denmark. At these facilities, we incinerated 114,200 tonnes of hazardous waste and 198,000 of non-hazardous waste in 2016, producing electricity and district heating for the surrounding areas.

Contaminated soil

In 2016, we received about 99,400 tonnes of contaminated soil from our customers. We directed metal, rocks, concrete and wood, sieved from the soil for reuse as raw materials. Soil that is suitable for construction is used at our own construction sites and industrial waste reception centres. In addition, we treated about 161,000 tonnes of contaminated soil at customer sites.

Sustainable energy production
Waste and by-products (of own energy production plants)

Biodiversity

The degradation of biodiversity is one of the biggest environmental problems globally. We need to know our impacts and dependencies on biodiversity and ecosystem services to be able to assess the related risks and opportunities.

Our impacts on biodiversity

Fortum's impacts on biodiversity are primarily related to its hydropower production operations in Finland and Sweden. Hydropower construction and the related water regulation alter the conditions in water systems and thus impact the diversity of the aquatic habitat and, in particular, the fish population. Emissions from fossil fuel-based energy production may decrease local biodiversity, especially in Russia. In addition, our fuel procurement may have a negative impact on biodiversity. However, our production of CO_2-free energy replaces fossil fuel-based energy production and thus mitigates climate change, which is globally one of the greatest threats to biodiversity.

Fortum's biodiversity engagement

Fortum's Biodiversity guidelines set the principles for taking biodiversity into consideration and for managing the biodiversity impacts of the company's operations. Since 2014, we have participated in the activities of the Finnish Business & Society's (FiBS) Business and Biodiversity programme.

Sustainable use of biomass fuels has been actively debated in recent years. Fortum's position is that EU-wide, harmonised and binding sustainability criteria for all bioenergy is needed. The EU Commission's proposal to extend the existing sustainability criteria for bioliquids to cover also solid biomass and biogas is in line with Fortum's position. The proposal is included in the EU Commission's legislative "Smart and Clean Energy Package" published on 30 November 2016.

Fortum is a member of the Bettercoal initiative and uses the Bettercoal Code and tools in assessing the sustainability of the coal supply chain. Biodiversity aspects related to coal mining are covered in Bettercoal assessments.

We aim to minimise our negative impact on biodiversity, and we assess the impacts of our new projects. We offset and reduce the impacts of hydropower production on biodiversity by stocking and over-dam transferring fish and through voluntary environmental projects. In Sweden, we carry out biodiversity-related projects with the financing from our eco-labelled (Bra Miljöval) electricity.

Habitat restoration and other projects

Most of our habitat restorations and other projects improving biodiversity are related to hydropower production. The listing and additional information of hydropower-related projects supporting biodiversity is available on ▸ *our website*.

Restoring river stretches by tearing down dams

In Sweden, we have mapped out the old dams that have low value for hydropower production, but have environmental impacts on riverine ecosystems. The aim is to restore habitats and river continuum in places with benefits for biodiversity. In 2016, two such projects were initiated. Our application to tear down the Acksjön dam in a tributary of the River Klarälven is pending in environmental court. Our application for the Kolsjön dam removal is under preparation.

Enhancing natural reproduction of migratory fish populations

In Finland, a migratory fish project continued in 2016 in cooperation with local stakeholders at River Oulujoki. Fortum has hydropower production on the River Oulujoki. We transported salmon spawners to the reproduction areas at tributaries, we supported the salmon and sea trout population with releases of young fish, and we followed up the migratory fish population. We also started construction of a permanent structure for trapping fish by the Montta hydropower plant in order to transport them to the reproduction areas upstream.

Restoring a wetland

In the River Dalälven area in Sweden, we took part in financing the restoration of a rich wetland, Ambrick, which is partly on Fortum's property. The area is 23 hectares. The area was opened up by clearing small trees and bushes, and the restoration will continue in 2017. The area hosts different kinds of endangered species of plants, like orchids, and birds, like curlew.

Biomass fuels actions

Existing forest certification schemes will continue to play a strong role in verifying sustainability of woody biomass. We annually collect data on the volume of certified wood-based biomass fuel used in our power plants in Finland, Sweden, Poland and the Baltics. Certified wood-based biomass fuel originates from sustainably managed forests in which special attention is paid to biodiversity. In 2017, Fortum will assess the possibility to obtain a Chain of Custody certificate for its wood-based biomass fuel purchasing.

▸ *Environmental impacts of hydropower production*
▸ *Bra Miljöval eco-labelled energy projects (in Swedish)*

Emissions into air

Fortum's activities cause various emissions into air. Greenhouse gases that accelerate global climate change are generated primarily from the use of fossil fuels and the combustion of waste of a fossil origin. Possible gas leaks during the transport of liquid natural gas and the piping of natural gas also impact climate change.

Flue-gas emissions causing local environmental and health effects are generated from all incineration. Nitrogen oxides are generated from the nitrogen contained in the fuel and in the combustion air. Sulphur dioxide, in turn, is generated from the sulphur that is an impurity in, e.g., coal, peat and oil. Particle emissions are fine-grained ash generated primarily in the combustion of solid fuels and waste. Depending on the origin of the fuel and waste, the particles contain various heavy metals.

World-class air pollution control

It is possible to decrease nitrogen oxide, sulphur dioxide and particle emissions through fuel selections and various flue-gas cleaning technologies. Fortum has world-class know-how in combustion technology, and we have delivered combustion technology solutions to reduce nitrogen oxide emissions to many other power utilities. During 2016 we supplied burner projects to Estonian, Swedish, Romanian and Polish customers.

Our Meri-Pori and Suomenoja power plants are equipped with a desulphurisation plant. The scrubber and bag filter that we are constructing for the new Zabrze CHP plant in Poland will reduce emissions into air.

Our plants incinerating hazardous waste are located in Riihimäki Finland, Kumla Sweden, and Nyborg Denmark, and are equipped with efficient flue-gas cleaning systems. Harmful emissions to air are minimised with various filters and scrubbers selected on the basis of the waste to be incinerated.

Stricter standards

The EU has set very strict limits for flue-gas emissions; meeting the requirements necessitates the use of best available technology (BAT). Our nitrogen oxide, sulphur dioxide and particle emissions have, in fact, decreased significantly in our European production over the past decades. Emissions limits became even stricter when the Industrial Emissions Directive came into force in 2016.

All Fortum power plants operate in compliance with the terms of their environmental permits, and the plants meet the new emissions requirements, for the most part. Investments in flue-gas cleaning processes and systems will be made in upcoming years at the Suomenoja power plant in Finland and the Rejtana heat plant in Poland.

At Russian power plants, emissions are limited in accordance with Russian legislation. The new legislation currently being drafted in Russia will bring stricter emissions standards in the future.

Flue-gas emissions

Our sulphur dioxide (SO_2) emissions were 22,500 (2015: 19,900) t, nitrogen oxide (NO_x) emissions 26,000 (2015: 26,800) t and particle emissions 16,800 (17,800) t. 81% (2015: 77%) of sulphur dioxide, 82% (2015: 84%) of nitrogen oxide and 98% (2015: 98%) of particle emissions originated from Russian power plants. In 2016, the most significant source of particle emissions, 9,100 (2015: 12,700) t, was the Argayash power plant in Russia. Particle emissions decreased, because three boilers at the Argayash power plant were equipped with a scrubber to reduce flue-gas emissions.

The reporting of sulphur dioxide, nitrogen oxide and particle emissions from our European power plants is based on continuous measurement. Other flue-gas emissions data is based on discontinuous measurements or are calculated using fuel consumption data and specific emission factors. Specific emission factors are based on measurements taken at regular intervals, on information from the equipment supplier, or on regulatory norms.

We are reporting heavy metals more extensively for 2016, due to the new waste incineration business. Carbon dioxide emissions are reported in the section ▸ *Greenhouse gas emissions*

Flue-gas emissions in 2014–2016 (GRI G4-EN21)

	2016	2015	2014
SO_2, t	22,500	19,900	20,400
NO_x, t	26,000	26,800	28,700
Particles, t	16,800	17,800	21,300
HCl, t	1,180		
Lead, kg	4,140		
Mercury, kg	151	105	126
Cadmium, kg	116		
Dioxins, mg	504		

Water use

Fortum uses large volumes of water at various types of power plants and in district heat networks. In most cases, our power plants do not consume water, but the water is discharged back to the same water system from where it was withdrawn. The properties of the water may change in the process, but the volume of the water generally remains unchanged. In some cases, water is transferred to another recipient, e.g. through evaporation into the air from cooling towers, leaks into the ground from district heat piping, or through the discharge of wastewater to a municipal sewage system.

Hydropower production is a special case of water use. Water flowing in a river is conducted through a turbine to generate electricity. No water is consumed nor are the properties of the water altered in the process. However, the water system is often regulated for hydropower production, and the regulation changes the water flow and level patterns compared to their natural state. Fortum does not report water flows in rivers as water use related to hydropower production.

Cooling water

Condensing power production requires large volumes of cooling water. Cooling water accounts over 90% of Fortum's total water withdrawal annually.

Fortum's condensing power plants in Finland, the Loviisa nuclear power plant and the Meri-Pori power plant, are located in coastal areas and use direct seawater cooling. No water is consumed in the process and the water withdrawn is discharged back into the sea. The only change is an approximately 10 °C increase in the temperature of the cooling water.

Condensing power is occasionally produced also at our CHP plants. In most cases, the cooling water is withdrawn from a local water system. In Russia and Poland, cooling towers are used, so some of the cooling water evaporates into the atmosphere.

District heating network

Fortum is a major supplier of district heating in Finland, Russia, Poland and the Baltic countries. Fortum has a total of about 2,800 kilometres of district heat pipes in these countries. Water is used as the heat transfer media in the district heat networks. Some water is lost through leaks that occur in the pipes, so occasionally water must be added to the district heating network.

Process water and other water uses

A thermal power plant needs water in the water-steam cycle when electricity is generated with a steam turbine. Because of leaks in the pipes, occasionally water must be added to the water-steam cycle. Water is also needed in some auxiliary processes, for example in flue-gas desulphurisation with wet scrubber technology, and in liquid radioactive waste handling and storage at nuclear power plants.

Water withdrawal

The majority of Fortum's power and heat production capacity is located in Finland, Sweden, Russia and Poland. Our thermal power plants and hydropower plants are not located in a water critical area in any of our operating countries. The Baltic Sea and local fresh water systems are the most important water sources for our plants. Municipal tap water is used mainly at CHP plants in major cities. In some cases, water is acquired from a near-by industrial facility of another company.

Water is used to clean solar panels at our Indian solar power plants. Even though the water volumes are relatively small, alternative water sources and purification methods are being explored in India.

We withdrew a total of 2,322 (2015: 2,138) million m^3 of water in 2016. Seawater accounted for about 66% of this amount.

Of the water we withdrew, we used the majority, 2,228 (2015: 2,060) million m^3, as cooling water. The Loviisa nuclear power plant withdrew from and discharged to the sea 1,339 million m^3 of cooling water.

Water withdrawal in 2014–2016 (GRI G4-EN8)

million m^3	2016	2015	2014
Seawater	1,533	1,487	1,573
Fresh surface water	787	643	602
Tap water	2	4	6
Other source	0.4	5	6
Total	**2,322**	**2,138**	**2,186**

Water use in 2014–2016 (GRI G4-EN8)

million m^3	2016	2015	2014
Cooling water	2,228	2,060	2,094
Process and auxiliary water	82	73*	77*
Make-up water for district heat networks	12	14	15
Water recycling	13	12	14

* Figures revised for reporting in 2015.

The reported water withdrawal and water use volumes are based on measurements and on calculations of water consumption.

Wastewater

Wastewater generated at our power plants is either treated at the power plants' own wastewater treatment plant and discharged into a water system or it is piped to a municipal wastewater system for further processing. In Russia, the wet method is used to pump ash from power plants into ash ponds. Part of the water from the ponds is recycled back to the power plant and part is released into a water system after sedimentation.

Wastewater contains solids and nutrients, like nitrogen, phosphor, and heavy metals. Wastewater effluents can impact local water quality as well as the nutrient and oxygen balance of the water system.

Our plants generated a total of 46 (2015: 34) million m^3 of wastewater, of which 97% was released into the environment after being treated and 3% was piped to municipal wastewater treatment plants.

Wastewater emissions by recipient in 2014–2016 (GRI G4-EN22)

million m^3	2016	2015	2014
Sea	22.2	9.3	9.0
Fresh water system	22.8	22.9	22.4
Municipal sewage	1.3	1.3	1.2
Other recipient	0.1	0.5	0.5
Total	**46.4**	**34.0**	**33.1**

About 0.9 (2015: 1.2) tonnes of oil was released into water systems with wastewater. In addition, 0.63 tonnes of oil was released into rivers from hydropower plants. Hydropower plant reporting was further defined in 2016.

The thermal load discharged into water systems with cooling water was 17 (2015: 17) TWh. The Loviisa nuclear power plant's share of this was 16 TWh. Temperature measurements indicate that the cooling water has increased the temperature of surface water by 1–2 °C within a 1-2 kilometre radius from the discharge point. The reported wastewater is based on measurements and calculations.

NURES products for purifying radioactive waters

Initially developed for the needs of the Loviisa nuclear power plant, the NURES products are a unique solution for purifying radioactive waters. A selective ion exchange material purifies liquid waste more efficiently than any other alternative on the market. In 2016, we continued NURES deliveries to our customers around the world, including Finland, Japan, North America and Great Britain.

Waste and by-products

Ash is a by-product of the use of fuels, and gypsum and other desulphurisation products are by-products of flue-gas desulphurisation. Ash and desulphurisation products account for a more than 90% share, on average, of the by-products and waste from our energy production.

Power plant maintenance generates scrap metal and other conventional industrial waste and, to a smaller extent, waste oil and other hazardous waste. We aim to recycle by-products and waste, whenever possible. The waste management service providers we use are properly licensed and reliable waste management companies.

In addition to conventional industrial waste, the Loviisa nuclear power plant also generates radioactive waste, which we treat in accordance with the requirements of Finnish nuclear energy legislation. The volume of radioactive waste generated is small, but special solutions are needed in their treatment and final disposal.

The total volume of by-products and waste generated at Fortum's power and heat plants in 2016 was about 735,000 (2015: 601,000) tonnes. Of this volume, 37% was recycled or reused.

Ash and gypsum

Ash is created in the combustion of all solid fuels. Over half of the ash from our plants operating in Europe is utilised as a raw material, e.g. for the construction industry, road construction and soil improvement, and as backfill. Ash from the power plants in Russia is stored in ash basins, because there is no demand for wet ash sludge in Russia.

Coal-fired power plants generate either a wet or semi-dry desulphurisation by-product. Gypsum created as a by-product in the wet desulphurisation process at the Meri-Pori power plant in Finland is suitable for use as raw material for the construction industry, and in 2016 all the gypsum was utilised. The desulphurisation product created at the Suomenoja power plant is not suitable for utilisation.

In 2016, about 695,000 (2015: 570,000) tonnes of ash, 8,500 (2015: 2,300) tonnes of gypsum, and 12,700 (2015: 8,800) tonnes of other desulphurisation product were generated. The growth in volumes of ash and gypsum was a result of increased coal use in Finland and Russia. About 52% of the ash was generated at Russian plants, 19% in Finland and 12% in Poland. The ash recycling rate was 37% (2015: 33%) and the gypsum recycling rate 100% (2015: 100%).

Any remaining by-products that cannot be utilised are transported to the appropriate final disposal areas for landfilling. In 2016, about 453,000 (2015: 390,000) tonnes of by-products were transported for landfilling, or in Russia for ash basins.

The reported volumes of ash and gypsum from our European power plants are based on the weighing of the truckloads. Ash volumes at our Russian power plants are calculated on the basis of the ash content of the coal.

Radioactive waste

At the Loviisa nuclear power plant, low-level radioactive maintenance waste and intermediate-level radioactive waste are stored in Loviisa's final repository. In 2016, 13.9 (2015: 10.5) tonnes of low-level radioactive waste went into final disposal. Intermediate-level radioactive liquid is generated mainly from spent ion exchange resins and wastewater from the controlled area. Liquid waste is processed to solid form before final disposal. In 2016, a new solidification plant for liquid radioactive waste started operation.

High-level spent nuclear fuel is stored in interim storage at the Loviisa power plant site. In 2016, 19.6 (2015: 21.8) tonnes of spent nuclear fuel was removed from Loviisa power plant's reactors.

2.5 (2015: 2.7) g/MWh of spent fuel was generated per produced energy unit. Fortum and Teollisuuden Voima have established Posiva Oy to handle the technical implementation of the final disposal of the spent fuel, and final disposal is scheduled to begin at Olkiluoto in Eurajoki in the first half of the 2020s.

Other waste

Other, conventional waste generated during the operation and maintenance of power and heat plants is sorted, and waste that can be recycled, such as metal, is sent for further processing. Hazardous waste is delivered to licensed hazardous waste treatment facilities.

Our operations in power and heat plants generated a total of 31,900 (2015: 27,200) tonnes of other waste, approximately 2,700 (2015: 1,700) tonnes of which was hazardous waste. In addition, about 20 tonnes of contaminated soil was removed. The reported volumes of other waste are based mainly on the information provided by the waste management companies.

Waste reception, recycling and reuse

Fortum's new circular economy business receives, processes and reuses customer waste for material recycling and energy production in Finland, Sweden and Denmark. Waste recycling services are reviewed in more detail in the section ▸ *Circular economy*.

▸ *Loviisa power plant's waste management*
▸ *Final disposal of spent nuclear fuel*

Ash and gypsum handling in 2014–2016 (GRI G4-EN23)

tonnes	2016	2015	2014
Ash utilisation	255,000	189,000	226,000
Ash disposal	440,000	381,000	434,000
Gypsum utilisation	8,500	2,300	9,800
Gypsum disposal	0	0	0

Waste handling in power and heat plants in 2014–2016 (GRI G4-EN23)

tonnes	2016	2015	2014
Recycling and recovery	8,300	8,000	7,700
Landfill	20,900	17,400	17,500
Hazardous waste recovery	400	90	100
Hazardous waste disposal	2,300	1,700	2,400
Total	**31,900**	**27,200**	**27,700**

Environmental non-compliances and incidents

At the Group level, we monitor the number of major EHS incidents, which, in part, reflects the quality of environmental management. In 2016, there were 22 (2015: 18) major EHS incidents. 12 of these were significant environmental incidents, including spills of over 100 litres into the environment, significant environmental permit violations, and other environmental non-compliances having a significant impact on environment.

Spills and other significant environmental non-compliances

In 2016, there was one (2015: 2) spill of more than 100 litres into the environment. The spill occurred in autumn 2016. The incident involved a spill of hydraulic oil into the River Klarälven at a hydropower plant in Sweden. The incident did not have significant environmental impacts.

Significant environmental permit violations

There were 11 (2015: 14) environmental permit violations in 2016, and 9 of them occurred in Russia. Eight permit violations at the Russian power plants involved exceeding the wastewater emission limits. One permit violation involved exceeding the annual licence of heavy oil at the Tyumen power plant in Russia. At the waste combustion plant in Denmark, there was one wastewater discharge limit violation and one environmental permit violation related to the storage of waste.

Environmental enquiries and grievances

Power plants receive environmental enquiries and other contacts every year, and they are mainly handled locally. The aim is to communicate in advance about upcoming measures with possible environmental impacts e.g. through local media and at public events.

Fortum's website also has a grievance channel that our stakeholders can use to report problems possibly caused by our operations. No new environment-related grievances were reported to us through this channel in 2016.

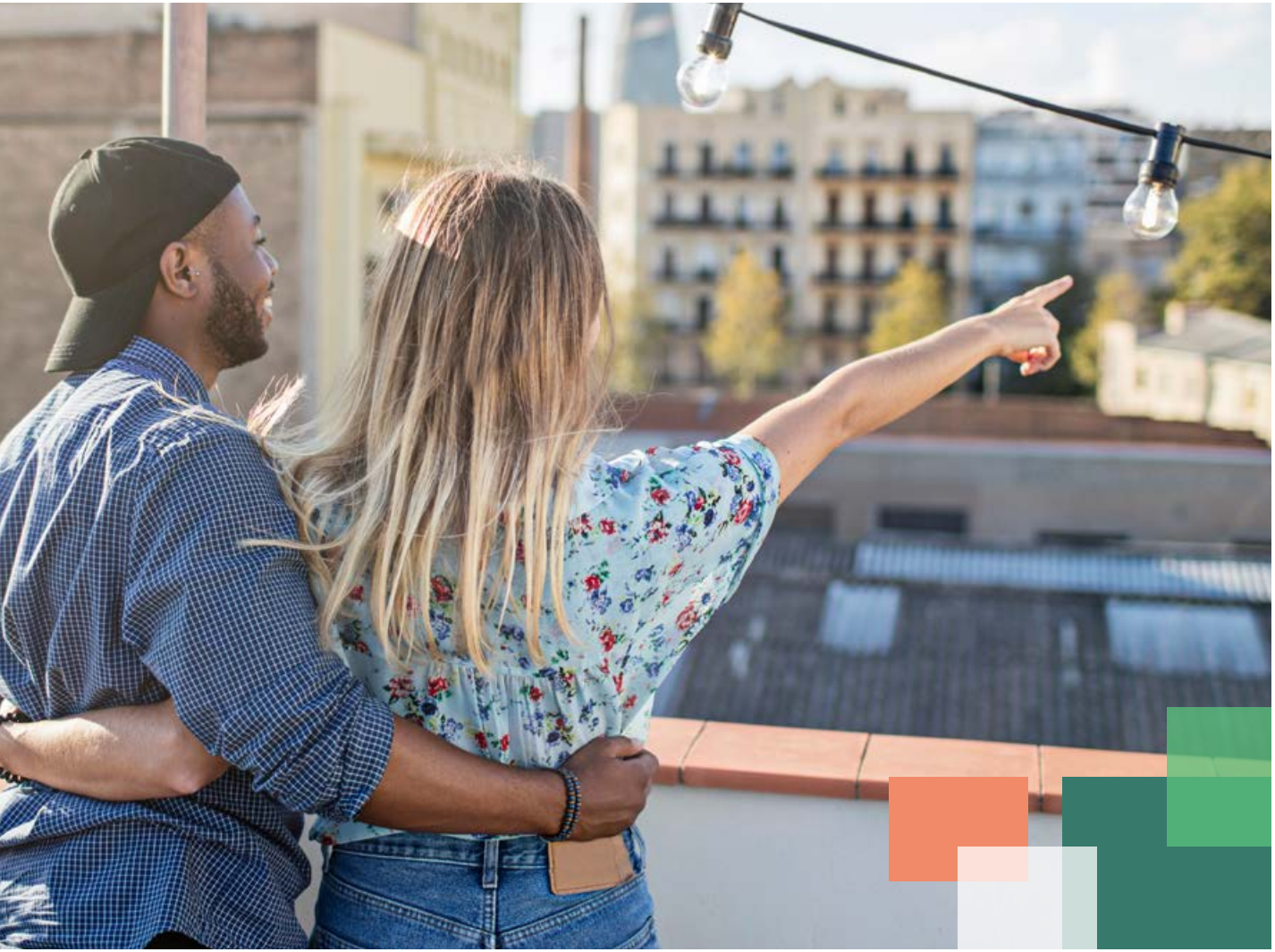
Fines

In 2016, Fortum paid fines totalling RUB 1.782 million (EUR 24,120) for permit violations involving exceeding the wastewater emission limits and RUB 136,000 (EUR 1,840) for permit violations involving heavy oil use in Russia.

22
Major EHS incidents
Target: ≤23

Business ethics and compliance
Occupational and operational safety

Social responsibility



Fortum impacts the daily lives of millions of people through its businesses. Fortum's social responsibility emphasises operational and occupational safety, employee wellbeing, the secure supply of electricity and heat, creating sustainable solutions for cities, as well as ethical business operations and compliance with regulations. We engage in an active dialogue with different stakeholder groups and we strive to find a balance between their various expectations.

Social impacts

We strive to be a safe workplace for our employees. We promote operational and occupational safety and wellbeing in the work community, which are prerequisites for efficient and interruption-free production. Our innovations and the secure supply of power and heat support the development of society and increase wellbeing. We want to offer sustainable city solutions that promote a circular economy.

Ethical business practices and respecting internationally recognised human rights are the foundation of Fortum's Code of Conduct. Fortum's sustainability approach also includes being a good corporate citizen and taking care of the surrounding communities. We want to support responsible operations in Fortum's supply chain and in society.

Key figures for social responsibility

Our key figures for social responsibility are presented in the table and graphs.

▸ *Business ethics and compliance*

Key figures for social responsibility

	2016	2015	2014
CHP plant energy availability, %	97.4	96.4	94.7
Average number of employees	7,994	8,009	8,821
Number of employees, 31 December	8,108	7,835	8,592
Departure turnover, %	13.0	8.6	8.1
Female employees, %	29	29	28
Females in management, %	25	33	33
Health care expenditure, EUR/person [1)]	460	509	542
Sickness absence rate, %	2.3*	2.4	2.4
Total recordable injury frequency (TRIF) [2)], Fortum's personnel	1.9	1.6	2.0
Lost workday injury frequency (LWIF) [3)], Fortum's personnel	1.0	1.1	1.0
Lost workday injury frequency (LWIF) [3)], contractors	3.0	2.7	3.2
Serious [4)] occupational accidents	13	14**	16
Fatalities	0	0	3
OHSAS 18001-certified operations in power and heat production, % of sales	99.9	99.9	75
Supplier audits, number	13	9	14
Support for society, EUR million	3.6	3.6	3.3

1) Only in Finland, before the share reimbursed by Kela (The Social Insurance Institution of Finland)

2) TRIF = Total recordable injury frequency per million working hours

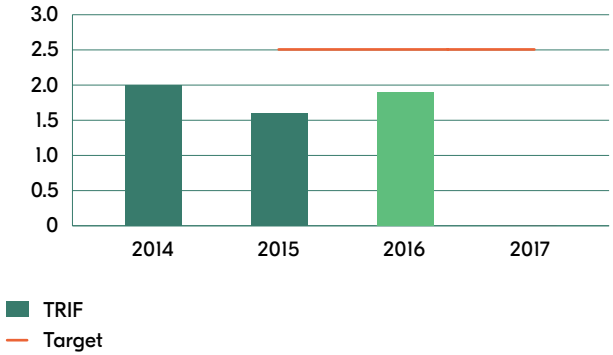
3) LWIF = Lost workday injury frequency per million working hours

4) Fatality or an accident leading to permanent disability or at least 30 days of absence

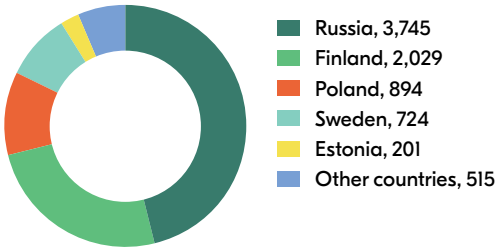
* The figure has become more defined from the one presented in the interim report and the operating and financial review (2.4%).

** The figure revised for reporting 2015.

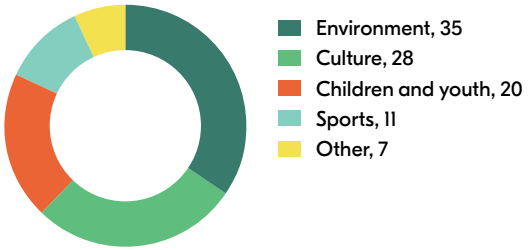
Total recordable injury frequency (TRIF), Fortum's personnel



Personnel by country, 31 December 2016



Fortum's support to society in 2016 by target, %



Security of supply

An uninterrupted and reliable energy supply is critical for society to function. With planned preventive maintenance and condition monitoring, we ensure that our power plants operate reliably to produce the electricity and heat customers need.

Power plant availability

We measure the availability of our CHP and hydropower plants with an energy availability indicator. Energy availability is calculated by dividing the power plant's actual production in the period under review by the theoretical maximum production. Planned maintenance outages are not included in the calculation. If the outage at a CHP plant is longer than planned, it is considered an interruption, which decreases the energy availability. The energy availability of our CHP plants in 2016 was, on average, 97.4% (2015: 96.4%); the target was 95%.

For hydropower plants, outages due to a failure and unplanned or prolonged outages decrease the availability factor only if they lead to spillage. The energy availability of our hydropower plants was 98.7% (2015: 99.2%).

The load factor describing the availability of the Loviisa nuclear power plant is among the highest in the world for VVER–440 type nuclear power plants. The Loviisa nuclear power plant's load factor in 2016 was 91.1% (2015: 92.9%).

Interruptions in gas and heat distribution

In spring 2016 Fortum acquired DUON, a company specialising in electricity and gas distribution. Through this acquisition, we own about 480 km of gas distribution networks and 20 regasification stations in Poland.

Fortum also has about 2,800 km of district heating networks in Finland, Russia, Poland and the Baltic countries. The aim is to keep interruptions in gas and district heat distribution as short as possible by carrying out planned and preventive refurbishment and maintenance activities.

Employees

We are a significant employer in the regions where we have operations. We strive to be a responsible employer that invests in the development and wellbeing of personnel.

In 2016, an average of 7,994 (2015: 8,009) employees worked at Fortum. The highest number of employees was in Russia, 3,814 (2015: 4,180) on average. The average and the year-end total personnel figures include 332 employees who joined Fortum in 2016 mainly through corporate acquisitions, but are not included in the other figures and tables presented in this report. These individuals include the civil contractors working in the Polish DUON Group and the entire personnel of the Swedish Info24 company.

The number of Fortum's permanent employees on 31 December 2016 was 7,473 (2015: 7,522), i.e. 96.1% (2015: 96.0%) of the personnel. Of these, 7,362 (2015: 7,395) were full-time employees and 111 (2015: 127) were part-time employees.

During the year 476 (2015: 375) new employees joined Fortum, and 968 (2015: 650) employment relationships were terminated, 805 of which by the employer. The number of employment relationships terminated due to production and financial reasons was 120. Departure turnover in 2016 was 13.0% (2015: 8.6%). Voluntary departure turnover was 5.6%.

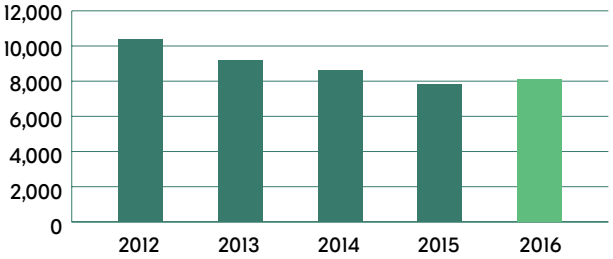
With the acquisition of Ekokem and DUON, 755 new employees joined Fortum. Fortum signed a partnership agreement on the operation and maintenance of power plants and district heating networks with Maintpartner in Finland and Poland. Under the agreement, 341 individuals transferred as existing employees from Fortum to Maintpartner. Other acquisitions and outsourcings decreased the number of personnel by a total of 248 (2015: 184) people.

Contractor employees worked at Fortum sites for a total of approximately 1,113,000 (2015: 1,327,000) days during the year. The figure is based on contractors' hourly logs and on estimates made on the basis of job costs and average hourly rates. The figure has been calculated on the basis of an 8-hour work day.

Personnel statistics from 2016, by country of operation

	Finland	Sweden	Russia	Poland	Estonia	Other countries	Total
Personnel at year-end	2,029	724	3,745	894	201	515	8,108
male	1,429	420	2,770	561	110	378	5,668
female	600	304	975	333	91	137	2,440
Personnel, average	2,139	613	3,814	879	207	342	7,994
Personnel expenses, 1,000 euros	167,467	56,385	63,959	16,991	6,069	23,065	333,935
Personnel expenses per person, 1,000 euros	78.3	92.0	16.8	19.3	29.4	67.4	41.8

Number of employees, 31 December



Workforce by employment contract and employment type, broken down by region and gender (GRI G4-10)

	Finland		Sweden		Russia		Poland		Other countries		Total	
	M	F	M	F	M	F	M	F	M	F	M	F
Employment contract												
Permanent	1,404	563	385	283	2,703	915	345	188	473	214	5,310	2,163
Fixed-term	25	39	25	20	67	57	15	36	12	7	144	159
Employment type (permanently employed)												
Full-time	1,392	531	374	263	2,696	911	343	187	469	196	5,274	2,088
Part-time	12	30	11	22	7	4	2	1	4	18	36	75

Total number and rate of new employee hires and employee turnover (GRI G4-LA1)

New employee hires	Finland		Sweden		Russia		Poland		Other countries	
	M	F	M	F	M	F	M	F	M	F
age group	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.
below 30	17	1	9	1	81	19	5	7	9	2
30–50	44	12	15	5	111	48	6	5	26	7
over 50	6	1	4	1	24	8	0	0	2	0
New recruits, %	4.8	2.5	7.3	2.5	8.0	8.2	3.2	6.4	7.8	4.2

Employees leaving	Finland		Sweden		Russia		Poland		Other countries	
	M	F	M	F	M	F	M	F	M	F
age group	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.
below 30	15	3	4	3	31	11	4	7	2	5
30–50	128	29	22	17	98	51	75	13	11	13
over 50	110	19	13	2	140	34	85	9	9	5
Departure turnover, %	18.0	9.1	10.1	7.8	10.0	10.5	47.5*	15.4	4.7	10.7

* Departure turnover was affected by the outsourcing of district heating network maintenance.

Employees leaving, employee's initiative	Finland		Sweden		Russia		Poland		Other countries	
	M	F	M	F	M	F	M	F	M	F
age group	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.
below 30	4	3	2	3	24	10	2	9	2	3
30–50	28	18	20	17	56	25	14	10	9	11
over 50	4	3	3	1	97	27	1	1	8	2
Voluntary departure turnover, %	2.6	4.3	6.5	7.4	6.5	6.8	4.9	10.6	4.0	7.5

Service years of the permanent employees in 2014–2016, %

Years	2016	2015	2014
0–5	33	32	32
6–10	21	23	20
11–15	10	9	10
16–20	10	9	10
21–26	9	10	11
27–30	8	9	9
31+	8	8	9

Diversity and equal opportunity

We promote equal treatment and opportunities in the recruiting, remuneration, development and career advancement of personnel, regardless of the employee's race, religion, political views, gender, age, nationality, language, sexual orientation, marital status or disabilities.

The average age of our permanent employees was 44.2 (2015: 44.5) years. The share of employees over 50 years old was 32%. Females accounted for 29% (2015: 29%) of our total personnel. Females accounted for 25% (2015: 33%) of the Group- and division-level management. The Board of Directors comprised eight members, three of them, including the Chairman, were women.

Any form of harassment is forbidden and addressed immediately. In Finland, Sweden, and India there are separate guidelines in place for workplace harassment and discrimination. There were no incidents of discrimination reported in 2016.

Personnel age distribution of permanent employees by age group, gender and personnel group (GRI G4-LA12)

	Finland				Sweden				Russia				Poland				Other countries			
	Male		Female		Male		Female		Male		Female		Male		Female		Male		Female	
age group	b	w	b	w	b	w	b	w	b	w	b	w	b	w	b	w	b	w	b	w
under 30	38	68	2	33	4	35	1	28	286	92	16	89	0	41	0	74	26	15	1	17
30–50	174	646	7	339	23	173	1	167	871	685	147	400	63	95	0	76	124	125	7	123
over 50	120	358	2	180	24	126	1	85	497	272	138	125	58	88	2	36	120	63	11	55

b = blue-collar, w = white-collar

Group and division-level management, by age and gender, persons (GRI G4-LA12)

age group	Men	Women
under 30	0	0
30–50	28	6
over 50	20	10

Equal remuneration

Salary levels at Fortum are compliant with established industry practices in each country, local legislation and labour market agreements. Remuneration is based on the achievement of strategic business targets and the successful implementation of changes. The total remuneration level is based on competence requirements, job performance, and the local market practices with respect to the needs of the different business models.

In 2016 the short-term incentive scheme was renewed with the aim of emphasising in a new way the impacts the operation's and team's or individual's performance have on the variable salary component. In the renewed incentive scheme, the short-term changing salary component depends on the individual's job, and the amount of the final incentive pay depends on the job-based salary level and the combined result of the business unit's and the individual's goals. For the above-mentioned reasons, a male/female comparison of the short-term incentive pay is not expedient.

However, the global human resources data system and the harmonised job grade classification system enables the examination and reporting of pay equality for the base salary in all our operating countries. Besides the centralised HR data management system, a separate, local, data system is also used in Russia, and therefore the data on Russia's pay equality is reported separately. With the corporate acquisitions made in 2016, the companies merged with Fortum – and for which the job grade classification and the integration of the personnel system has just started – are not included in the figures.

Our reporting covers all personnel groups except blue-collar workers. A male/female comparison in this group is not done because of the small group sizes. In countries where the number of personnel is small, we have reported these countries collectively under "Other countries" so that the data are not identifiable. The figures presented are not comparable with last year's figures because the method of calculation has been changed.

In our operating countries, total number of personnel included in the comparison was 2,431, of which 861 (35%) were female. The base salaries of female employees in 2016 were, on average, 17% less than the male base salaries in all personnel groups. Taking the job grade levels into consideration reduces the gap between female and male salaries. Additionally, the years of service of the individuals also contribute to the differences.

In Russia, the difference between female and male salaries was -15% for comparable job grade levels (1,662 individuals).

Basic salary and service years of women compared to men (GRI G4-LA13) [1)]

	Difference between basic salaries			Difference between service years
Country	All roles, %	Roles until middle management and specialists, %	Jobs with tactical or strategical role, %	Average service years, %
Finland	-13	-9	-3	-9
Sweden	-20	-16	0	10
Poland	-7	-4	8	-30
Other countries [2)]	-4	10	-16	0
Total [2)]	-17	-9	-4	-12

1) Includes only white-collars, does not include Ekokem, DUON, and Info24

2) Excluding Russia

Employee-employer relations

Fortum's business operations are developed and strengthened in good collaboration with employees. We believe that the successful management of business is built on relationships of trust between management and employees and on the free flow of information. Fortum respects employees' freedom of association and the right to collective bargaining.

In our operating countries, freedom of association and collective bargaining are guaranteed by law. The exception to this is India, which has not ratified the International Labour Organisation's (ILO) Convention on the right to freedom of association and collective bargaining. In India, we comply with the same practices as in other countries of operation, and we do not limit or prohibit the right to freedom of association.

We apply local collective bargaining agreements in compliance with the scope of each respective agreement in all our operating countries. Collective bargaining agreements cover about 85% of Fortum's employees in our main operating countries.

Share of personnel within collective bargaining agreements, by operating country:

- Sweden and Russia: 100%
- Finland: 100% (except top management)
- Estonia: 26%

In Latvia, the collective bargaining agreements cover less than 10% of the personnel. There are no collective bargaining agreements in Lithuania and Poland. Employment contracts are based on local legislation and on the company's human resources policy.

Fortum European Council

Fortum European Council (FEC) convenes, as a rule, once a year. FEC is a Europe-level cooperational function in which personnel and employer representatives meet to discuss matters related to Fortum. In 2016, the Fortum European Council (FEC) held a meeting in June in Finland, and personnel representatives from Finland, Sweden, Poland, and Estonia participated. The Council's themed workshops focused on, among other topics, Fortum's new strategy, the future outlook for the energy industry, occupational safety, management of work-related stress and wellbeing. In addition to Fortum European Council meetings, local level meetings are held several times a year in different countries based on need.

Restructuring situations

In situations of organisational restructuring, we negotiate with personnel representatives in compliance with each country's local legislation and contractual procedures. In situations involving personnel reductions, we want to primarily support the re-employment of the personnel.

In restructuring situations, the length of the obligatory negotiation period depends on the scale of upcoming changes and varies in Fortum's different operating countries. The shortest period for obligatory negotiations is three weeks (Finland) and the longest is 90 days (India). There is no statutory obligatory negotiation period in Sweden, Norway and Lithuania.

The minimum notice period is based on local legislation, collective agreements or employment contracts, which are in harmony with the local legislation and agreements.

In situations involving personnel reductions, we offer outplacement services and, case by case, investigate the possibilities to arrange vocational training in cooperation with local unemployment authorities or service providers. Retraining for employees who continue working is arranged based on organisational and individual needs.

In situations involving personnel reductions, the content of the support package that we offer is decided based on local needs. The financial compensation of the package is usually based on the years of employment at Fortum.

Employee wellbeing

The energy sector is in transition and this reflects also on Fortum's business. We want to support our personnel in the change also by paying special attention to work wellbeing. Personnel wellbeing is a prerequisite for successful and efficient business operations.

ForCARE work wellbeing model

The goal of the work wellbeing model, ForCARE, is to promote the health and occupational safety of our employees by developing the work and work environment and by promoting the functionality of the work community.

The ForCare wellbeing themes in 2016 were "recovery and sleep" and "activeness and energy". The themes were on the agenda at team meetings, and lectures, wellbeing events and activity contests related to these themes were held.

We began using the HeiaHeia online and mobile app in nearly all our operating countries at the beginning of 2016. HeiaHeia offers a wealth of wellness content to motivate users to live a healthier lifestyle, to record physical and wellness activities, to encourage colleagues, and to participate in team-spirit initiatives.

Targeted work wellbeing projects were carried out in the Power Solutions unit, among others. These projects, too, utilised digital health and wellbeing technology, including Firstbeat wellbeing analyses, activity wristbands and the HeiaHeia app.

Energise Your Day got under way

As part of ForCare activities, the Energise Your Day wellbeing programme was launched in autumn 2016. It aims to support and encourage all Fortum employees to maintain and improve their overall wellbeing. Energise Your Day offers ideas and tools for self-management, stress management, recovery, nutrition and physical activity. The programme effectively and flexibly utilises modern coaching methods and tools.

The Energise Your Day programme started with a wellbeing survey. Based on the results of the survey, everyone is offered wellbeing services, such as lectures and coaching clinics. Additionally, occupational healthcare offers employees survey-based, targeted support and services based on individual needs.

The Energise Your Day work wellbeing programme is being piloted in Finland and will later be expanded to our other operating countries.

Early-support model

We promote wellbeing at the workplace also through what is called an early-support model. We increase open communication between employees and supervisors by discussing and mapping the reasons for absences. Managerial knowhow in working capacity management is strengthened through Manage Working Capacity MASTER training.

Occupational safety committee and workplace wellbeing

Workplace wellbeing and occupational safety are organised in our operating countries in line with local legislative requirements.

The occupational safety committees represent all personnel groups, and they regularly address issues related to work safety and workplace wellbeing.

All our employees are within the sphere of occupational health care. We emphasise the significance of preventive activities in promoting wellbeing in the company. The occupational health care costs per person in Finland, before the share reimbursed by Kela (The Social Insurance Institution of Finland), were EUR 460 (2015: 509).

Fortum conducts regular examinations of its personnel in accordance with local laws. Employees who in their work are exposed to e.g. noise, dust, radiation or who perform shift work are within the sphere of the examinations. Occupational health care also participates in various discussions and assessments in the work community. The occupational health care professionals support supervisors by providing information on preventive actions as well as alternatives when the ability to work decreases. Occupational health care also offers methods and tools for these situations.

Sick-leave absences, occupational diseases and average age of retirement

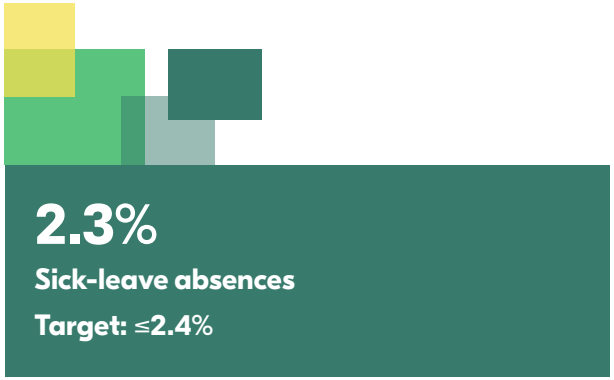
At Fortum the rate of absence due to sickness was 2.3% (2015: 2.4%), which is lower than the average in the energy sector. This figure has become more defined from the one presented in the interim report and the operating and financial review (2.4%).

For males, the rate of absence due to sickness was 2.1% (2015: 2.2%) and for females 3.0% (2015: 3.0%). The sickness absence rate is calculated based on the reported working hours of the permanent employees.

In 2016 the rate of absence due to sickness (2.4%) was adopted as a new Group-level indicator to measure employee wellbeing. The management of sick-leave absences and particularly the early-support for managers in the management of illness-related absences and other working capacity challenges were among our focus areas in 2016. The goal for 2017 is to keep the sicness absence rate at the previous year's level.

There were 8 (2015: 8) cases of suspected occupational diseases in Finland; five were related to noise and three were related to asbestos. Four of the suspected noise-related cases were determined to be non-occupational and investigations are still underway for one case. All three suspected asbestos-related cases were determined to be occupational diseases and compensated as such. All the cases of suspected occupational diseases involved males.

An indication of the good management level of working capacity and work wellbeing at Fortum is the average retirement age, which was 62 (2015: 62) years. In 2016, the average effective retirement age in the earnings-related pension scheme in Finland was 61.1 years (Source: Finnish Centre for Pensions).



Sickness absence rate of permanent employees in 2014–2016 (GRI G4-LA6), %

	2016		2015		2014	
	Male	Female	Male	Female	Male	Female
Finland	2.4	3.5	2.3	3.5	2.3	3.7
Sweden	2.6	6.3	3.1	5.3	2.0	4.1
Russia	1.8	1.6	1.7	2.0	2.0	2.0
Poland	2.6	3.8	4.1	6.5	3.6	4.7
Other countries	2.2	3.5	1.8	3.2	2.0	2.2

Employee development

Fortum encourages its employees to continuously develop their knowledge, skills and competencies. To support this, we have focused on developing leadership and organisational culture through a coaching approach. The coaching approach increases participative management, which encourages employee accountability in their work. One of the key elements in the coaching approach is the giving and receiving of feedback.

Leadership coaching and induction

There were three programmes under way in 2016 to develop the leadership and organisational culture of managers:

- Leadership Impact coaching
- MASTER Growing Leader training
- Fortum Navigator development programme

A total of 113 managers took part in these programmes in 2016.

New employees go through an induction programme, part of which is Fortum Passport, the online on-boarding programme. In 2016 there were 100 (2015: 131) employees who learned about Fortum's operations through the Fortum Passport programme.

The sustainability online training targeting all personnel was updated in 2016. The online training is also part of the Fortum Passport programme.

Training hours and costs

In 2016 the total number of training hours was 39,129 (2015: 50,466). Courses and licenses are, for the time being, registered in Finland, Sweden, and Poland. Training costs in 2016 totalled approximately EUR 3.1 (2015: 3.5) million.

Training hours 2016 (GRI G4-LA9) [1)]

	Total number of training hours for employees	Average training hours per employee	Total number of training hours for females	Average training hours per female	Total number of training hours for males	Average training hours per male
Finland	35,655	22	6,345	13	29,310	25
Blue-collar	7,287	30	59	15	7,228	30
White-collar	28,368	20	6,286	13	22,082	24
Other countries [2)]	3,475	4	428	1	3,047	5
Blue-collar	1,960	15	8	4	1,952	25
White-collar	1,515	2	420	1	1,095	2
Grand Total	**39,129**	**15**	**6,772**	**7**	**32,357**	**18**

1) Excluding Ekokem, DUON, Info24

2) Other countries: Sweden, Poland

Level of education of the permanent employees in 2014–2016, %

Level of education	2016	2015	2014
Doctorate	1	1	1
University	43	41	41
Lower university	7	6	6
College	24	27	26
Vocational	17	21	22
Compulsory	3	4	4
Not indicated	5	0	0

Performance and development discussions support the achievement of targets and professional growth

Employee development is supported through the annual performance and development discussions; all employees are within the scope of the annual discussions. The main target of the performance and development discussion is to ensure that the employee has clear targets that align with the business as well as the competencies supporting the achievement of the targets and professional growth.

The achievement of the targets forms the basis for payment of incentives. All employees who have a minimum of three months of employment in Fortum are within the scope of Fortum's incentive plan.

Fortum Sound personnel survey

The Fortum Sound personnel survey is conducted every other year. The response rate to the survey conducted in October 2016 climbed to 87% (2014: 84%). The results indicate that 70% of the employees feel a commitment to the company (2014: 70%).

Based on the survey results, the personnel feel that overall wellbeing is at a good level and sustainability is an integral part of Fortum's operations. Also the level of leadership was considered good, although the results in this area varied greatly by unit.

The most important development targets emerging from the survey were communications, customer insight, agility and innovation. These areas were a focus in 2016 through the launch of the so-called must-win battle development programmes to increase customer-centricity, speed and agility. Additionally, the Fortum Dialogue events between management and employees were continued.

Safety and security

For Fortum, excellence in safety is the foundation of our business and safe performance is a sign of professionalism.

Occupational and operational safety

We strive to be a safe workplace for our employees and for the contractors and service providers who work for us. We believe that all work injuries are preventable when competence and the right attitude prevails, when potential risks are addressed and when measures are taken to safeguard against them. Good operational safety is an absolute prerequisite for safe and efficient operations in terms of the employees and the environment.

We have set Group-level targets for the following key indicators:

- Injury frequency (TRIF* and LWIF**) for own employees and (LWIF) for contractors
- Number of serious*** accidents, as of 1 January 2017 number of severe**** accidents
- Major environmental, health and safety (EHS) incidents
- Quality of occupational accidents, major EHS incidents and near misses investigation process

The safety targets apply to all Fortum employees and are part of the Group's ▸ *short-term incentive plan*.

Safety of own employees at a good level

Fortum's safety performance in 2016 was impacted by the completion of the Russian investment programme with good safety performance and the integration of Ekokem Corporation (as of 1 September 2016) and Grupa DUON S.A. (as of 1 April 2016). In particular, Ekokem Corporation's higher LWIF levels compared to Fortum's impacted the overall statistics.

Our good safety performance with our own employees continued. The lost workday injury frequency (LWIF) per million working hours was 1.0 (2015: 1.1). The total recordable injury frequency (TRIF), however, worsened to 1.9 (2015: 1.6).

The lost workday injury frequency (LWIF) for contractors is going to be our main challenge in 2017. The lost workday injury frequency (LWIF) per million working hours for contractors in 2016 was 3.0 (2015: 2.7). We successfully achieved our target (3.0), but we recognise that the LWIF of many contractors working for us is higher than our target level. Robust safety management actions are needed from us in 2017 to reach the set target. A contractor safety performance assessment is also part of our supplier pre-selection process.

In 2016, as in 2015, there were no accidents leading to a fatality in Fortum's operations.

Unfortunately, there were still too many serious accidents to our own and our contractors' employees, and we did not achieve our target for serious accidents (2016: ≤8). In total, there were

Key safety figures in 2014–2016 (GRI G4-LA6)

	Target 2020	Target 2017	Target 2016	2016	2015	2014
Lost workday injury frequency (LWIF) [1], own personnel	≤ 1.0	≤ 1.0	≤ 1.0	1.0	1.1	1.0
Lost workday injuries, own personnel				14	15	15
Lost workday injury frequency (LWIF) [1], contractors	≤ 2.0	≤ 3.5	≤ 3.0	3.0	2.7	3.2
Lost workday injuries, contractors				27	29*	35
Total recordable injury frequency (TRIF) [2], own personnel	≤ 2.0	≤ 2.5	≤ 2.5	1.9	1.6	2.0
Serious [3] occupational accidents			≤ 8	13	14**	16
Severe [4] occupational accidents	0	≤ 5		5		
Fatalities, own personnel	0	0	0	0	0	0
Fatalities, contractors	0	0	0	0	0	3
Major EHS incidents	≤ 15	≤ 21	≤ 23	22	18	27

1) LWIF = Lost workday injury frequency per million working hours

2) TRIF = Total recordable injury frequency per million working hours

3) Fatality or an accident leading to permanent disability or a sick-leave of more than 30 days

4) Fatality or an accident leading to permanent disability or an accident that could have caused serious consequences

* Including contractor injuries of the divested Distribution business

** The figure revised for reporting 2015.

* TRIF: Total recordable injury frequency, injuries per million working hours

** LWIF: Lost workday injury frequency, injuries per million working hours, absence of one or more working days or shift excluding the day the accident happened

*** Serious accident: fatality or an accident leading to permanent disability or a sick-leave of more than 30 days

**** Severe accident: fatality or an accident leading to permanent disability or accident that could have caused serious consequences

13 (2015: 14) serious work-related accidents. Falls and injuries in connection with the use of tools were the main causes of the serious accidents. We have investigated all the injuries and launched measures to prevent similar injuries.

As of 1 January 2017, Fortum has changed the definition of the severity of the work-related accidents and is now focusing on accidents leading to serious consequences or potential serious consequences rather than the length of the sick-leave. We believe that this change will assist us in focusing and removing the root causes behind severe accidents and in allocating our resources more effectively. In 2016, there were five severe accidents for both own and contractors' employees. The Group target for 2017 is ≤5 severe accidents. Our target is to reduce severe accident to zero by 2020.

In reporting accidents, we comply with the principles of the United States Occupational Safety & Health Administration (OSHA) and ILO's Practices on Recording and Notification of Occupational Accidents and Diseases to the extent that they conform with the legislation in Fortum's countries of operation.

Operational safety

We track major environmental, health and safety (EHS) incidents as a Group target, which covers fires, leaks >100 litres into the environment, explosions, nuclear and dam safety incidents, and environmental non-compliances. There were 22 (2015: 18) EHS incidents in 2016; the target was ≤23. The incidents did not cause significant harm to operations, people or the environment. The majority (8) of the incidents were wastewater permit violations in Russia.

Common guidelines steer our operations

Fortum has Group-level EHS instructions and minimum requirements that set requirements for all the operations for which we have operative responsibility.

In 2016 we continued to update these requirements and, as part of the implementation, we assessed the divisions' performance in complying with the revised requirements in their operations. The shortcomings were recorded and the corrective measures were mostly implemented by all divisions during 2016. The remaining actions will be completed during 2017. The progress of this assessment of implementation is reported quarterly to the Fortum Executive Management.

A revised version of the Corporate Safety and Security handbook together with an e-learning module was published in eight languages. Completion of the e-learning is compulsory for all personnel. The training for the Fortum Executive Management took place in January 2017.

In 2017 Fortum will introduce two key control points for the EHS process: the assessment of compliance with Fortum's EHS minimum requirements and the quality of occupational accidents, major EHS incidents and near misses investigation process. A revised corporate incident management system, launched in December 2016, will help to ensure the effective root cause assessment, reporting and sharing of learnings.

We will continue our efforts to improve safety

Our goal is to continuously improve the safety of our operations. Our target for contactor safety in 2017 is LWIF ≤ 3.5 (2016: ≤3.0). Setting a higher numeric target than in the previous year might seem controversial, but achieving the 2017 targets set by Fortum's Board of Directors is very challenging in a situation in which acquisitions are resulting in new companies being integrated with Fortum. Achieving the targets requires EHS processes to be integrated and significant safety improvements.

Excellent occupational safety continues to be a promise we want to keep also in the coming years. We are committed to achieving the contractor safety level (LWIF ≤2.0) by 2020.

Occupational accidents, accident frequencies and absence days due to occupational accidents in 2016 by region and gender (GRI G4-LA6)

	Finland	Sweden	Russia	Poland	Others
Own personnel					
Occupational accidents causing absence, men	9	0	2	2	1
Occupational accidents causing absence, women	0	0	0	0	0
LWIF, men	3.5	0	0.4	2.2	1.4
LWIF, women	0	0	0	0	0
Absence from work due to occupational accidents for men, days	254	0	61	22	2
Absence from work due to occupational accidents for women, days	0	0	0	0	0
Contractors					
Occupational accidents causing absence, men	17	3	4	1	2
Occupational accidents causing absence, women	0	0	0	0	0
LWIF, men	11.7	3.6	0.8	0.8	6.3
LWIF, women	0	0	0	0	0
Absence from work due to occupational accidents for men, days	316	38	250	14	273
Absence from work due to occupational accidents for women, days	0	0	0	0	0

1.9
TRIF own employees
Target: ≤2.5

22
Major EHS incidents
Target: ≤23

Corporate security

Through corporate security, we strive to ensure the uninterrupted continuity of business and the safety of people, information, our assets and processes in normal and exceptional situations. Uninterrupted energy production and distribution is important both for Fortum's business operations and for an energy-dependent society.

Securing personnel and business safety

Our Corporate Security unit is responsible at the Group level for security and for providing guidelines and support to the business units. Compliance with the minimum safety requirements improves our operational ability to withstand and recover from disruptions and thus reduces unplanned maintenance outages and improves productivity.

Fortum's new strategy was published in February 2016. In 2016 we analysed the company's security risks related to potential new business areas, services and products. We assessed risks related to people, business and information in all geographical areas where Fortum has potential operations and business travel. Risks impacting the company and business operations may be related to political situations, terrorism, crime, conflicts and business partners.

Corporate security is improved also by gaining a deeper understanding of the security situation so that we can anticipate and prevent risks before they materialise.

Cyber security

Security with the information we handle and with our IT systems ensures that we can meet society's and our customers' expectations. The aim of cyber security is to ensure the production and distribution of power and heat and the functioning of new digital services, like Internet of Things applications.

In IT security, we aim to ensure the accessibility, integrity and confidentiality of critical information. We also take seriously and are uncompromising in our compliance with the regulations related to the protection of personal data.

We actively engage in collaboration with authorities and other stakeholders to understand and prevent new and growing cyber threats. We launch campaigns to increase employee awareness of security risks. We promote ways of operating that take employee information security into consideration by providing guidelines and, e.g., online training.

Contingency planning

The main disaster and emergency situations we prepare for are related to our critical operations, such as power plant and dam safety and securing other operations.

For dam and nuclear safety, emergency preparedness obligations in Finland and Sweden are based on regulatory provisions; likewise, there are terrorism-related preparedness obligations in Russia. Otherwise, emergency preparedness obligations prescribed by authorities are of a general nature. Based on its own risk assessments, Fortum independently defines the crisis and exceptional situations it prepares for and drafts action plans for.

Fortum's crisis and emergency management instructions are prepared for Group, division and site levels. The testing and updating of the crisis management and continuity plans are the responsibility of each division and line organisation. Crises impacting Group operations more broadly are managed at the Group level. Crisis communication instructions have been prepared for e.g. power and heat outages and for the Loviisa nuclear power plant. Corporate Security is responsible for crisis management development, e.g., for organising rehearsals and supporting planning. Group Communications is responsible for crisis communication.

In 2016, the annual emergency exercise related to a nuclear power accident was held at the Loviisa power plant. Additionally, in September 2016, a major accident drill was carried out at Ekokem's Riihimäki plant in compliance with the requirements of the Seveso II directive.

Corporate citizenship

Social responsibility is a cornerstone of Fortum's operations. Our operations impact the local communities where our power plants are located, and we engage in many kinds of collaboration with local stakeholders.

We support activities promoting the common good in society, for example the work of organisations and communities in our operating countries. Our sponsorship programme focuses on the future – on children, young people, the environment and society. Fortum also does significant collaboration with different research and development projects, particularly with Nordic universities.

We actively participate in ▸ *national and international organisations*. Public affairs and collaboration with authorities are a priority in the energy sector.

Local impacts and collaboration with local communities

We are an important employer and significant tax payer in our operating areas. In addition, our investments improve the local infrastructure. Of our energy production forms, hydropower has the most significant ▸ *impacts on local communities* and local forms of land use. Hydropower construction and use may alter the fluctuation range and rhythm in the discharge and water level in waterways as well as the fish fauna. These changes impact fishing, recreational use, and boating. We mitigate and compensate the adversities caused by hydropower production through numerous measures, such as stocking fish and building boat launch ramps.

We communicate openly, honestly and proactively, and we engage in a dialogue with the stakeholder groups located in the vicinity of our power plants. We carry out collaboration projects with local communities. We conduct environmental impact assessments (EIA) for our projects in accordance with legislative requirements. The hearing of stakeholders is part of the EIA process. In addition, relevant stakeholders are heard in all permit procedures.

Examples of our activities with local communities in 2016:

- Customer panels and meetings were organised in Finland, Sweden, Estonia, Latvia and Poland. Meeting with customers is one way to get direct feedback and development ideas. We want to accommodate customer needs even better in the future.
- Open-house events were arranged at power plants in different countries of operation; thousands of locals attended the events. For example, in Jelgava, Latvia, an open-house event is organised annually during the Jelgava City Festival, and the power plant offers recreational activities to local families. The Ekokem production plant's open-house event offered the opportunity to tour the new ▸ *Circular Economy Village*.
- Fortum continued publishing the Naapurina ydinvoimala (Nuclear power plant as a neighbour) magazine in Loviisa and maintained an active dialogue with local residents and representatives of the city of Loviisa.
- ▸ *Projects* aiming to mitigate the adverse environmental impacts of hydropower were under way in Finland and Sweden in collaboration with municipalities, research facilities, fishermen, universities and environmental organisations. For example, every year Fortum partners with other actors to improve the environmental conditions and recreational use of the River Oulujoki through River Oulujoki restoration and multi-use framework agreement projects.
- The fourth National Clean River Championships was held for students in Sweden. More than 2,300 young people raised money for recreational activities by collecting 31 tons of trash along the banks of four rivers (Dalälven, Klarälven, Ljusnan and Gullspångälven) where Fortum has hydropower plants.
- District cooling production was started in Tartu, Estonia, after active collaboration with the City of Tartu and other stakeholder groups. Fortum is participating in the SmartEnCity project, which aims to develop smart solutions for transport, energy conservation and ICT to improve the quality of life for citizens.
- Fortum continued supporting local communities with several projects in the vicinity of the Kapeli and Amrit solar power plants in India. Among other things, Fortum has improved water service as well as lighting and cooling with fans for health care centre and schools. A new classroom was built in a school near the Amrit power plant.
- Fortum supports the communities in power plant areas through various donations. Support in 2016 went to e.g. workshops and scholarships for talented children raised in difficult conditions in Poland, a day-care centre for special needs children in Latvia, as well as a sports school for children, a hockey team, and cultural and residential events in Russia.
- In Finland we installed free-to-use, lockable cell phone charging stations in public areas, like libraries, hospitals and shopping centres.

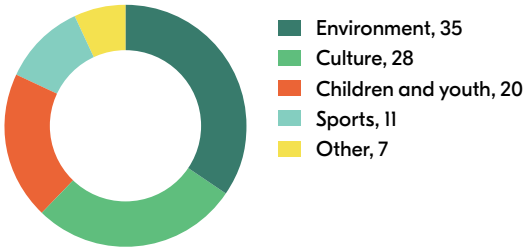
Support for society

In 2016, our support for activities promoting the common good totalled about EUR 3.6 (2015: 3.6) million. The share of grants awarded by the Fortum Foundation was about EUR 675,000 (2015: 706,000) of the support. Fortum Foundation supports research, education and development in the natural, technical and economical sciences within the energy industry.

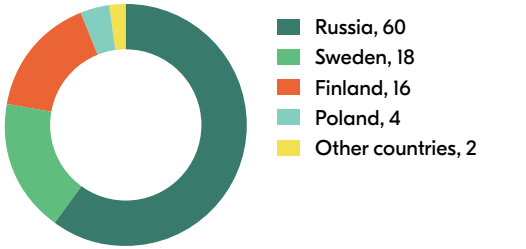
In 2017, Ekokem will award EUR 150,000 in grants for environmental and waste management sector research. The purpose of the fund is to promote and support innovative research and expertise to benefit the environmental management sector, especially with regard to waste management, material recycling, the utilisation of waste, the treatment of hazardous waste, and the restoration of soil and waters in the Nordic countries.

The goal of the collaboration with universities and colleges is to develop Fortum's business, promote energy-sector research and development, and foster Fortum's recruiting and training opportunities.

Fortum's support to society in 2016 by target, %



Fortum's support to society in 2016 by country, %



Examples of our collaboration with universities and colleges in different operating countries:

- In Finland, we are funding a solar economy professorship (75% funding for a five-year period, i.e. until 2017) at Lappeenranta University of Technology.
- In Sweden, the research with the University of Karlstad on improving the downstream migration of fish was concluded. Additionally, there is a multi-year project under way that aims to offer sustainability-related training to more than 4,000 educators. Fortum's collaboration partners in the project are Pedagog Värmland, Karlstad municipality, engineering and consulting company ÅF and Chalmers University of Technology.
- In Poland, Fortum is collaborating with the Wroclaw University of Technology on district cooling solutions and with the Czestochowa University of Technology's Faculty of Environmental Engineering and Biotechnology. Fortum also has a collaboration agreement with the Silesia and the Krakow University of Technology.
- In Russia, we are participating in the AboutEnergy training programme, which supports educators in providing training related to energy conservation. For university students, we also offer internships and information visits at our power plants.
- In Estonia and Lithuania, Fortum is a member of the Baltic Innovative Research and Technology Infrastructure (BIRTI), which coordinates collaboration between universities, scientific institutes and entrepreneurs.
- In Latvia, we are cooperating with Riga Technical University, the Latvia University of Agriculture, and the Jelgava Technical School, and, in Lithuania, with the Klaipeda Technical School, Klaipeda University and Kaunas University of Technology. We arrange internships and information visits for students, and we support energy sector-related conferences and seminars.

Sponsorship projects

In 2016, we continued sponsoring the coaching of children and youth in football, volleyball, basketball, and track and field. Through the Fortum Tutor programme, we offer tutors to support coaches in their daily work as well as financial support for teams to train new coaches. Fortum Tutor operates in Finland and in the Baltic cities where Fortum has power plants.

The Fortum Honorary Energy Donor mobile app has been in use in Poland and Russia. It encourages people to engage in physical activity. The distance covered during a physical activity can be converted into energy, for which Fortum makes a financial donation to selected charities.

Human rights

Fortum supports and respects internationally recognised human rights, which are included in the key human rights agreements. Our own operations have a direct or indirect impact on the realisation of the human rights of our own personnel, those working in the supply chain, and members of local communities.

Management of human rights issues

Our goal is to operate in accordance with the UN Guiding Principles on Business and Human Rights, and to apply these principles in our own operations as well as in country and partner risk assessments and supplier audits. Fortum's approach to the management of human rights issues is described in more detail in the ▸ *Appendix 1: Sustainability management by topic, Human rights*.

Fortum's Corporate Sustainability unit is responsible for coordinating and developing sustainability, including human rights issues, at the Group level.

Personnel training in human rights issues

The online course for Fortum's Code of Conduct includes training in human rights-related issues. The course is part of the induction programme for new employees. Fortum employees conducting supplier audits receive internal training, during which they review the requirements of the Supplier Code of Conduct, the sub-areas to be audited, and the tools to be used to verify compliance with the requirements. Those who have completed the internal training are advised to complete auditor training also on the Social Accountability (SA8000) standard. Internal trainings were not organised in 2016 but three Fortum employees participated in SA8000 auditor course during the year.

Assessment of human rights impacts

A sustainability assessment is carried out for our investment projects and takes into consideration the environmental, occupational health and safety, and social impacts of the project. The sustainability assessment includes a human rights evaluation, especially in new operating areas. A human rights assessment is also part of the systematic assessment of country and counterparty risks when planning a project.

The process has two parts: a light and a deep assessment. A light assessment is done for all new countries in where our business unit is planning the sales of operation and maintenance services, for example, and it is based on publically available sources. In 2016, 28 of these assessments were made. Deep assessments were not done during the year.

Fortum's supplier audits cover the most important human rights aspects related to purchases. The supplier audits conducted in 2016 and their results are described in more detail in the section ▸ *Sustainable supply chain*.

Identified impacts on human rights, corrective measures and grievances

All forms of child and forced labour are strictly prohibited and in violation of Fortum's Code of Conduct. Of our operating countries, India has not ratified the International Labour Organisation's (ILO) Convention on the minimum age and the worst forms of child labour. Our functions in India require job applicants to be of adult age. We have not identified risks related to the use of forced labour in our own operations. Support of employees' right to freedom of association and collective bargaining are discussed in the section ▸ *Employee-employer relations*.

Internal reporting channels used for reporting any suspected misconduct relating to the labour practices or human rights violations are instructed in Fortum's Code of Conduct. In addition to internal reporting channels, Fortum has an external "Raise a concern" channel which is available to all stakeholders.

In 2016, there were no grievances related to human rights, labour rights or discrimination filed through formal grievance channels, nor were there any grievances carried over from the previous year.

Product responsibility

Fortum is a clean energy company that provides customers with electricity, heating and cooling as well as smart solutions to improve resource efficiency. Our ambition is to engage our customers and society to drive the change towards a low-emission energy system and optimal resource efficiency.

We are one of the leading electricity sales companies in the Nordic countries, and we sell electricity to private and business customers in Sweden, Finland and Norway. Fortum is one of the world's biggest producers and sellers of heat. We sell heat to companies, the public sector and private customers in Finland, Poland, all the Baltic countries, and especially in Russia. Additionally, we sell district cooling in Finland and in Estonia, where the first customers started using district cooling in 2016. In Poland, we sell electricity, natural gas, and liquefied natural gas. Fortum Charge & Drive is the Nordic countries' largest electric vehicle charging network, which operates in Norway, Iceland, Sweden and Finland.

With the acquisition of Ekokem, Fortum became one of the leading Nordic circular economy companies offering environmental management and material efficiency services. The range of services includes recycling, reutilisation and final disposal solutions, as well as soil remediation and environmental construction services. Operations are in Finland, Sweden and Denmark.

Innovative charging facility for electric vehicles in Oslo, Norway

Fortum Charge & Drive opened an innovative electric car charging facility at the Vulkan parking garage in central Oslo in December 2016. It has over 100 charging stations available for customers.

The battery reserve installed in the garage balances power loads in order to avoid putting strain on the power grid during times of high usage. The solution makes it possible for parking garages to set up large EV charging facilities without having to make expensive and time-consuming upgrades to the power grid. The installation is prepared for "vehicle to grid," meaning that power can be transferred both to and from the batteries of the charging cars. The charging facility will be further developed in the first half of 2017 to enable a choice in charging speed — from 3.6 to 22 kW — and to pre-book a charging slot.

The new charging facility was built in cooperation with the property owner and the city of Oslo. The facility is helping Oslo to reach its ambitious climate goals, which include cutting greenhouse gas emissions by 50% by 2020 and 95% by 2030, compared to 1990 levels.

Fortum Charge & Drive is a pioneer in electric vehicle charging. In total, the network consists of 1,200 affiliated smart chargers. The Charge & Drive cloud-based business system is already used by about 50 partners in the Nordic countries and nearly 40,000 end customers.

Guarantee-of-origin-labelled and renewable electricity

Fortum is one of the Nordic countries' leading sellers of carbon dioxide-free and guarantee-of-origin-labelled electricity and can offer more and more customers an electricity agreement that comes with electricity produced with renewable energy. All the electricity we sold to private customers in Finland and Sweden in 2016 was renewable and carbon dioxide-free hydro-, wind or solar power. The origin of the electricity was guaranteed with European Guarantees of Origin. Some of the production was guaranteed also with the pan-European EKOenergy label granted by environmental organisations and in Sweden with the Bra Miljöval label.

Services to customers

In recent years Fortum has introduced many new solutions that improve energy efficiency for customers and reduce environmental impacts. We want to offer growing urban areas sustainable solutions that support a circular economy. Smart solutions give customers better opportunities to control their electricity consumption and costs. Fortum is continuously developing its products and services to meet the needs of customers. The new solutions are related to, e.g., energy efficiency and demand response, electric vehicles, solar power, and open district heating.

We offer power plant owners and industrial customers a variety of expert services for operation and maintenance. Additionally, we offer products and consulting services related to hydropower, nuclear safety and nuclear waste handling.

Marketing communications and customer data protection

Our goal is to present products and services truthfully in all our marketing and communication materials. We do not present misleading statements and we strictly follow responsible marketing communication guidelines. In statements regarding environmental issues, we follow the regulations for environmental marketing. No violations of regulatory or voluntary principles were observed in Fortum's marketing communications in 2016.

Data protection legislation has been amended in recent years. New personal data protection legislation in Russia took effect in 2015, and in 2016 the EU published the Data Protection Regulation, which will take effect in May 2018.

Fortum assumes responsibility for customer data protection. We have launched a project to ensure that we fulfil the requirements of the regulation by the deadline. Any changes needed in the handling of customer data, among other things, will be implemented during 2017.

▸ *Customer satisfaction and reputation*
▸ *Products and services*

Reporting principles

We report on sustainability in this Sustainability Report and in the Online Annual Review. Additionally, we describe sustainability-related governance practices in the Corporate Governance Statement and strategy and the CEO's view in the CEO Letter. Tax footprint 2016 is also a part of our reporting entity.

In our sustainability reporting, we comply with integrated reporting principles, and we apply the Global Reporting Initiative (GRI) G4 Guidelines' specific standard disclosure indicators we have identified as material. We apply the requirements of the Electric Utilities Sector Disclosures where we have deemed the information to be material to our stakeholders.

We gain information about our stakeholders' views through the One Fortum survey, the stakeholder sustainability survey and other stakeholder collaboration. Our selection of material aspects is based on Fortum's own and our stakeholders' views regarding the materiality of the impacts.

We report sustainability information annually in Finnish and English. In our annual reporting we describe Fortum's operations in 2016 as well as some information from January–February 2017. The previous reporting was published in February 2016, and our next reporting will be published in February/March 2018. In addition to the annual reporting, we report on our sustainability activities in Fortum's interim reports.

Reporting scope and boundaries

Reporting related to operations and management covers all functions under Fortum's control, including subsidiaries in all countries of operation. Possible deviations to this principle are reported in conjunction with information applying different boundaries. A list of Fortum's subsidiaries is in Notes to the ▸ *Financial Statements*, Note 42 Subsidiaries by segment.

Information from previous years is mainly presented as pro forma information, i.e. on the basis of the organisation and the functions of each year; the impacts of ownership changes in production facilities, for example, have not been updated afterwards in the previous figures.

The company AB Fortum Värme samägt med Stockholms stad (Fortum Värme) is classified in the Financial Statements as a joint venture and is consolidated with the equity method as of 1.1.2014. Fortum Värme is not included in Fortum's sustainability targets and indicators nor in the descriptions of management practices. Fortum Värme's sustainability information is available in Fortum Värme's sustainability report.

Fortum completed the divestment of its Distribution business on 1 June 2015. In this report, the information for 2016 and, as a general rule, also for 2015 does not include the Distribution business. The Distribution business is included in the figures for 2014.

Fortum completed the acquisition of Ekokem Corporation on 31 August 2016. Ekokem is included in Fortum's sustainability reporting starting from 1 September 2016. Fortum acquired 100% of the shares in the electricity and gas sales company Grupa DUON S.A. on 8 April 2016. DUON is included in Fortum's sustainability reporting starting from 1 April 2016.

Exceptions to the accounting practice are presented in conjunction with each figure.

Capacity changes

Fortum commissioned unit 2 (248 MW electricity and 174 MW heat) of its Chelyabinsk GRES combined heat and power (CHP) plant in Russia in March 2016. With the acquisition of Ekokem Corporation, 43 MW of electricity production capacity and 144 MW heat production capacity was transferred to Fortum's ownership. The acquisition of Grupa DUON S.A. bought Fortum 12 MW of heat production capacity. The new capacity constructed during the year and the new plants commissioned are included in the reporting starting from their commissioning.

Fortum divested the Tobolsk 665-MW CHP plant on 5 February 2016. The divested capacities are included in the reporting until the divestment date.

Greenhouse gas emissions are reported on a pro forma basis and the figures of the comparison years have not been adjusted in terms of new or commissioned or divested capacity because of partially insufficient data.

Measurement and calculation principles

Data for economic performance indicators is collected from the audited Financial Statements and from financial accounting and consolidation systems.

The environmental information of the report covers the plants for which Fortum is the legal holder of the environmental permit. In such cases, the plant information is reported in its entirety. The only exception is the calculation of specific CO_2 emissions from the Meri-Pori power plant, where the calculation covers only Fortum's share of production and emissions as specified in the operation agreement between Fortum and Teollisuuden Voima Oy. In the specific emissions calculation, the production shares of minority holdings are also included in the total production.

Fortum utilises a Group-wide database with instructions for collecting site-level environmental data. Sites are responsible for data input, emissions calculations and the accuracy of the information provided. The Corporate Sustainability unit compiles the data at the Group level and is responsible for the disclosed sustainability information.

Fortum's CO_2 emissions subject to the EU Emissions Trading Scheme are annually verified at the site-level by external verifiers. Direct and indirect greenhouse gas emissions have been reported in accordance with the Greenhouse Gas (GHG) Protocol on the basis of the Greenhouse Gas Analysis performed by an external consultant.

The average and the year-end total personnel figures presented in this report include 332 employees who joined Fortum in 2016 mainly through corporate acquisitions, but are not included in the other personnel figures and tables presented in the report. These individuals include the civil contractors working in the Polish DUON Group and the entire personnel of the Swedish Info24 company.

Fortum's human resources (HR) management system is used in all Fortum's operating countries and is the main system for employee-related personal and job data. In Russia, the employee data system covers mainly superiors. In addition, Russian operations have their own, local data system. Other social responsibility data, such as occupational health-related data, originates from various data systems.

Designated individuals collect the information and deliver it to the Corporate Sustainability unit primarily in the format recommended by GRI (Global Reporting Initiative).

Assurance

Deloitte & Touche Oy has provided limited assurance for the 1 January 2016 to 31 December 2016 reporting period for emissions calculations (Scope 1-3) based on the GHG protocol according to the requirements published by CDP (Verification of Climate Data).

Global Compact and Caring for climate reporting

Fortum has been a member of the United Nations Global Compact initiative since 2010. In our sustainability report, in conjunction with the description of environmental responsibility, social responsibility and business ethics, we describe the realisation of the Ten Principles of the Global Compact initiative in our operations in 2016. We use the GRI G4 indicators to measure compliance with the principles of human rights, labour standards, the environment and anti-corruption.

Fortum joined the UN Caring for Climate initiative in 2013. Fortum meets the reporting requirements of the Caring for Climate initiative by annually participating in the assessment in the CDP's climate change survey and by publishing its response on the CDP website.

UN GLOBAL COMPACT
COMMUNICATION ON PROGRESS

This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

Reported GRI indicators

In our sustainability report 2016 we apply the Global Reporting Initiative (GRI) G4 Guidelines' specific standard disclosure indicators presented in the table.

CODE	DESCRIPTION	SECTION
DISCLOSURES OF MANAGEMENT APPROACH		
G4-DMA	Management approach	▸ *Sustainability management / Governance and management* ▸ *Appendix 1, Sustainability management by topic*
ECONOMIC RESPONSIBILITY		
G4-DMA	Management approach to economic responsibility	▸ *Appendix 1, Sustainability management by topic*
Economic performance		
G4-EC1	Direct economic value generated and distributed	▸ *Economic responsibility / Economic impacts*
G4-EC2	Financial implications and other risks and opportunities due to climate change	▸ *Environmental responsibility / Climate change mitigation* ▸ *Financials / Operating and financial review / Risk management*
G4-EC3	Coverage of the organisation's benefit plan obligations	▸ *Financials / Notes to the consolidated financial statements / 32 Pension obligations*
G4-EC4	Financial assistance received from government	▸ *Economic responsibility / Economic impacts*
Plant decommissioning		
G4-DMA	Management approach	▸ *Financials / Notes to the consolidated financial statements / 30 Nuclear related assets and liabilities*
System efficiency		
EU11	Average generation efficiency of thermal plants	▸ *Environmental responsibility / Improving energy efficiency / Energy intensity*
ENVIRONMENTAL RESPONSIBILITY		
G4-DMA	Management approach to environmental responsibility	▸ *Appendix 1, Sustainability management by topic*
Materials		
G4-EN1	Use of materials	▸ *Environmental responsibility / Improving energy efficiency / Fuel consumption*
G4-EN2	Recycled materials used	▸ *Environmental responsibility / Improving energy efficiency / Fuel consumption* ▸ *Environmental responsibility / Circular economy*

CODE	DESCRIPTION	SECTION
Energy		
G4-EN3	Energy consumption within the organisation	▸ *Environmental responsibility / Improving energy efficiency / Fuel consumption (consumption)* ▸ *Environmental responsibility / Sustainable energy production (production)* ▸ *Environmental responsibility / Improving energy efficiency / Energy intensity*
G4-EN5	Energy intensity	▸ *Environmental responsibility / Improving energy efficiency / Energy intensity*
G4-EN6	Reduction of energy consumption	▸ *Environmental responsibility / Improving energy efficiency*
Water		
G4-EN8	Total water withdrawal by source	▸ *Environmental responsibility / Water use*
Biodiversity		
G4-EN13	Habitats protected or restored	▸ *Environmental responsibility / Biodiversity*
Emissions		
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	▸ *Environmental responsibility / Climate change mitigation / Greenhouse gas emissions*
G4-EN16	Indirect greenhouse gas (GHG) emissions (Scope 2)	▸ *Environmental responsibility / Climate change mitigation / Greenhouse gas emissions*
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	▸ *Environmental responsibility / Climate change mitigation / Greenhouse gas emissions*
G4-EN18	Greenhouse gas (GHG) emissions intensity	▸ *Environmental responsibility / Climate change mitigation / Greenhouse gas emissions*
G4-EN21	NOx and SO_2 and other significant air emissions	▸ *Environmental responsibility / Emissions into air*
Effluents and waste		
G4-EN22	Total water discharge by quality and destination	▸ *Environmental responsibility / Water use*
G4-EN23	Total weight of waste by type and disposal method	▸ *Environmental responsibility / Waste and by-products*

CODE	DESCRIPTION	SECTION
G4-EN24	Total number and volume of significant spills	▸ *Environmental responsibility / Environmental non-compliances and incidents*
Compliance		
G4-EN29	Significant fines and non-monetary sanctions for noncompliance with environmental laws and regulations	▸ *Environmental responsibility / Environmental non-compliances and incidents*
Supplier environmental assessment		
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	▸ *Economic responsibility / Supply chain management / Sustainable supply chain*
Environmental grievance mechanisms		
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	▸ *Environmental responsibility / Environmental non-compliances and incidents* ▸ *Sustainability management / Business ethics and compliance*
SOCIAL RESPONSIBILITY: LABOUR PRACTICES AND DECENT WORK		
G4-DMA	Management approach to social responsibility, labour practices and decent work	▸ *Appendix 1, Sustainability management by topic*
G4-10	Workforce	▸ *Social responsibility / Employees*
G4-11	Coverage of collective bargaining agreements	▸ *Social responsibility / Employees / Employee-employer relations*
Employment		
G4-LA1	New employee hires and employee turnover	▸ *Social responsibility / Employees*
Occupational health and safety		
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work related fatalities	▸ *Social responsibility / Safety and security / Occupational and operational safety* ▸ *Social responsibility / Employees / Employee wellbeing*
Training and education		
G4-LA9	Average hours of training per employee	▸ *Social responsibility / Employees / Employee development*
G4-LA10	Programmes for skills management and lifelong learning	▸ *Social responsibility / Employees / Employee development*
G4-LA11	Percentage of employees receiving regular performance and career reviews	▸ *Social responsibility / Employees / Employee development*
Diversity and equal opportunity		
G4-LA12	Composition of governance bodies and breakdown of employees	▸ *Social responsibility / Employees / Diversity and equal opportunity* ▸ *Corporate governance statement / Governing bodies of Fortum / Board of directors*

CODE	DESCRIPTION	SECTION
Equal remuneration for women and men		
G4-LA13	Ratio of basic salary and remuneration of women to men	▸ *Social responsibility / Employees / Diversity and equal opportunity*
Supplier assessment for labour practices		
G4-LA15	Significant actual and potential negative impacts for labour practices in the supply chain and actions taken	▸ *Economic responsibility /Supply chain management / Sustainable supply chain*
Labour practices grievance mechanisms		
G4-LA16	Number of grievances about labour practices filed, addressed, and resolved through formal grievance mechanisms	▸ *Social responsibility / Human rights* ▸ *Sustainability management / Business ethics and compliance*
SOCIAL RESPONSIBILITY: HUMAN RIGHTS		
G4-DMA	Management approach to social responsibility, human rights	▸ *Appendix 1, Sustainability management by topic*
Investments		
G4-HR1	Human rights screening or clauses included in significant investment agreements	▸ *Social responsibility / Human rights*
G4-HR2	Employee training on human rights policies or procedures	▸ *Social responsibility / Human rights*
Non-discrimination		
G4-HR3	Incidents of discrimination and corrective actions taken	▸ *Social responsibility / Employees / Diversity and equal opportunity*
Freedom of association and collective bargaining		
G4-HR4	Supporting the right to freedom of association and collective bargaining in risk areas	▸ *Social responsibility / Employees / Employee-employer relations*
Child labour		
G4-HR5	Measures taken to eliminate child labour in risk areas and in operations of significant suppliers	▸ *Social responsibility / Human rights* ▸ *Economic responsibility / Supply chain management / Sustainable supply chain*
Forced or compulsory labour		
G4-HR6	Measures taken to eliminate forced and compulsory labour in risk areas and in operations of significant suppliers	▸ *Social responsibility / Human rights* ▸ *Economic responsibility / Supply chain management / Sustainable supply chain*
Assessment		
G4-HR9	Operations that have been subject to human rights reviews or impact assessments	▸ *Social responsibility / Human rights*
Supplier human rights assessment		
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	▸ *Economic responsibility / Supply chain management / Sustainable supply chain*
Human rights grievance mechanisms		
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	▸ *Social responsibility / Human rights* ▸ *Sustainability management / Business ethics and compliance*

CODE	DESCRIPTION	SECTION
SOCIAL RESPONSIBILITY: SOCIETY		
G4-DMA	Management approach to social responsibility, society	▸ *Appendix 1, Sustainability management by topic*
Local communities		
G4-SO2	Operations with significant actual and potential negative impacts on local communities	▸ *Social responsibility / Corporate citizenship*
Anti-corruption		
G4-SO3	Operations assessed for risks related to corruption and the significant risks identified	▸ *Sustainability management / Business ethics and compliance*
G4-SO4	Communication and training on anti-corruption policies and procedures	▸ *Sustainability management / Business ethics and compliance*
G4-SO5	Confirmed incidents of corruption and actions taken	▸ *Sustainability management / Business ethics and compliance*
Public policy		
G4-SO6	Total value of political contributions	▸ *Sustainability management / Business ethics and compliance*
Anti-competitive behaviour		
G4-SO7	Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes	▸ *Sustainability management / Business ethics and compliance*
Compliance		
G4-SO8	Significant fines and non-monetary sanctions for non-compliance with laws and regulations	▸ *Sustainability management / Business ethics and compliance*
Disaster/Emergency planning and response		
G4-DMA	Management approach	▸ *Social responsibility / Safety and security / Security*

CODE	DESCRIPTION	SECTION
SOCIAL RESPONSIBILITY: PRODUCT RESPONSIBILITY		
G4-DMA	Management approach to social responsibility, product responsibility	▸ *Appendix 1, Sustainability management by topic*
Product and service labelling		
G4-PR5	Results of surveys measuring customer satisfaction	▸ *Economic responsibility / Customer satisfaction and reputation*
Marketing communications		
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications	▸ *Social responsibility / Product responsibility*
Access		
EU30	Average plant availability factor	▸ *Social responsibility / Security of supply*

Independent limited assurance report on Fortum's Greenhouse Gas Emissions 2016

To the Management of Fortum Corporation

We have been engaged by Fortum Corporation (hereafter: Fortum) to provide a limited assurance on Fortum's Greenhouse Gas Emissions (hereafter: GHG Emissions) broken down by scope 1, 2 and 3 for the reporting period of January 1, 2016 to December 31, 2016 (hereafter: GHG Emissions Disclosures). The information subject to the assurance engagement is presented in the section "Greenhouse gas emissions" of Fortum's sustainability reporting 2016 (hereafter: GHG Reporting).

Management's responsibility

Management is responsible for the preparation of the GHG Reporting in accordance with the reporting criteria as set out in Fortum's reporting principles and the Greenhouse Gas Protocol (hereafter: GHG Protocol). This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of the GHG Reporting that are free from material misstatement, whether due to fraud or error, selecting and applying appropriate criteria and making estimates that are reasonable in the circumstances.

Assurance provider's responsibility

Our responsibility is to express a limited assurance conclusion on the reported GHG Emissions Disclosures within Fortum's GHG Reporting based on our engagement. Our assurance report is made in accordance with the terms of our engagement with Fortum. We do not accept or assume responsibility to anyone other than Fortum for our work, for this assurance report, or for the conclusions we have reached.

We conducted our assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3410 to provide a limited assurance on performance data. This Standard requires that we comply with ethical requirements and plan and perform the assurance engagement to obtain a limited assurance whether any matters come to our attention that cause us to believe that the GHG Emissions Disclosures have not been presented, in all material respects, in accordance with the reporting criteria.

We did not perform any assurance procedures on the prospective information, such as targets, expectations and ambitions, disclosed in the GHG Reporting. Consequently, we draw no conclusion on the prospective information.

A limited assurance engagement with respect to the GHG Emissions Disclosures involves performing procedures to obtain evidence about the reported GHG Emissions. The procedures performed depend on the practitioner's judgment, but their nature is different from, and their extent is less than, a reasonable assurance engagement. It does not include detailed testing of source data or the operating effectiveness of processes and internal controls and consequently they do not enable us to obtain the assurance necessary to become aware of all significant matters that might be identified in a reasonable assurance engagement.

Our procedures on this engagement included:

- A review of management systems, reporting and data compilation processes
- Selected interviews of persons conducting scope 1, 2 and 3 analysis and data owners
- Review of assumptions and emission factors used in calculations
- Analytical testing of consolidated data
- Testing of source data on spot check basis

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Our independence, quality control and competences

We complied with Deloitte's independence policies which address and, in certain cases, exceed the requirements of the International Federation of Accountants Code of Ethics for Professional Accountants in their role as independent assurance providers and in particular preclude us from taking financial, commercial, governance and ownership positions which might affect, or be perceived to affect, our independence and impartiality and from any involvement in the preparation of the report. We have maintained our independence and objectivity throughout the year and there were no events or prohibited services provided which could impair our independence and objectivity.

Deloitte & Touche Oy applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. This engagement was conducted by a multidisciplinary team including assurance and sustainability expertise with professional qualifications. Our team is experienced in providing sustainability reporting assurance.

Conclusion

On the basis of the procedures we have performed, nothing has come to our attention that causes us to believe that the information subject to the assurance engagement is not prepared, in all material respects, in accordance with the GHG Protocol or that the GHG Emissions Disclosures are not reliable, in all material respects, with regard to the reporting criteria.

Our assurance statement should be read in conjunction with the inherent limitations of accuracy and completeness of the GHG Reporting.

Helsinki 27 February 2017
Deloitte & Touche Oy

Jukka Vattulainen
Authorized Public Accountant

Lasse Ingström
Authorized Public Accountant

Appendix 1 Sustainability management by topic

Sustainability management in the areas of economic responsibility, environmental responsibility and social responsibility is described in more detail in the accompanying tables. Additionally, more detailed information about the management of different aspects and impacts is presented by topic in this report.

Management of economic responsibility

	Description
Targets and approach	For Fortum economic responsibility means competitiveness, performance excellence and market-driven production that creates long-term value for our stakeholders and enables sustainable growth. Satisfied customers are key to our success and active consumers will have a crucial role in the future energy system. Fortum has indirect responsibility for its supply chain. We conduct business with viable companies that act responsibly. Each new research and development project is assessed against the criteria of carbon dioxide emissions reduction and resource efficiency. Likewise, new investment proposals are assessed against sustainability criteria as part of Fortum's investment assessment and approval process. In our investments we seek economically profitable alternatives that provide the opportunity to increase capacity and reduce emissions. We measure financial performance with the return on capital employed (target: at least 10%) and capital structure (target: comparable net debt/EBITDA around 2.5). The realisation of financial targets in 2016 is reported in the Financial performance and position section of the ▸ ***Financials***.
Policies	The financial management system is based on Group-level policies and their specifying instructions, and on good governance, effective risk management, sufficient controls and the internal audit principles supporting them. Other key elements steering financial management are presented in the section ▸ ***Policies and commitments*** and the ▸ ***Appendix 2***.
Responsibilities	The CFO and the Group's Financial unit, division management, and ultimately the CEO and the Board of Directors, are responsible for issues related to finances and financial statements and for broader financial responsibility issues. Our sustainability responsibilities are presented in the section ▸ ***Governance and management***.
Monitoring and follow-up	The Board decides on the company's financial targets as a part of the annual business planning process. Realisation of the targets is monitored on monthly basis both at the division level and by Fortum Executive Management. Fortum's management monitors the realisation of financial targets quarterly as part of the business performance assessment, and key indicators are regularly reported to Fortum's Board of Directors. Financial key indicators related to investments are monitored in divisions' investment forums and by Fortum Executive Management. We report regularly on the direct and indirect financial impacts on our most important stakeholder groups. Fortum also uses the applicable Global Reporting Initiative (GRI) indicators to measure economic responsibility.

Management of environmental responsibility

	Description
Targets and approach	Fortum's aim is to provide our customers with environmentally benign products and services. We strive to continuously reduce the environmental impacts of our operations by using best available practices and technologies. We emphasise a circular economy, resource and energy efficiency, the use of waste and biomass, and climate change mitigation in our environmental responsibility. Our company's know-how in carbon dioxide-free hydro and nuclear power production and in energy-efficient combined heat and power production, investments in solar and wind power, as well as solutions for sustainable cities play a key role in environmental responsibility. We measure the realisation of the environmental responsibility with the following indicators, for which we have set ▸ ***Group-level targets*** (targets for 2016 and 2017): • Specific CO_2 emissions • Energy efficiency • Major EHS incidents Additionally, we have a Group-level target for the number of supplier audits.
Policies	Environmental management is based on Fortum's sustainability policy. Other key elements steering environmental management are presented in the section ▸ ***Policies and commitments*** and the ▸ ***Appendix 2***. We assess environmental risks as part of the Group's risk assessment process ▸ ***Financials***/Operating and financial review/Risk management.
Responsibilities	Our sustainability responsibilities are presented in the section ▸ ***Governance and management***.
Monitoring and follow-up	EHS non-compliances are reported monthly and specific carbon dioxide emissions are reported quarterly and energy efficiency improvements annually to the Fortum Executive Management. The Group's key indicators are reported regularly to Fortum's Board of Directors and are published in Fortum's Interim Reports. The divisions and sites follow and develop their operations with audits required by environmental management systems. Internal and external auditors regularly audit our ISO 14001 standard-compliant management system. The CO_2 emissions of plants within the sphere of the EU's emissions trading scheme are audited annually on a per plant basis by an external verifier accredited by the emissions trading authority. The verification addresses the reliability, credibility and accuracy of the monitoring system and the reported data and information relating to emissions. The plants must annually submit to the authorities a verified emissions report of the previous calendar year's carbon dioxide emissions. We assess the level of operations of our business partners through supplier pre-selection and audits. For coal, we use the Bettercoal Code and tools in assessing the sustainability of the supply chain. The Bettercoal audits are always conducted by third parties. We map our stakeholders' views annually with the One Fortum survey and with separate sustainability surveys.

Management of social responsibility: labour practices and decent work

	Description
Targets and approach	We aspire to be a desired and safe workplace for our employees and for contractors and service providers working for us. We believe that all accidents can be avoided. Our social responsibility targets are related to employee well-being and competence development, occupational and operational safety, responsible business practices and responsible operations in our supply chain, and good corporate citizenship. We measure the realisation of the social responsibility with the following indicators, for which we have set ▸ ***Group-level targets*** (targets for 2016 and 2017): • Total recordable injury frequency (TRIF), own personnel • Lost Workday Injury Frequency (LWIF), own personnel and contractors • Number of serious occupational accidents, as of January 2017 severe accidents • Quality of occupational accidents, serious EHS incidents, and near misses investigation process, as of January 2017 • Percentage of sickness-related absences Additionally, we have a Group-level target for the number of supplier audits.
Policies	Safety management is based on Fortum's sustainability policy. Other key elements steering labour practices and safety management are presented in the section ▸ ***Policies and commitments*** and the ▸ ***Appendix 2***. We assess safety risks as part of the Group's risk assessment process. Everyday safety management is guided with about 20 Group-level Environment, Health and Safety (EHS) instructions and EHS training events. The Group-level instructions are supported by local-level instructions, which address in more detail the material safety issues and local special requirements. They include, e.g., nuclear power plant safety and dam safety. The instructions cover Fortum employees and contractor employees. Personnel management is based on Fortum's human resources policy and the supporting Group-level HR processes: strategic planning, recruiting, personnel development, performance management, remuneration, and employment and workforce administration.
Responsibilities	Our sustainability responsibilities are presented in the section ▸ ***Governance and management.***
Monitoring and follow-up	Fortum employee and contractor injury frequencies and the number of serious occupational accidents are reported monthly to Fortum Executive Management. The Group's key indicators are reported regularly to Fortum's Board of Directors and are published in Fortum's Interim Reports. The divisions and sites follow and develop their operations with audits required by safety and quality management systems. Internal and external auditors regularly audit our OHSAS 18001 standard-compliant management system. Work wellbeing, indicated as a percentage of sickness absence rate is reported to the Fortum Executive Management every quarter. Work wellbeing is also monitored through other Group-level indicators, such as the ratio between actual retirement age and the statutory start of the retirement pension. Monitoring work wellbeing is also part of the Fortum Sound employee survey. The survey's wellbeing index measures employee views on e.e. the openness of the dialogue in the work community, personal accountability, and how challenging work tasks are. We assess the level of operations of our business partners through supplier pre-selection and audits. The results of the supplier surveys and audits assessing the realisation of labour rights and practices are recorded along with corrective measures into the supplier database, which is accessible to all Fortum employees. Fortum has set a Group target for the number of audits, and the audits that are conducted are reported in our interim reports. For coal, we use the Bettercoal Code and tools in assessing the sustainability of the supply chain. The Bettercoal audits are always conducted by third parties. We map our stakeholders' views annually with the One Fortum survey and with separate sustainability surveys.

Management of social responsibility: Human rights

	Description
Targets and approach	Our goal is to operate in accordance with the UN Guiding Principles on Business and Human Rights, and to apply these principles in our own operations as well as in country and partner risk assessments and supplier audits. Our social responsibility includes operating as a good corporate citizen and taking care of our own employees and the surrounding communities. We advance the wellbeing and safety of the work community, respect for individuals, and mutual trust and responsible operations in our supply chain and more broadly in society. We have set a Group-level target for the number of ▸ ***supplier audits***.
Policies	Key elements steering human rights management are presented in the section ▸ ***Policies and commitments*** and the ▸ ***Appendix 2***.
Responsibilities	Our sustainability responsibilities are presented in the section ▸ ***Governance and management***.
Monitoring and follow-up	We assess the level of operations of our business partners through supplier pre-selection and audits. The results of the supplier surveys and audits assessing the realisation of labour rights and practices are recorded along with corrective measures into the supplier database, which is accessible to all Fortum employees. Fortum has set a Group target for the number of audits, and the audits that are conducted are reported in our interim reports. For coal, we use the Bettercoal Code and tools in assessing the sustainability of the supply chain. The Bettercoal audits are always conducted by third parties. The divisions and sites follow and develop their operations with internal and external audits required by occupational safety and quality management systems. Country-specific reports that address also human rights are presented to Fortum's Board of Directors and Fortum Executive Management when needed. We map our stakeholders' views annually with the One Fortum survey and with separate sustainability surveys.

Management of social responsibility: Society

	Description
Targets and approach	We believe that an excellent financial result and ethical business are intertwined. We follow good business practices and ethical principles in all our operations. We compete fairly and ethically and work within the framework of applicable competition laws and Group competition instructions. We avoid all situations where our own personal interests may conflict with the interests of the Fortum Group. Notably, we never accept or give a bribe or other improper payment for any reason. Our customer relations are based on honesty and trust. We treat our suppliers and subcontractors fairly and equally. We select them based on their merit and we expect them to consistently comply with our requirements and with Fortum's Supplier Code of Conduct.
Policies	Key elements steering social and compliance management are presented in the section ▸ ***Policies and commitments*** and the ▸ ***Appendix 2***.
Responsibilities	Our sustainability responsibilities are presented in the section ▸ ***Governance and management.***
Monitoring and follow-up	Suspected misconduct and measures related to ethical business practices and compliance with regulations are regularly reported to the Fortum Executive Management and to the Board's Audit and Risk Committee. Fortum has ▸ ***a channel*** available to all stakeholder groups for the reporting of misconduct.

Management of social responsibility: Product responsibility

	Description
Targets and approach	Our goal is to present products and services truthfully in all our marketing and communication materials. We do not present misleading statements and we strictly follow responsible marketing communication guidelines. In statements regarding environmental issues, we follow the regulations for environmental marketing. We assume responsibility for customer data protection and comply with the valid regulations related to the handling of customer data. We have set ▸ ***Group-level targets*** (targets for 2016 and 2017): • Customer satisfaction • Reputation
Policies	Key elements steering product responsibility management are presented in the section ▸ ***Policies and commitments*** and the ▸ ***Appendix 2***.
Responsibilities	Our sustainability responsibilities are presented in the section ▸ ***Governance and management.***
Monitoring and follow-up	The availability of power plants are reported monthly to Fortum Executive Management. The Group's key indicators are reported regularly also to Fortum's Board of Directors and are published in Fortum's interim reports. Customer satisfaction is monitored annually with the One Fortum survey. The results of the survey are presented to Fortum's management and they are used to develop the business. Customer satisfaction and Fortum's reputation are part of the Group-level sustainability target setting, and they are reported annually to the Board of Directors.

Appendix 2 Fortum's main internal policies and instructions guiding sustainability

	Economic responsibility	Environmental responsibility	Social responsibility: Labour practices and decent work	Social responsibility: Human rights	Social responsibility: Society	Social responsibility: Product responsibility
Values	x	x	x	x	x	x
Code of Conduct	x	x	x	x	x	x
Supplier Code of Conduct	x	x	x	x	x	x
Group Risk policy	x	x	x	x	x	x
Sustainability policy (including environmental, and health and safety policies)	x	x	x	x	x	x
Minimum requirements for EHS management		x	x	x	x	
Biodiversity guideline		x			x	
Guidelines on sustainability assessment		x	x	x	x	
Human resources policy			x	x	x	
Accounting manual	x				x	
Fortum investment manual	x				x	
Group instructions for anti-bribery	x				x	
Group instructions for safeguarding assets	x				x	
Group instructions for conflicts of interest	x				x	
Group instruction on Competition Law	x				x	
Security guidelines		x	x	x	x	
Fortum concept for sponsoring and donations					x	

Glossary and contact information

- *Glossary, abbreviations and units on our website*
- *Sustainability contact information on our website*