Fortum Corporation

Financial Statements Bulletin January–December 2019

Fortum Corporation
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Contents

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Figures in brackets refer to the comparison period, i.e. the same period last year, unless otherwise stated.

Strong operational performance in 2019 – financial targets achieved

October-December 2019

- Comparable EBITDA was EUR 552 (473) million, +17%
- Comparable operating profit was EUR 398 (333) million, +20%
- Operating profit was EUR 444 (309) million, +44%
- Share of profits of associated companies and joint ventures was EUR 65 (-44) million, mainly related to Fortum's share of Uniper's profit
- Earnings per share were EUR 0.40 (0.22), of which EUR 0.04 (-0.02) related to items affecting comparability and EUR 0.11 (0) to Uniper
- Cash flow from operating activities totalled EUR 261 (38) million
- Fortum agreed to sell its district heating and cooling business in Joensuu for EUR 530 million and an 80% stake in its Nordic wind portfolio for EUR 250 million
- On 8 October, Fortum agreed to acquire an additional stake of at least 20.5% in Uniper for approximately EUR 2.3 billion, increasing Fortum's share in Uniper to more than 70.5% (subject to regulatory clearances) and the total investment in Uniper to approximately EUR 6.2 billion

January-December 2019

- Comparable EBITDA was EUR 1,766 (1,523) million, +16%
- Comparable operating profit was EUR 1,191 (987) million, +21%
- Operating profit was EUR 1,110 (1,138) million, -2%
- Share of profits of associated companies and joint ventures was EUR 744 (38) million, mainly related to Fortum's share of Uniper's profit
- Earnings per share were EUR 1.67 (0.95), of which EUR -0.07 (0.15) related to items affecting comparability and EUR 0.71 (0) to Uniper. In 2018, the capital gain from the sale of the 10% stake in Hafslund Produksjon was EUR 0.09 per share
- Very strong cash flow from operating activities of EUR 2,015 (804) million, mainly due to the change in settlements for futures, improved results, and dividends received
- Return on capital employed target of at least 10% achieved at the end of 2019
- Comparable net debt-to-EBITDA at year-end was 3.0x. When adjusting net debt with the impact of the Joensuu district heating and Nordic wind divestments, Fortum's long-term target of around 2.5x was achieved
- Fortum's Board of Directors proposes a dividend of EUR 1.10 (1.10) per share

Events after the balance sheet date

- Fortum to assess strategic options, including possible divestment, of its district heating and cooling businesses in Poland, Estonia, Lithuania, Latvia, and Järvenpää in Finland

Summary of outlook

- The Generation segment's Nordic generation hedges: approximately 75% at EUR 34 per MWh for 2020 and approximately 40% at EUR 33 per MWh for 2021
- Capital expenditure, including maintenance but excluding acquisitions, is expected to be approximately EUR 700 million (previously expected to be less than EUR 600-650 million) in 2020. This includes approximately EUR 200 million of solar and wind investments, which are subject to the capital recycling business model

Key financial ratios

EUR million	2019	2018
Return on capital employed, %	10.0	6.7
Comparable net debt/EBITDA	3.0	3.6

Key figures

EUR million	IV/19	IV/18	2019	2018
Sales	1,553	1,599	5,447	5,242
Comparable EBITDA	552	473	1,766	1,523
Comparable operating profit	398	333	1,191	987
Operating profit	444	309	1,110	1,138
Share of profits of associates and joint ventures	65	-44	744	38
Profit before income taxes	454	261	1,728	1,040
Earnings per share, EUR	0.40	0.22	1.67	0.95
Net cash from operating activities	261	38	2,015	804
Shareholders’ equity per share, EUR			14.61	13.33
Interest-bearing net debt (at the end of the period)			5,260	5,509

Fortum's President and CEO Pekka Lundmark:

"During 2019, we continued our determined efforts to implement Fortum’s strategy. We focused on operational excellence in all our operations, re-assessed parts of our district heating business, continued to build solar and wind power, reached an agreement to increase our shareholding in Uniper, and improved our financial results substantially. At year-end, we reached our long-term 10% target for return on capital employed.

In June, we announced our intention to assess the strategic options for the district heating and cooling business in Estonia and in Joensuu, Finland. The assessment concluded in the divestment of the Joensuu operations on 10 January 2020, for approximately EUR 530 million, releasing cash, strengthening our balance sheet, and unlocking value. Today we announced our intention to extend the assessment to include our district heating and cooling businesses in all Baltic countries, in Poland, and in Järvenpää, Finland.

In October, our Uniper investment took a leap forward with our agreement to buy an additional stake, in excess of 20%, in the company. In November, we received approval to close the transaction from the Russian Government Commission, subject to certain conditions. The clarification of these conditions is somewhat delayed, due to the recent change of the Russian Government. In December, we received approval from the Unites States. We are still confident to achieve closing during the first quarter of 2020. As announced previously, with closing we will seek adequate board representation in the Supervisory Board of Uniper reflecting our ownership. This naturally includes the chairmanship.

As the majority owner, Fortum will focus on cooperation and strategic alignment with Uniper. Our two companies are already well-positioned to drive forward the European energy transition. Together, both companies can benefit from a further aligned strategic focus to enable a carbon-neutral Europe by 2050. During the transition, Europeans expect their energy companies to execute ambitious climate policies while continuing to provide electricity and heat at all times and at an affordable cost. The German Government’s coal exit law, presented last week, reflects these requirements – coal-fired generation will be phased out by the end of 2038 at the latest. Fortum stands for a strategy of decarbonisation, which of course also applies to our investments, and supports Uniper’s decision to close down the company’s old coal-fired units as the company’s new coal-fired CHP plant Datteln 4 is taken into use. As long as coal has to be used to provide for security of supply in Germany, it makes sense to use it in the most efficient and clean units.

We have continued our decarbonisation efforts during the year and will do so in the future. We have therefore decided to tighten our climate target for specific CO_2 emissions by 10% to 180 gCO_2/kWh, applicable to Fortum’s stand-alone fleet for the year 2020. We are building more solar and wind power while also utilising our ‘capital recycling’ business model to release cash. This enables us to invest more with a limited equity exposure. Another major effort is our commitment to carbon-neutral district heating in Espoo, Finland, in the 2020s, accelerated by our goal to discontinue the use of coal in Espoo in 2025. Other examples of work for a cleaner energy system in Finland include the sustainable decommissioning of the one-gigawatt Inkoo coal-fired power plant showing a recycling rate of 92% of the material, placing the Meri-Pori coal-fired power plant into the Finnish national peak-load reserve capacity system from July 2020, as well as the recent decisions of Fortum’s associated company Turun Seudun Energiantuotanto to close down the coal-fired unit Naantali 2. In Sweden, Fortum’s joint venture Stockholm Exergi has decided to decommission its last coal-fired unit after this heating season.

The comparable operating profit for 2019 increased by more than EUR 200 million to EUR 1.2 billion, mainly driven by a clear result improvement in the Generation segment and also supported by improved results in the Consumer Solutions and Russia segments. In addition, our share of profits from associated companies and joint ventures increased to almost EUR 750 million, largely thanks to our share of Uniper’s profits. Our focus on cash flow measures, together with the strong results in 2019, increased our cash flow to more than EUR 2 billion at year-end. Our comparable net debt-to-EBITDA at year-end was 3.0x. When adjusting the net debt with the impact of the divestment of the Joensuu district heating business in January 2020 and the announced sale of a 80% share of our Nordic wind portfolio, I am happy to say that we also achieved our other long-term financial target of a comparable net debt-to-EBITDA ratio of around 2.5x. Maintaining strong cash flow and consistent deleveraging are also central for our credit rating. Fortum's key objective is to have a solid investment-grade rating of at least BBB to preserve financial flexibility and good access to capital markets after the Uniper transaction has been closed.

The fourth-quarter results were characterised by the strong improvement in the Generation segment, driven by clearly higher hydro volumes and good operational performance. The higher hedge price helped us achieve a higher power price, in spite of the clearly lower spot prices in the Nordics. All other operational segments also improved their results. In City Solutions, the result recovered after a disappointing third quarter. The hard work in Consumer Solutions continued to pay off with EBITDA increasing for the ninth consecutive quarter. In the Russia segment, the improvement in the heat business supported the results.

Based on Fortum's 2019 results, our financial position and the outlook for the coming years, Fortum's Board of Directors is proposing an unchanged dividend of EUR 1.10 per share for the calendar year 2019. With an earnings per share of EUR 1.67, the proposal corresponds to a pay-out ratio of 66%, which is within the 50%-80% range of our dividend policy.

Finally, I would like to thank all our employees for their commitment and hard work during the year and our customers and all other stakeholders for their good cooperation and continued trust in us."

Financial results

Sales by segment

EUR million	IV/19	IV/18	2019	2018
Generation	583	557	2,141	1,842
City Solutions	366	359	1,200	1,110
Consumer Solutions	510	555	1,835	1,759
Russia	306	305	1,071	1,069
Other Operations	32	31	115	103
Netting of Nord Pool transactions	-139	-157	-529	-516
Eliminations	-105	-50	-387	-125
Total	**1,553**	**1,599**	**5,447**	**5,242**

Comparable EBITDA by segment

EUR million	IV/19	IV/18	2019	2018
Generation	278	225	939	763
City Solutions	129	109	309	310
Consumer Solutions	35	31	141	110
Russia	136	127	469	417
Other Operations	-27	-21	-91	-78
Total	**552**	**473**	**1,766**	**1,523**

Comparable operating profit by segment

EUR million	IV/19	IV/18	2019	2018
Generation	239	188	794	628
City Solutions	80	64	121	135
Consumer Solutions	19	17	79	53
Russia	94	89	316	271
Other Operations	-34	-26	-119	-99
Total	**398**	**333**	**1,191**	**987**

Operating profit by segment

EUR million	IV/19	IV/18	2019	2018
Generation	308	184	771	736
City Solutions	82	52	127	130
Consumer Solutions	-3	11	20	75
Russia	95	90	317	273
Other Operations	-37	-28	-127	-76
Total	**444**	**309**	**1,110**	**1,138**

Share of profits of associated companies and joint ventures

EUR million	IV/19	IV/18	2019	2018
Generation	-34	-67	10	-72
City Solutions	-4	25	37	74
Consumer Solutions	0	0	0	0
Russia	0	0	59	36
Other Operations	103	-2	638	0
Total	**65**	**-44**	**744**	**38**

October-December 2019

Fortum's sales decreased by 3% while the comparable operating profit improved by 20%. The result improvement was mainly related to the higher hydro volumes in the Generation segment. The comparable operating profit improved in all operational segments.

Operating profit for the period was impacted by EUR 46 (-24) million of items affecting comparability, mainly from nuclear fund adjustments (Note 4).

The share of profit of associates and joint ventures was EUR 65 (-44) million. Fortum’s share of Uniper’s profits, EUR 98 (-2) million, comprises Uniper’s third-quarter 2019 results and the impact on Uniper’s results from the reinstatement of the UK capacity market in the fourth quarter of 2019, totalling EUR 90 (-2) million, as well as the fair value adjustments reversal according to the purchase price allocation of Uniper, EUR 8 (-) million (Note 6). The share of profit of Uniper includes the impact from their ‘Non-operating results’, e.g. the fair value measurement of derivative financial instruments, which are subject to volatility, EUR 99 (79) million. Co-owned nuclear companies accounted for EUR -33 (-65) million, TGC-1 for EUR 7 (2) million, and Stockholm Exergi for EUR -6 (21) million, including the EUR -22 million effect of the impairment booked in Stockholm Exergi relating to the early decommissioning of combined heat and power (CHP) plant 6, CHP6 (see Segment Review, City Solutions). The share of profit of Uniper and TGC-1 are based on the companies' published third-quarter 2019 interim reports (Note 11).

Net finance costs amounted to EUR -55 (-4) million.

January-December 2019

Fortum's sales increased by 4%, and comparable operating profit improved by 21% and was EUR 1,191 (987) million. The higher hydro and nuclear volumes and higher achieved power price in the Generation segment as well as the improved performance in the Russia and Consumer Solutions segments were the main contributors to the result improvement.

Operating profit for the period was impacted by EUR -81 (151) million of items affecting comparability, mainly from the fair value change of non-hedge-accounted derivatives (Note 4). In the third quarter of 2018, Fortum recorded a capital gain of EUR 77 million from the sale of the 10% stake in Hafslund Produksjon.

The share of profit of associates and joint ventures was EUR 744 (38) million. Fortum's share of Uniper's profits, EUR 632 (-2) million, comprises Uniper's October-December 2018 and January-September 2019 results and the impact on Uniper's results from the reinstatement of the UK capacity market in the fourth quarter of 2019, totalling EUR 601 (-2) million, as well as the fair value adjustments reversal according to the purchase price allocation of Uniper for 2019, EUR 31 (-) million (Note 6). The share of profit of Uniper includes 'Non-operating results', EUR 392 (79) million. Co-owned nuclear companies accounted for EUR 16 (1) million, Stockholm Exergi for EUR 24 (61) million, including the EUR -22 million effect of the impairment booked in Stockholm Exergi relating to the early decommissioning of CHP6 (See Segment Review, City Solutions), and TGC-1 for EUR 54 (40) million (Note 11).

Net finance expenses amounted to EUR 125 (136) million, of which net interest expenses were EUR 139 (114) million. Interest expenses include the remaining amortised cost of EUR 13 million due to the prepayment of the bridge financing for the acquisition of Uniper shares in 2018. Other financial expenses include the EUR 10 million cost for the new committed credit facilities related to the acquisition of an additional stake of at least 20.5% in Uniper. Net finance expenses included the positive impact of EUR 40 million related to the regular nuclear technical update in Finland in the second quarter (Note 14).

Profit before income taxes was EUR 1,728 (1,040) million.

Taxes for the period totalled EUR 221 (181) million. The effective income tax rate, according to the income statement, was 12.8% (17.5%). The comparable effective income tax rate, excluding the impact of the share of profit of associated companies and joint ventures as well as non-taxable capital gains, tax rate changes, and other major one-time income tax effects, was 22.4% (22.0%) (Note 7).

The profit for the period was EUR 1,507 (858) million. Earnings per share were EUR 1.67 (0.95), of which EUR -0.07 (0.15) per share were related to items affecting comparability.

Financial position and cash flow

Cash flow

In 2019, net cash from operating activities was strong and increased by EUR 1,211 million to EUR 2,015 (804) million, mainly impacted by a EUR 356 (-524) million change in settlements for futures on Nasdaq Commodities, the improved comparable EBITDA of EUR 1,766 (1,523) million, dividends received of EUR 239 (61) million, and a EUR -33 (-146) million change in working capital. The impact of the change of realised foreign exchange gains and losses was EUR 14 (231) million.

Net cash from investing activities was EUR -369 (-4,398) million. The comparison period in 2018 included the acquisition of Uniper shares. Capital expenditure increased by EUR 116 million to EUR 695 (579) million. Cash collaterals and restricted cash decreased by EUR 347 million, including the non-cash collateral arrangement in the first quarter to release pledged cash from the Nordic power exchange, which had a major positive impact of EUR 310 million. Consequently, cash flow before financing activities increased significantly to EUR 1,646 (-3,594) million.

Proceeds from long-term liabilities were EUR 2,805 (1,764) million, arising from the issuance of new bonds totalling EUR 2.5 billion under the Euro Medium Term Note (EMTN) programme and a bilateral loan of EUR 300 million. The proceeds from the issued bonds were used to repay the bridge financing of EUR 1,750 million related to the acquisition of Uniper shares in 2018 and repayment of a bond of EUR 750 million. The total payments of long-term liabilities were EUR 2,567 (586) million. The net increase in liquid funds was EUR 806 (-3,268) million.

Dividends received totalled EUR 239 (61) million, mainly related to dividends received from Uniper EUR 165 (-) million, Stockholm Exergi EUR 40 (39) million, Turun Seudun Energiantuotanto EUR 20 (10) million, and TGC-1 EUR 10 (7) million.

Assets and capital employed

At the end of 2019, total assets amounted to EUR 23,364 (22,409) million. Liquid funds at the end of the period increased to EUR 1,433 (584) million. Capital employed was EUR 19,929 (18,170) million.

Equity

Equity attributable to owners of the parent company totalled EUR 12,982 (11,841) million. The dividend of EUR 1.10 per share for 2018 was approved by the 2019 Annual General Meeting (AGM) on 26 March 2019 and paid on 4 April 2019. The increase in equity of EUR 1,141 million was mainly related to the net profit for the period of EUR 1,482 million, the positive impact from fair valuation of cash flow hedges of EUR 561 million, and the positive translation differences of EUR 253 million, partly offset by the dividend payment of EUR 977 million.

Financing

Net debt decreased by EUR 249 million to EUR 5,260 (5,509) million, including lease liabilities of EUR 114 million. Interest-bearing liabilities increased by EUR 601 million and liquid funds increased by EUR 851 million. The dividend, EUR 977 million, was paid on 4 April 2019.

At the end of 2019, the Group’s liquid funds (including cash balances of EUR 2 million relating to assets held for sale) totalled EUR 1,435 (584) million. Liquid funds include cash and bank deposits held by PAO Fortum of EUR 201 (317) million. At the end of 2019, Fortum had undrawn committed credit facilities amounting to EUR 1,800 (1,800) million, of which EUR 1,750 million is maturing in June 2023. In the fourth quarter of 2019, Fortum signed additional committed credit facilities of EUR 8,300 million for the acquisition of Uniper shares as announced on 8 October 2019 (Note 13). On 7 January 2020, Fortum cancelled EUR 3,000 million of these new committed credit facilities.

On 19 February 2019, Fortum issued bonds with a total nominal value of EUR 2,500 million under its EMTN programme. The bonds were issued in three tranches with the following maturities; EUR 1,000 million with a 0.875% fixed coupon maturing on 27 February 2023; EUR 750 million with a 1.625% fixed coupon maturing on 27 February 2026; and EUR 750 million with a 2.125% fixed coupon maturing on 27 February 2029. The proceeds from the issued bonds were used to repay the bridge financing of EUR 1,750 million related to the acquisition of the initial 49.99% stake in Uniper in 2018 and repayment of a 6% fixed-coupon bond of EUR 750 million, which resulted in a more balanced debt maturity profile. In April 2019, Fortum drew a five-year EUR 300 million bilateral financial loan.

Following Fortum’s announcement to acquire an additional stake of more than 20.5% of Uniper’s shares, Standard & Poor’s and Fitch reviewed the credit rating of Fortum. In October 2019, Standard & Poor's placed Fortum’s long-term credit rating of BBB on CreditWatch Negative. The short-term rating is at level A-2. In October 2019, Fitch Ratings placed Fortum's long-term credit rating of BBB and short-term credit rating of F2 on Rating Watch Negative. Both rating agencies are expected to update the credit ratings after the closing of the acquisition of at least an additional 20.5% of Uniper shares. Standard & Poor’s have announced that they will likely consolidate Uniper into Fortum and link the issuer credit rating on Uniper to that of Fortum upon antitrust approval.

Fortum’s key objective is to have a solid investment-grade rating of at least BBB, in order to preserve financial flexibility and good access to capital markets post-closing of the above-mentioned acquisition of Uniper shares and to strengthen its financial profile longer term. This will provide appropriate financial stability and support to the enlarged group.

Key figures

The comparable net debt-to-EBITDA ratio for 2019 was 3.0x (3.6x). The target is to steer the leverage from the current net debt-to-EBITDA ratio towards the long-term over-the-cycle target of approximately 2.5x. When adjusting net debt with the impact of the divestment of the Joensuu district heating business and the announced sale of a 80% share of our Nordic wind portfolio, Fortum's long-term target of around 2.5x was achieved.

Gearing was 40% (46%) and the equity-to-assets ratio was 57% (54%). Equity per share was EUR 14.61 (13.33). Return on capital employed (ROCE) for 2019 was 10.0% (6.7%). Fortum targets a long-term over-the-cycle return on capital employed of at least 10%.

Fortum's key financial targets will be revisited in due course to ensure alignment with a commitment to retain a solid investment-grade rating of at least BBB.

Segment reviews

In 2018, the development units 'M&A and Solar & Wind Development' and 'Technology and New Ventures', reported within Other Operations, were reorganised and parts of the operations moved to the existing divisions. From the beginning of 2019, the management and segment reporting was changed accordingly. The wind business is reported as part of the Generation segment and the solar business as well as the bio-based solutions as part of the City Solutions segment. The Russian wind and solar operations continue as a part of the Russia segment. The restated figures in accordance with the new organisational structure were published on 19 March 2019.

Generation

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

EUR million	IV/19	IV/18	2019	2018
Sales	583	557	2,141	1,842
- power sales	541	515	2,006	1,771
of which Nordic power sales*	444	401	1,568	1,415
- other sales	42	42	135	71
Comparable EBITDA	278	225	939	763
Comparable operating profit	239	188	794	628
Operating profit	308	184	771	736
Share of profits of associates and joint ventures**	-34	-67	10	-72
Comparable net assets (at period-end)			6,147	6,485
Comparable return on net assets, %			12.8	10.8
Capital expenditure and gross investments in shares	77	92	260	262
Number of employees			1,109	1,091

* The Nordic power sales income includes hydro, wind, and nuclear generation. It does not include thermal generation, minorities, customer business, or other purchases.

** 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 19 in the Consolidated Financial Statements 2018).

Power generation by source

TWh	IV/19	IV/18	2019	2018
Hydropower, Nordic	5.8	4.8	20.3	19.1
Nuclear power, Nordic	6.3	6.1	23.5	22.8
Wind power, Nordic	0.1	0.1	0.4	0.3
Thermal power, Nordic	0.0	0.0	0.2	0.1
Total	**12.2**	**11.1**	**44.4**	**42.3**

Nordic sales volumes

TWh	IV/19	IV/18	2019	2018
Nordic sales volume	13.9	12.9	51.3	48.7
of which Nordic power sales volume*	11.8	10.7	42.7	40.8

* The Nordic power sales volume includes hydro, wind, and nuclear generation. It does not include thermal generation, minorities, customer business, or other purchases.

Sales price

EUR/MWh	IV/19	IV/18	2019	2018
Generation's Nordic power price*	37.6	37.2	36.8	34.6

* Generation’s Nordic power price includes hydro, wind, and nuclear generation. It does not include thermal generation, minorities, customer business, or other purchases.

October-December 2019

The Generation segment's total power generation in the Nordic countries increased by 10%, mainly due to 21% higher hydropower volumes. The operational performance and the load factor for nuclear generation continued to be at a good level. The CO_2-free production accounted for 100% (100%) of the total power generation.

Despite clearly lower spot prices, the achieved power price in the Generation segment increased by EUR 0.4 per MWh, +1%, due to the higher hedge price. The average spot market prices in Finland and in Sweden (SE3, Stockholm) declined by 12% and 20%, respectively.

Comparable operating profit increased by 27%. The higher hydro volumes were the main driver of the improved results.

Operating profit was affected by EUR 69 (-5) million of items affecting comparability, mainly related to nuclear fund adjustments and the fair value change of non-hedge accounted derivatives (Note 4).

The share of profits of associated companies and joint ventures totalled EUR -34 (-67) million (Note 11).

In December, 440 MW of the production capacity of Fortum’s Meri-Pori power plant was selected for inclusion in the Finnish national peak-load reserve capacity system from 1 July 2020 to 30 June 2022.

January-December 2019

The Generation segment's total power generation in the Nordic countries increased due to higher hydro and nuclear volumes. The hydro volumes in the comparison period were low, mainly due to the historically low levels in the third quarter of 2018. The segment’s overall operational performance and the load factor for nuclear generation were at a good level. The nuclear load factor for the Fortum fleet and partly owned companies was at the highest level in Fortum’s history with the Loviisa 1 power plant setting a new production record. The CO_2-free production accounted for 100% (100%) of the total power generation.

The achieved power price in the Generation segment increased by EUR 2.2 per MWh, +6%, driven by higher hedge prices and successful optimisation of hydropower production, as well as higher first-quarter spot power prices.

Comparable operating profit increased by 26%, mainly due to higher hydro and nuclear volumes and the higher achieved power price.

Operating profit was affected by EUR -23 (108) million of items affecting comparability, mainly related to the fair value change of non-hedge-accounted derivatives. In the third quarter of 2018, Fortum recorded a capital gain of EUR 77 million from the sale of the 10% stake in Hafslund Produksjon (Note 4).

The share of profits of associated companies and joint ventures totalled EUR 10 (-72) million (Note 11).

The annual outages of the Loviisa nuclear power plant were managed well. The maintenance outages at Unit 1 and Unit 2 lasted 20 days and 26 days, respectively. Both units underwent a refuelling outage, during which approximately one quarter of the fuel was replaced.

In June 2019, Posiva decided to start construction of the encapsulation plant for spent nuclear fuel and start equipping the Onkalo final depository with systems needed for the final disposal. The start of the final disposal will still require licences to operate. In September 2019, the final disposal of spent nuclear fuel took a step forward, as the foundation stone for Posiva's encapsulation plant was laid at Onkalo, in Eurajoki, Finland. Posiva will dispose of the high-level nuclear waste of its owners, Fortum Power and Heat Oy (share of ownership 40%) and Teollisuuden Voima (TVO) (share of ownership 60%).

City Solutions

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

EUR million	IV/19	IV/18	2019	2018
Sales	366	359	1,200	1,110
- heat sales	201	193	615	604
- power sales	45	50	153	134
- waste treatment sales*	70	62	250	211
- other sales**	50	53	181	161
Comparable EBITDA	129	109	309	310
Comparable operating profit	80	64	121	135
Operating profit	82	52	127	130
Share of profits of associates and joint ventures	-4	25	37	74
Comparable net assets (at period-end)			3,892	3,794
Comparable return on net assets, %			4.7	5.5
Capital expenditure and gross investments in shares	61	85	322	242
Number of employees			1,970	2,017

* Waste treatment sales comprise gate fees and environmental construction services.
** Other sales mainly comprise operation and maintenance services, the sale of recycled products, and fuel sales.

Heat sales by country

TWh	IV/19	IV/18	2019	2018
Finland	1.2	1.2	3.8	3.8
Poland	1.1	1.2	3.3	3.5
Norway	0.6	0.5	1.7	1.6
Other countries	0.6	0.6	2.0	1.9
Total	3.5	3.6	10.8	10.8

Power sales by country

TWh	IV/19	IV/18	2019	2018
Finland	0.4	0.5	1.6	1.4
Poland	0.2	0.2	0.6	0.5
Other countries	0.4	0.2	1.0	1.0
Total	1.0	0.9	3.2	2.9

October-December 2019

Heat sales volumes decreased slightly as temperatures were higher than normal in most heating areas, with the exception of Norway. The commissioning of the Pavagada 2 solar park in India in August 2019 contributed to higher power sales volumes in 'Other countries'.

Comparable operating profit increased by EUR 16 million. The main reason for the improvement was the positive impact of one-time effects in the heating and cooling business in Finland. The operative results of the Norwegian heating and cooling business improved clearly, while the recycling and waste business was somewhat weaker than in the previous year.

Operating profit was affected by EUR 2 (-12) million of items affecting comparability, mainly related to the fair value change of non-hedge-accounted derivatives (Note 4).

In December 2019, the Swedish Government decided to implement new taxes on fossil fuels used for heat production in CHP plants, taking effect from August 2019. Consequently, during 2019, the board of Stockholm Exergi decided to decommission the last coal-fired unit in Stockholm, CHP6, starting from the end of the 2019-2020 heating season. Fortum's share of profits from Stockholm Exergi was impacted by EUR -22 million related to the impairment booked in Stockholm Exergi's fourth-quarter 2019 results.

The share of profits of associated companies and joint ventures totalled EUR -4 (25) million, the main part of which was related to the share of profit of Stockholm Exergi, EUR -6 (21) million, and Turun Seudun Energiantuotanto, EUR 3 (3) million (Note 11).

On 20 December 2019, Fortum signed an agreement to sell its district heating business in Joensuu, Finland, to Savon Voima Oyj. The total consideration on a debt- and cash-free basis was approximately EUR 530 million and the cash was received at the completion of the divestment on 10 January 2020. Fortum will record a tax-exempt capital gain of approximately EUR 430 million in the City Solutions segment's first-quarter 2020 results.

January-December 2019

Heat sales volumes were at the same level as in the previous year. Power sales volumes increased, mainly due to higher power volumes in the new unit in Naantali, Finland.

Comparable operating profit decreased by 10%. The main reason for the decline was the profit of EUR 26 million recorded in the third quarter of 2018 from the sale of a 54% share of Fortum's Indian solar portfolio, partly offset by the positive impact of one-time effects in the fourth quarter of 2019 and the strong result improvement during the year in the Norwegian heating and cooling business. The full-year comparable operating profit from the recycling and waste business was close to the level of the previous year. The cost synergies related to the Hafslund transaction materialised gradually during 2019, with targeted annual synergies of EUR 5-10 million expected to be achieved by the end of 2020.

Operating profit was affected by EUR 7 (-5) million of items affecting comparability, mainly related to capital gains and the fair value change of non-hedge-accounted derivatives (Note 4).

The share of profits of associated companies and joint ventures totalled EUR 37 (74) million, the main part of which was related to the share of profit of Stockholm Exergi, EUR 24 (61) million, and Turun Seudun Energiantuotanto, EUR 13 (13) million (Note 11).

In September 2019, Fortum announced, in line with Fortum's strategy and the target to achieve carbon-neutral district heating in Espoo during the 2020s, the intention to discontinue the use of coal in the Espoo district heating network by the end of 2025.

Consumer Solutions

Consumer Solutions is responsible for the electricity and gas retail businesses in the Nordics and Poland, including the customer service, invoicing, and debt collection businesses. Fortum is the largest electricity retail business in the Nordics, with approximately 2.4 million customers across different brands in Finland, Sweden, Norway, and Poland. The business provides electricity as well as related value-added and digital services.

EUR million	IV/19	IV/18	2019	2018
Sales	510	555	1,835	1,759
- power sales	454	502	1,630	1,547
- other sales	55	53	206	212
Comparable EBITDA	35	31	141	110
Comparable operating profit	19	17	79	53
Operating profit	-3	11	20	75
Comparable net assets (at period-end)			640	648
Capital expenditure and gross investments in shares	15	14	55	47
Number of employees			1,327	1,399

Sales volumes

TWh	IV/19	IV/18	2019	2018
Electricity	8.8	9.0**	30.6	30.4**
Gas*	1.2	1.3	4.1	4.1

* Not including wholesale volumes.
** Figure corrected from previously published.

Number of customers

Thousands*	2019	2018
Electricity	2,340	2,440
Gas	40	30
Total	2,380	2,470

* Rounded to the nearest 10,000.

October-December 2019

The electricity sales volumes decreased by 2%, mainly due to warmer weather. Competition in the Nordics continued with high customer churn. However, Consumer Solutions' competitiveness continued to improve.

Comparable operating profit increased by 12%, driven by higher sales margins. The higher sales margins are a result of active development of the customer offering following the Hafslund integration and subsequent development of the business.

Operating profit was affected by EUR -22 (-5) million of items affecting comparability, due to the fair value change of non-hedge-accounted derivatives (Note 4).

January-December 2019

The electricity sales volumes increased by 1%, mainly due to increased sales to business customers, partly offset by the impact of the warmer weather in the first and fourth quarters and the reduced number of customers. The decrease in the number of customers was the result of a more selective customer acquisition and retention approach. Throughout the year, the market sentiment in the Nordics continued to be challenging, with tough competition and high customer churn. However, during the integration and restructuring of Hafslund, Fortum has been able to improve its competitive position in the Nordics. Higher market prices, especially in the first quarter, was the main driver for the 5% increase in sales.

Comparable operating profit increased by 49%, mainly supported by higher sales margins. The higher sales margins are a result of the active development of the product and service portfolios following the Hafslund integration and subsequent development of the business. Part of the improvement was related to favourable market conditions in the first half of the year, temporarily increasing profitability in certain areas of the customer portfolio. The annual EUR 10 million cost synergies related to the Hafslund transaction, projected to materialise by the end of 2020, fully materialised already during 2019.

Operating profit was affected by EUR -59 (22) million of items affecting comparability, due to the fair value change of non-hedge-accounted derivatives (Note 4).

In August 2019, the Polish Price Freeze Act became effective. This had a EUR -1 million impact on the third-quarter comparable operating profit. The fourth-quarter impact was marginal.

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	IV/19	IV/18	2019	2018
Sales	306	305	1,071	1,069
- power sales	249	237	924	872
- heat sales	57	65	145	193
- other sales	0	3	2	4
Comparable EBITDA	136	127	469	417
Comparable operating profit	94	89	316	271
Operating profit	95	90	317	273
Share of profits of associates and joint ventures	0	0	59	36
Comparable net assets (at period-end)			3,205	2,789
Comparable return on net assets, %			12.3	10.3
Capital expenditure and gross investments in shares	98	66	133	117
Number of employees			2,955	2,941

Russian power generation and heat production

TWh	IV/19	IV/18	2019	2018
Russian power generation	7.4	8.0	29.3	29.6
Russian heat production	6.0	6.4	17.3	20.4

Key electricity, capacity, and gas prices for Fortum Russia

	IV/19	IV/18	2019	2018
Electricity spot price (market price), Urals hub, RUB/MWh	1,081	1,099	1,117	1,043
Average regulated gas price, Urals region, RUB/1000 m^3	3,937	3,883	3,910	3,801
Average capacity price for CCS and other, tRUB/MW/month* **	166	158	154	148
Average capacity price for CSA, tRUB/MW/month**	1,186	1,196	1,096	1,075
Average capacity price, tRUB/MW/month	684	682	624	609
Achieved power price for Fortum in Russia, RUB/MWh	2,003	1,982	1,990	1,888
Achieved power price for Fortum in Russia, EUR/MWh***	28.2	26.0	27.3	25.6

* Including capacity receiving payments under "forced mode status", regulated tariffs, and bilateral agreements.
** Capacity prices paid for the capacity volumes, excluding unplanned outages, repairs, and own consumption.
*** Translated using the average exchange rate.

In 2018, Fortum and STS Corporation established the Yustek joint venture for the heat distribution and supply in Chelyabinsk. The operations of the Yustek joint venture started in November 2018 and became fully operational in January 2019 by obtaining the single heat supplier status and related tariffs. Fortum has transferred the heat networks in Chelyabinsk and certain heat-only boilers with a capacity of 1,661 MW to the Yustek joint venture under a lease agreement. In 2018, the businesses transferred to the Yustek joint venture had a marginal annual effect on the comparable operating profit of the Russia segment.

October-December 2019

Power generation volumes decreased due to repairs at the Chelyabinsk CHP 4 and Nyagan power plants. Heat production volumes declined, following the transfer of the heat distribution business in Chelyabinsk, including certain heat-only boilers, to the Yustek joint venture. The warmer weather in the Chelyabinsk area also had a negative impact on the volumes.

Sales remained stable. The negative effect of the transfer of the heat distribution business in Chelyabinsk to the Yustek joint venture and lower available Capacity Supply Agreement (CSA) capacity, due to the unplanned outage at the Tyumen CHP 1 power plant and repairs at the Chelyabinsk CHP 4 power plant, was offset by higher heat tariffs and the stronger Russian rouble.

Comparable operating profit increased by 6%, supported by a result improvement in the heat business and the stronger Russian rouble, partly offset by the above-mentioned lower available CSA capacity and electricity volumes. The effect of the change in the Russian rouble exchange rate was EUR 6 million.

The share of profits of associated companies and joint ventures totalled EUR 0 (0) million. The negative impact from the share of profit of the Yustek joint ventures in Chelyabinsk and Tyumen, EUR -8 (-2) million, was partly offset by the share of profit of TGC-1, EUR 7 (2) million (Note 11).

January-December 2019

Power generation volumes remained stable during the year. Heat production volumes decreased following the transfer of the heat distribution business in Chelyabinsk, including certain heat-only boilers, to the Yustek joint venture. The warmer weather in both the Chelyabinsk and Tyumen areas also had a negative impact.

Sales remained stable. The negative effect of the transfer of the heat distribution business in Chelyabinsk to the Yustek joint venture, and lower heat volumes due to the warmer weather in Chelyabinsk and Tyumen were offset by higher electricity prices, higher CSA payments at Nyagan 2, and the stronger Russian rouble.

Comparable operating profit increased by 17%, supported by higher electricity margins, lower bad-debt provisions, and higher received CSA payments. The increase in CSA payments was related to Nyagan 2 receiving higher payments for the last years of the CSA period starting from the third quarter of 2018. The effect of the change in the Russian rouble exchange rate was EUR 4 million.

The share of profits of associated companies and joint ventures totalled EUR 59 (36) million, mainly related to the share of profit of TGC-1, EUR 54 (40) million, and the Yustek joint ventures in Chelyabinsk and Tyumen, EUR 2 (1) million (Note 11).

Other Operations

Other Operations comprises corporate functions, technology and innovation, internal and external ventures, R&D, as well as Fortum's shareholding in Uniper, which is consolidated as an associated company from 30 June 2018 (Note 6).

EUR million	IV/19	IV/18	2019	2018
Sales*	32	31	115	103
Comparable EBITDA	-27	-21	-91	-78
Comparable operating profit	-34	-26	-119	-99
Operating profit	-37	-28	-127	-76
Share of profits of associates and joint ventures	103	-2	638	0
Comparable net assets (at period-end)			4,356	4,023
Capital expenditure and gross investments in shares	15	110	49	4,003

* Mainly internal sales.

Uniper investment and purchase price allocation

In 2017, Fortum announced a public takeover offer to buy shares in Uniper. In June 2018, the offer was settled and Fortum's ownership was 47.12%. At the end of 2018, Fortum's ownership in Uniper was 49.99%. The total acquisition cost for the initial 49.99% stake in Uniper of EUR 3,968 million, including direct costs relating to the acquisition, is reported in 'Participations in associated companies and joint ventures'. The purchase price allocation was finalised during the second quarter of 2019. Uniper's balance sheet as of 30 June 2018 has been used as the starting point for the purchase price allocation; however, a fair value adjustment of EUR 613 million has been made for the acquired assets and liabilities. Fortum's share of the goodwill on Uniper's balance sheet, EUR 930 million, is derecognised, as it is not an identifiable asset according to IFRS. Potential future impairments of goodwill (existing as of 30 June 2018) booked by Uniper will therefore be reversed to Fortum's share of profits of associates and joint ventures. The fair value adjustments of EUR 613 million relates mainly to political and regulatory risks that are reflected in the fair value of certain generation and production assets. The fair value adjustment will be reversed to 'Share of profits of associates and joint ventures' over a period of 20 years, EUR 31 million annually. If Uniper reports negative impacts relating to these generation and production assets, Fortum will assess the potential need to use this fair value adjustment to reverse the negative impacts (Note 6).

In May 2019, Uniper hosted its AGM. The AGM approved the proposed dividend of EUR 0.90 per share, which, for Fortum, corresponds to received dividends of EUR 165 million.

On 8 October 2019, Fortum announced it had entered into agreements with Elliott and Knight Vinke to acquire an additional stake of at least 20.5% in Uniper for approximately EUR 2.3 billion, increasing Fortum's share in Uniper to more than 70.5% (subject to regulatory clearances) and the total investment in Uniper to approximately EUR 6.2 billion, representing an average acquisition price of EUR 23.97 per share (Notes 6 and 11).

In 2018, in connection with the acquisition of the initial stake of 49.99% in Uniper, Fortum already received unconditional merger clearance from the European Commission with no further clearance required in the EU for any further acquisitions. On 30 December 2019, Fortum received regulatory clearance in the United States for the transaction. On 14 November 2019, the Russian Government Commission for Monitoring Foreign Investments approved, subject to certain conditions, the closing of the acquisition. The clarification of these conditions is still ongoing. Closing of the transactions is still subject to customary merger control clearance in Russia, and is expected by the end of the first quarter of 2020.

Fortum will fully consolidate Uniper as a subsidiary in its financial statements from closing of the transaction. The transaction will be financed with existing cash resources and committed credit facilities, that were syndicated to 13 banks in the fourth quarter of 2019. Fortum’s key objective is to have a solid investment-grade rating of at least BBB, in order to preserve financial flexibility and good access to capital markets post-closing of the acquisition of an additional stake of at least 20.5% in Uniper, and to strengthen its financial profile longer term. This will provide the appropriate financial stability and support for the enlarged group. As Uniper publishes its interim reports later than Fortum, Fortum's share of Uniper's results is accounted for with a time lag of one quarter, with potential adjustments. Fortum’s 2019 Financial Statements include Fortum’s share of Uniper's October-December 2018 and January-September 2019 results (Note 6). Uniper will report its full year 2019 results on 10 March 2020 and its first-quarter 2020 results on 7 May 2020.

On 30 January 2020, Uniper announced an ambitious phase-out plan for its German hard-coal-fired power production. The company plans to shut down a total of 1,500 MW of hard-coal capacity by the end of 2022 and a further 1,400 MW by the end of 2025. The last remaining hard-coal-fired power plant would be the 1,100-MW Datteln 4 power plant that must be decommissioned in 2038, at the latest, according to the draft law on coal phase-outs in Germany.

October-December 2019

Comparable operating profit decreased.

The share of profits of associated companies and joint ventures totalled EUR 103 (-2) million (Note 11). Fortum’s share of Uniper’s profits, EUR 98 (-2) million, comprises Fortum’s share of Uniper’s third-quarter 2019 results and the impact on Uniper’s result from reinstatement of the UK capacity market in the fourth quarter 2019, totalling EUR 90 (-2) million, as well as the fair value adjustments reversal according to the purchase price allocation of Uniper, EUR 8 (-) million (Note 6). EUR 99 (79) million of non-operating results from Uniper are included in the share of profits in the fourth quarter of 2019 (Note 11).

January-December 2019

Comparable operating profit declined, mainly as a result of the increased spend in Business Technology, including internal and external ventures. The investments in Valo Ventures and the related costs totalled EUR 23 million.

The share of profits of associated companies and joint ventures totalled EUR 638 (0) million (Note 11). Fortum’s share of Uniper’s profits EUR 632 (-2) million, comprises Uniper’s October-December 2018 and January-September 2019 results and the impact from reinstatement of the UK capacity market in the fourth quarter 2019, totalling EUR 601 (-2) million, as well as the fair value adjustments reversal according to the purchase price allocation of Uniper for 2019, EUR 31 (-) million (Note 6). EUR 392 (79) million of non-operating results from Uniper are included in the share of profits (Note 11).

Capital expenditures, divestments, and investments in shares

In the fourth quarter of 2019, capital expenditures and investments in shares totalled EUR 267 (367) million (Note 6). Capital expenditures were EUR 197 (200) million (Note 4).

In 2019, capital expenditures and investments in shares totalled EUR 819 (4,672) million, of which the Solberg acquisition from the Solberg-Blaiken asset swap amounted to EUR 36 million. Capital expenditures, excluding the impact of the Solberg-Blaiken asset swap, were EUR 683 (584) million (Note 4). In 2018, investments in shares were mainly attributable to the purchase of Uniper shares.

Fortum expects to start or has started power and heat production capacity of new power plants and expects to upgrade its existing plants as follows:

	Type	Electricity capacity, MW	Heat capacity, MW	Supply starts/started
Generation				
Hydro plants in Sweden and Finland	Hydro	14		2019
Hydro plants in Sweden and Finland	Hydro	~15		2020
Sørfjord, Norway*	Wind	97		IV/2019-III/2020
Kalax, Finland	Wind	90		I/2021
City Solutions				
Zabrze, Poland	CHP	75	145	1 April 2019
Kivenlahti, Finland	Bio HOB**		58	2020
Suomenoja, Finland	Heat pump		20	2021
Pavagada 2, India	Solar	250		5 August 2019
Rajasthan, India	Solar	250		IV/2020
Russia				
Solar***	Solar	116		2021-2022

* The Sørfjord wind park is part of the transaction with Credit Suisse Energy Infrastructure Partners and an 80% share will be sold once it is commissioned.
** Biofuel-fired heat-only boiler (HOB).
*** Subject to separate investment decision.

Generation

Through its interest in TVO, Fortum is participating in the building of Olkiluoto 3 (OL3), a 1,600-MW nuclear power plant unit in Finland. OL3 is funded through external loans, share issues, and shareholder loans according to shareholder agreements between the owners and TVO. As a 25% shareholder in OL3, Fortum has committed to pro rata funding of the project. At the end of the reporting period, Fortum's outstanding loan receivables related to OL3 were EUR 170 million and the outstanding commitment was EUR 63 million. In March 2019, the Finnish Government granted an operating licence for OL3. According to the time schedule updated by plant supplier Areva-Siemens consortium in December 2019, the plant will start regular electricity generation in March 2021 (Note 18).

In December 2019, Fortum and Credit Suisse Energy Infrastructure Partners (CSEIP) signed an agreement whereby funds advised by CSEIP will acquire an 80% stake in Fortum's Nordic wind portfolio. Fortum will continue to manage the construction and serve as long-term asset manager for the wind portfolio. The portfolio consists of the operational Nygårdsfjellet (32 MW, Norway), Ånstadblåheia (50 MW, Norway), and Solberg (76 MW, Sweden) wind parks as well as the Kalax (90 MW, Finland) wind park, which is under construction. The parties have also agreed that funds advised by CSEIP will invest in an 80% share of the Sørfjord (97 MW, Norway) wind park, once it is fully commissioned. Part of the capacities are already operational and the remaining part is expected to be commissioned by the end of the third quarter of 2020. In addition, Fortum and CSEIP have agreed on further cooperation and exclusivity on a new project in Sävar, Sweden (154 MW) with the ambition to build it at a later stage. The total consideration of the divestment of the 80% stake on a debt- and cash-free basis is expected to be approximately EUR 250 million, of which EUR 170 million is related to the first quarter of 2020. The transaction is subject to regulatory approvals in the EU and is expected to close in the first quarter of 2020. The sale will have a minor positive effect on the Generation segment's first-quarter 2020 comparable operating profit.

In May 2019, Fortum announced the restructuring of Fortum's and Skellefteå Kraft's ownership in the two jointly owned Swedish wind parks Solberg and Blaiken. Through an asset swap arrangement, Fortum became the sole owner of the 76-MW Solberg wind park and Skellefteå Kraft the sole owner of the 248-MW Blaiken wind park. The Solberg acquisition related to the Solberg-Blaiken asset swap amounted to EUR 36 million. The asset swap arrangement was finalised in August 2019 and had a minor impact on Fortum's cash flow and results.

In May 2019, Fortum made the investment decision to start construction of the 90-MW Kalax wind park in Närpes, Finland. The capital expenditure of the wind park is approximately EUR 90 million. The wind park is expected to be fully operational in the first quarter of 2021 at the latest. In October 2019, Fortum signed a 12-year power purchase agreement selling 70% of the power production of the Kalax wind park to Neste Corporation.

In January 2019, Fortum acquired all remaining C-shares of TVO, entitling it to 100% of the power production of the Meri-Pori coal condensing power plant, an increase from 67% previously. In December, 440 MW of the production capacity of Fortum's Meri-Pori power plant was selected for inclusion in the Finnish national peak-load reserve capacity system from 1 July 2020 to 30 June 2022.

City Solutions

In December 2019, Fortum signed an agreement to sell its district heating business in Joensuu, Finland, to Savon Voima Oyj. The total consideration on a debt- and cash-free basis was approximately EUR 530 million. The transaction was completed on 10 January 2020, and Fortum will record a tax-exempt capital gain of approximately EUR 430 million in the City Solutions segment's first-quarter 2020 results. In June 2019, Fortum announced it would review and consider strategic options for the Joensuu and Estonian district heating businesses. The strategic review of the Estonian district heating business is still ongoing. On 6 February 2020, Fortum announced that it will also assess its district heating and cooling businesses in Poland, Lithuania, Latvia, and Järvenpää in Finland.

In May 2019, Fortum announced its plan to construct a new 20-MW heat pump unit at the Suomenoja power plant in Espoo, Finland, to produce carbon-neutral district heating and to replace fossil fuel-based heat production. The unit is planned for commissioning in spring 2021 and will, together with the Kivenlahti bio-HOB, increase the share of Espoo's carbon-neutral district heating production in 2022 to over 50%. The final investment decision to build the unit was made in the fourth quarter of 2019.

In March 2019, Fortum announced that it had won the right from Solar Energy Corporation of India to build a 250-MW solar power plant in Rajasthan, India. Commissioning of the plant is expected in the fourth quarter of 2020.

In June 2018, Fortum won the right to build a 250-MW solar power plant in the Pavagada solar park in Karnataka, India. The capital expenditure was approximately EUR 160 million. The plant was fully commissioned by 5 August 2019.

In June 2018, Fortum signed an agreement to sell a 54% share of its solar power company operating four solar power plants in India to UK Climate Investments (40%) and Elite Alfred Berg (14%). In April 2019, Elite Alfred Berg used its option to buy an additional 2% from Fortum.

In 2015, Fortum decided to build a new multi-fuel CHP plant in Zabrze, Poland. The new plant is primarily fuelled by refuse-derived fuel (RDF) and coal; however, it is also able to use a mixture of fuels. The new plant has a production capacity of 145 MW of heat and 75 MW of electricity and replaces the existing purely coal-fired units in Zabrze and Bytom. Commissioning was somewhat delayed from the original plan and commercial operations started on 1 April 2019.

Russia

In April 2019, the Ministry of Energy of the Russian Federation selected Fortum and Energy Sales Company Vostok's 50/50 joint venture as the guaranteed electricity retail supplier to 1.5 million customers in the Chelyabinsk region as of 1 July 2019. The decision was made based on an auctioning process held in March 2019. In the auction, the joint venture committed to a 100% reimbursement of the RUB 4.8 billion debt of Chelyabenergosbyt, corresponding to approximately EUR 66 million. The transaction required a limited equity investment from Fortum, as the joint venture financed the major part of the reimbursement with external debt. For Fortum, the net impact of the reimbursement was substantially lower due to the fact that Fortum was the single largest creditor, with EUR 11 million of the debt.

In June 2019, Fortum won the right to build 5.6 MW of solar capacity in Russian CSA auctions, in addition to the 110 MW won in June 2018. The power plants are to be commissioned during the years 2021-2022.

In June 2018, the Fortum-Rusnano wind investment fund (50/50 joint venture) won the right to build 823 MW of wind capacity in a CSA auction. The wind parks were to be commissioned during the years 2019-2023. During the fourth quarter of 2018, the wind investment fund made an investment decision on a 100-MW wind farm. Power production and capacity supply is expected to start during the first half of 2020.

In June 2017, the Fortum-Rusnano wind investment fund won the right to build 1,000 MW of wind capacity in a CSA auction. The wind parks were to be commissioned during the years 2018-2022. In the fourth quarters of 2017, 2018, and 2019, the wind investment fund made investment decisions on a 50-MW, a 200-MW, and a 250-MW wind farm, respectively. On 1 January 2019, the 50-MW wind farm started operation. Power production and capacity supply at the 200-MW wind farm is expected to start during the first half of 2020 and at the 250-MW wind farm during the fourth quarter of 2020.

The investment decisions related to the renewable capacities won by Fortum and the Fortum-Rusnano wind investment fund in 2017, 2018, and 2019 are made on a case-by-case basis. Fortum’s maximum equity commitment is RUB 15 billion. In the longer term, Fortum seeks to maintain an asset-light structure.

Operating and regulatory environment

Nordic countries

According to preliminary statistics, electricity consumption in the Nordic countries was 108 (108) TWh during the fourth quarter of 2019. Temperatures were close to the long-term average and industrial demand was somewhat lower than in the fourth quarter of 2018. During 2019, electricity consumption in the Nordic countries was 392 (399) TWh, as milder weather during the first quarter and slightly lower industrial demand caused a slight decrease in the power demand.

At the beginning of 2019, the Nordic water reservoirs were at 74 TWh, which is 10 TWh lower than the long-term average and 8 TWh lower than one year earlier. At the end of the year, the reservoirs were at 79 TWh, which is 5 TWh below the long-term average and 5 TWh higher than one year earlier. In April 2019, the Norwegian energy regulator (NVE) revised the Norwegian reservoir statistics. The reported reference levels and historical deviations have been updated accordingly.

In the fourth quarter of 2019, the average system spot price in Nord Pool clearly decreased and was EUR 38.6 (47.6) per MWh. The average area price in Finland was EUR 43.5 (49.6) per MWh and in Sweden (SE3, Stockholm) EUR 38.5 (48.2) per MWh. Low gas prices kept the Continental European spot power prices at a low level during the fourth quarter, which also had a negative impact on the Nordic spot prices. During 2019, the average system spot price in Nord Pool was EUR 38.9 (44.0) per MWh. The average area price in Finland was EUR 44.0 (46.8) per MWh and in Sweden (SE3, Stockholm) EUR 38.4 (44.5) per MWh.

In Germany, the average spot price decreased significantly to EUR 36.6 (52.6) per MWh in the fourth quarter of 2019. In 2019, the average German spot price was EUR 37.7 (44.5) per MWh.

The market price of CO_2 emission allowances (EUA) showed some volatility during the year, but ended the year at the same price level as in the beginning of the year, at EUR 25 per tonne.

Russia

Fortum operates mainly 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. The Russian market is divided into two price zones and Fortum operates in the First Price Zone (European and Urals part of Russia).

According to preliminary statistics, Russian electricity consumption was 286 (286) TWh during the fourth quarter of 2019. The corresponding figure for the First Price Zone was 217 (219) TWh. In 2019, Russian electricity consumption was 1,059 (1,056) TWh and 807 (810) TWh in the First Price Zone.

In the fourth quarter of 2019, the average electricity spot price, excluding capacity prices, decreased by 6% to RUB 1,232 (1,309) per MWh in the First Price Zone. The spot price in the Urals hub decreased by 2% and was RUB 1,081 (1,099) per MWh. In 2019, the average electricity spot price, excluding capacity prices, was RUB 1,289 (1,247) per MWh in the First Price Zone and RUB 1,117 (1,043) per MWh in the Urals hub.

More detailed information about the market fundamentals is included in the tables at the end of the report (pages 70-71).

Regulatory environment

New EU institutions with a strong focus on climate

Following the EU elections in May, the new Parliament took office. The Commission headed by President Ursula von der Leyen started at the beginning of December and, without delay, issued the first outline of its Green Deal.

The European Council, except Poland, endorsed the target of reaching EU economy-wide climate neutrality by 2050. Meanwhile, the Commission announced its intention to triple the budget of the Just Transition Fund to EUR 100 billion, with the target to ease the transformation in heavily fossil-reliant countries. Polish adherence will be reconsidered in the European Council in June 2020, whilst the 2050 EU economy-wide target will be part of the Climate Law due in February 2020.

Fortum welcomes the firm climate orientation of the new EU institutions.

The European Green Deal emerging

In December, the European Commission published a Communication on the European Green Deal. It will be the new Commission's bold political initiative, aiming at EU economy-wide climate neutrality by 2050. The Commission is expected to launch up to 50 related initiatives during the next two years.

While, the Green Deal will not be solely about climate ambition, it is expected to deliver extensive growth for Europe, bundling all EU policy areas and all sectors of society. The Green Deal comprises, among other things, energy supply, circular economy, ecosystems, biodiversity, and mainstreaming of sustainability in all EU policies.

Practically all energy and climate targets and policies will be subject to revision and, consequently, entail a regulatory risk. The Commission will present a Green Financing Strategy in autumn 2020 in order to enable the private sector to contribute to the financing of a green transition.

Fortum welcomes the Green Deal and considers sector integration and electrification as offering significant solutions and business opportunities to meet the ambitious goals of the Green Deal.

Sustainable finance regulation adopted

In December, the European Council and Parliament reached an agreement on the taxonomy regulation of sustainable finance. The taxonomy creates a unified classification system for what can be considered sustainable investments. The regulation still needs to be formally approved by the Council and Parliament and is expected to enter into force by the end of 2022.

The regulation strongly leans towards renewable energy technologies. Nuclear and gas may qualify as 'transitional activities', depending on the outcome of the assessment that will be carried out by the Commission during 2020.The status of waste-to-energy is still open, whilst the treatment of hazardous waste has been classified as sustainable.

As such, the objective of the sustainable finance initiative is in line with Fortum's strategy. Fortum has, however, strongly advocated for an approach based on CO_2 emissions and technology-neutrality in compliance with the Paris Agreement. There is a risk that if the taxonomy discriminates against some low-carbon technologies, the financing costs of such investments will increase in the future and result in unduly expensive decarbonisation.

EIB's new energy lending policy approved

In November, the European Investment Bank (EIB) agreed on a new energy lending policy and confirmed the EIB's increased ambition in climate action and environmental sustainability. EIB will align all financing activities with the goals of the Paris Agreement from the end of 2020 and end financing for fossil fuel energy projects from the end of 2021.

The Sustainable Europe Investment Plan launched by the new Commission targets to unlock EUR 1 trillion of climate action and environmentally sustainable investments by 2030. The EIB will play a key role in this and will gradually turn into a climate bank. EIB will no longer consider new financing for, fossil fuel energy projects, including gas. In addition, EIB set a new Emissions Performance Standard of 250g of CO_2/kWh for power and heat projects. This will replace the current 550g of CO_2/kWh standard. Nuclear and renewable energy projects continue to be eligible for funding. If in line with the EU waste hierarchy and national waste management plans, waste-to-energy projects are also eligible.

The new EIB lending policy is well in line with Fortum's strategy.

German climate and coal phase-out legislation

In September 2019, the German Government released an extensive climate and energy package in order to meet the 2030 emission reduction target of 55% and carbon-neutrality by 2050. In December, the German Parliament approved the climate package. The package includes a national emissions trading system for the transport and building sectors with carbon prices of EUR 25 in 2021 and EUR 55 in 2025. To offset the higher costs for consumers and companies, the climate package includes subsidies for electric cars and tax incentives for greener heating, electricity, and housing.

The climate protection law ("Klimaschutzgesetz") sets annual CO_2 emission reduction targets for the period 2020-2030 for six sectors: energy, industry, transport, buildings, agriculture, waste management, and others.

In addition, the Government decided on a coal phase-out plan, based on the earlier proposal, and is committed to propose legislation in line with the recommendations of the Coal Commission and to publish a gas strategy including hydrogen. The coal phase-out legislation was approved by the federal cabinet on 29 January 2020 and is expected to be completed in the first half of 2020. In the years 2026 and 2029, the Government plans to carry out large-scale reviews of how the coal phase-out is progressing. The review will inform the decision on whether the phase-out can be brought forward by three years, i.e. that Germany could phase out coal as early as 2035. With regards to the new coal-fired plant Datteln 4, owned by Uniper, the Government announced its interest to allow the commissioning of the plant while, at the same time, old and less-efficient plants would be closed.

In Fortum’s opinion, it would be essential to have the respective legislation become effective as soon as possible, as the first auctions for the closure of hard coal plants are planned already for summer 2020 and the first plants are to be closed in 2022.

Changed Swedish taxation resulted in new CHP and waste-to-energy taxes

In line with a broad political agreement made in January 2019, containing new taxes of up to EUR 1.5 billion, legislation on the taxation of waste incineration was approved by the Swedish Government on 4 December 2019. The tax level was set at SEK 75/tonne in 2020 and will increase to SEK 125/tonne by 2022.

As part of the tax change, the Government also passed a law to increase the tax for fossil-fuelled CHP plants, effective from August 2019. The Government has not specified the definition of a green tax, and additional taxes are likely to be presented during the spring of 2020.

Swedish energy agreement collapses

In December, the Conservatives and Christian Democrats left the Swedish broad energy agreement made in 2016. The main reason was the ongoing disagreement on nuclear power, with the opposition wanting to update the agreement with more nuclear friendly wording. The collapse of the agreement will not have any major financial implications for Fortum, as key elements in the original agreement, mainly tax reductions for hydro and nuclear power, have already been implemented. However, it will most likely result in increasing regulatory uncertainty, especially for nuclear power.

Key drivers and risks

Fortum's financial results are exposed to a number of financial, operational, strategic, and sustainability-related risks. Fortum is exposed to these risks both directly and indirectly through its associated companies and joint ventures. The principal associated companies and joint ventures are Uniper SE, TVO, OKG AB, Forsmarks Kraftgrupp AB, Kemijoki Oy, TGC-1, and Stockholm Exergi AB. For more information about the risk exposures, please see each respective company’s annual report.

One of the key factors influencing Fortum's business performance is the Nordic electricity wholesale price. The key short-term drivers behind the electricity wholesale price development in the Nordic region are commodity prices, such as coal and gas, European electricity wholesale prices, prices for CO_2 emission allowances, the hydrological situation, temperatures, and the electricity import-export balance. In the longer term, global economic growth and changes to energy policy and regulations impact commodity and CO_2 emission allowance prices, which, in turn, impact the Nordic wholesale price of electricity. In addition, increased volatility in exchange rates could have both translation and transaction effects on Fortum's financials, especially through the Russian rouble and Swedish krona.

Operational risks resulting from failed internal processes or systems or from external events can have a negative impact on Fortum’s results. In all regions, fuel prices and power plant availability also impact profitability.

Changes in the regulatory and fiscal environment create risks and opportunities for the energy and environmental management business. 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 analyses and assesses a number of future market and regulation scenarios, including the impact of these on different generation forms and technologies. As a result, Fortum’s strategy includes broadening of the revenue base and diversification into new businesses, technologies, and markets. The environmental management business is based on the framework and opportunities created by environmental regulation. Being able to respond to customer needs created by the tightening regulation is a key success factor.

For Fortum's Russian business, the key drivers are economic growth, the rouble exchange rate, regulation of the heat business, and the further development of the electricity and capacity markets. A key profitability driver is the received capacity payments based on the CSA contracts and Competitive Capacity Selection (CCS) auctions. The main part of Fortum's generation capacity built after 2007 is entitled to CSA payments for approximately 10 years after commissioning of each new unit (approximately 15 years for renewable generation). 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 are adjusted for, among other factors, the weighted average cost of capital (WACC), the consumer price index (CPI), and re-examination of earnings from the electricity-only (spot) market (done every three and six years after commissioning of a unit). In addition, thermal power plants are entitled to clearly higher CSA payments starting approximately six years after commissioning.

For further information about the risks, see Fortum's Annual Report.

Outlook

Hedging

At the end of 2019, approximately 75% of the Generation segment's estimated Nordic power sales volume was hedged at EUR 34 per MWh for 2020 (at the end of the third quarter 2019: 70% at EUR 33 per MWh), and approximately 40% at EUR 33 per MWh for 2021 (at the end of the third quarter 2019: 35% at EUR 33 per MWh).

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 electricity derivatives quoted on Nasdaq Commodities.

Capital expenditure and divestments

Fortum currently estimates its capital expenditure, including maintenance but excluding acquisitions, to be approximately EUR 700 million (previously expected to be less than EUR 600-650 million) in 2020. This includes approximately EUR 200 million of solar and wind investments, which are subject to the capital recycling business model. The maintenance capital expenditure in 2020 is estimated to be approximately EUR 300 million, well below the level of depreciation.

Nordic market

Electricity is expected to continue to gain a higher share of total energy consumption. Electricity demand in the Nordic countries during the next few years is expected to grow annually by approximately 0.5% on average. The growth rate will largely be determined by the macroeconomic development in Europe and especially in the Nordic countries and, in the longer term, also by the rate of electrification of industry, transportation, and heating.

During the fourth quarter of 2019, the gas price was at a low level and also the front-year gas price decreased. Coal prices decreased, EUA prices developed sideways, and oil prices increased.

At the end of January 2020, the forward quotation for coal (ICE Rotterdam) for the remainder of 2020 was around USD 53 per tonne and the market price for EUAs for 2020 at the level of EUR 24 per tonne. The Nordic system electricity forward price on Nasdaq Commodities for the remainder of 2020 was around EUR 20 per MWh and for 2021 around EUR 27 per MWh. In Germany, the electricity forward price for the remainder of 2020 was around EUR 36 per MWh and for 2021 around EUR 41 per MWh. The Nordic water reservoirs were about 6 TWh above the long-term average and 13 TWh higher than one year earlier.

Generation

The Generation segment's achieved Nordic power price typically depends on factors such as hedge ratios, hedge prices, spot prices, availability and utilisation of Fortum's flexible production portfolio, as well as 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. The achieved power price also includes the results of optimisation of Fortum's hydro and nuclear production, as well as operations in the physical and financial commodity markets.

In June 2018, the Swedish Parliament adopted new hydro legislation, effective 1 January 2019. The new legislation states that the power industry shall create a joint hydropower fund to finance major parts of the required environmental actions. Consequently, a fund has been established with a total financial cap of SEK 10 billion to be paid over a 20-year period. All major utilities will contribute to the fund based on their share of Swedish hydropower production. Fortum's share of the fund's total financing is 23%. In addition to the new legislation, the Government issued an ordinance that came into force on 11 January 2019 to establish a national prioritisation plan for the revision of hydropower permits.

In June 2018, the Swedish Administrative Court of Appeal gave its decisions on Fortum Sverige AB's hydropower production-related real-estate tax assessments for the years 2009-2014. The court decisions were not in Fortum's favour. Fortum applied for the right to appeal from the Supreme Administrative Court, but did not receive permission to appeal. As the Administrative Court, the Administrative Court of Appeal in Stockholm, and the Supreme Administrative Court have handled only the arguments concerning state aid, the case concerning the other legal arguments has now been transferred back to the Administrative Court. The disputed amount, excluding interest for the time period, totals approximately SEK 510 million (approximately EUR 49 million). Moreover, Fortum's Swedish companies have appeals for 2011-2016 pending before the Administrative Court relating to the real-estate tax rate for their hydropower plants and referring to the same legal grounds. Fortum has paid the real-estate tax in accordance with the legislation. If the final court decision is unfavourable to Fortum, it will not impact Fortum's results. In December 2018, Fortum Sverige AB filed a complaint to the EU Commission regarding the Swedish real-estate tax for hydropower plants for 2017 and prior years. Fortum has asked the Commission to investigate whether the Swedish legislation regarding the real-estate tax for hydropower plants and the Swedish court decisions are in line with EU state aid rules.

According to the Swedish Government's budget proposal for the coming years, presented in September 2016, the Swedish hydropower real-estate tax will decrease from 2.8% to 0.5%. The tax is being 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 2018, the tax was EUR 65 million, in 2019 EUR 40 million, and in 2020 it is expected to be approximately EUR 25 million. In addition to the decrease in the tax rate, the hydropower real-estate tax values, which are linked to electricity prices, were updated in 2019. The real-estate tax values are updated every six years.

City Solutions

In City Solutions, growth in cash flow and earnings is mainly achieved through investments in new plants and through acquisitions. Heat prices, fuel cost, CO_2 prices, availability, taxation and regulatory changes, flexibility and efficiency of the plants, as well as gate fees for receiving waste are the key drivers for profitability, but power prices and weather conditions also affect profitability. Fortum aims to create new businesses with potential for sizeable profit contribution, e.g. within the areas of waste and recycling and the bio-economy.

The development of Fortum Oslo Varme's business operations is estimated to require one-time integration-related costs and investments over the coming years. The cost synergies materialised gradually during 2019, with targeted annual synergies of EUR 5-10 million expected to be achieved by the end of 2020.

In March 2019, Fortum announced that it had won the right from Solar Energy Corporation of India to build a 250-MW solar power plant in Rajasthan, India. The solar park will be entitled to a fixed tariff of 2.48 INR/kWh for 25 years. Commissioning of the plant is expected in the fourth quarter of 2020.

In June 2018, Fortum won the right to build a 250-MW solar power plant in the Pavagada solar park in Karnataka, India. The capital expenditure was approximately EUR 160 million and the solar park is entitled to a fixed tariff of 2.85 INR/kWh for 25 years. The plant was fully commissioned by 5 August 2019.

Consumer Solutions

Competition in the Nordic electricity retail market is expected to remain challenging, with continued pressure on sales margins and customer churn. To counter the market challenges and to create a solid foundation for competitive operations, Consumer Solutions will continue its cost spend in developing new digital services for consumers.

Russia

In the Russia segment, capacity payments based on CSA contracts are a key driver for earnings growth, as capacity payments based on CSA contracts are considerably higher than for CCS auctions. Currently, Fortum's CSA capacity amounts to 2,368 MW. In February 2019, the System Administrator of the wholesale market published data from 2018 regarding the WACC and the CPI, which were used to calculate the CSA price for 2019. The CSA payments were revised downwards to reflect the lower bond rates and upwards due to the lower earnings from the electricity-only market. The net impact of the adjustments was a minor increase of the CSA payments for 2019.

In addition, thermal power plants are entitled to clearly higher CSA payments starting approximately six years after commissioning (see table below). In 2020, no such increase in CSA payments is expected for the Fortum generation fleet.

Unit	CSA started	Higher CSA starts	CSA ends
Tyumen CHP 1, unit 2	1 Feb 2011	1 Oct 2016	31 Dec 2020
Chelyabinsk CHP 3, unit 3	1 Jun 2011	1 Nov 2016	31 Dec 2020
Nyagan, unit 1	1 Apr 2013	1 Jan 2018	31 Dec 2021
Nyagan, unit 2	1 Dec 2013	1 Aug 2018	31 Dec 2022
Nyagan, unit 3	1 Jan 2015	1 Jan 2021	31 Dec 2025
Chelyabinsk CHP 4, unit 1	1 Dec 2015	1 Jan 2021	31 Dec 2024
Chelyabinsk CHP 4, unit 2	1 Mar 2016	1 Jan 2021	31 Dec 2024

Fortum’s other Russian generation capacity, totalling 2,560 MW, is allowed to participate in the CCS auctions. The long-term CCS auctions for the years 2018-2021 were held in 2015, 2016, and 2017. All Fortum plants offered in the auctions were selected. The nominal CCS price was 111 tRUB/MW/month for 2018, 110 tRUB/MW/month for 2019, 115 tRUB/MW/month for 2020, and 134 tRUB/MW/month for 2021. The CCS auctions for 2022-2024 were held in August 2019. The nominal CCS price was 168 tRUB/MW/month for 2022, 171 tRUB/MW/month for 2023, and 182 tRUB/MW/month for 2024. The CCS auction for 2025 is expected to be held in February 2020. Fortum has also obtained so-called "forced mode status", i.e. it receives payments with a higher rate, for some of the units at the Argayash power plant. “Forced mode status” was obtained for 195 MW for the years 2018-2019, for 175 MW for the year 2020, and for 105 MW for the year 2021.

In June 2019, Fortum won the right to build 5.6 MW of solar capacity in a CSA auction, in addition to the 110 MW won in June 2018. The power plants will receive a guaranteed CSA price for a period of 15 years, corresponding to approximately RUB 14,000 per MWh and RUB 15,000 per MWh, respectively. The plants are to be commissioned during 2021-2022.

In June 2018, the Fortum-Rusnano wind investment fund (Fortum's ownership 50%) won the right to build 823 MW of wind capacity in a CSA auction. The wind parks were to be commissioned during 2019-2023 and will receive a guaranteed CSA price corresponding to approximately RUB 7,000-8,000 per MWh for a period of 15 years. In December 2018, the wind investment fund made an investment decision on a 100-MW wind farm.

In June 2017, the Fortum-Rusnano wind investment fund won the right to build 1,000 MW of wind capacity in a CSA auction. The wind parks were to be commissioned during 2018-2022 and will receive a guaranteed CSA price corresponding to approximately RUB 7,000-9,000 per MWh for a period of 15 years. In the fourth quarters of 2017, 2018, and 2019, the wind investment fund made investment decisions on a 50-MW, 200-MW, and 250-MW wind farm, respectively.

The Russian Government increased the gas price by 1.4% in July 2019. Fortum estimates the gas price to be increased by 3% in July 2020.

Other Operations

For information on the financial impact of the Uniper shareholding, please see Notes 6 and 11.

Income taxation

In June 2018, the Swedish Government decided to lower the Swedish corporate tax in two steps, from 22.0% to 21.4%, effective January 2019, and to 20.6%, effective January 2021.

In Belgium, Fortum has received income tax assessments for the years 2008-2012. The tax authorities disagree with the tax treatment of Fortum EIF NV, which was later merged into Fortum Project Finance NV. Fortum finds the tax authorities' interpretation to be inconsistent with the local regulation and has appealed the decisions. The Court of First Instance in Antwerp 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 Antwerp 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 the Supreme Court (Hof van Cassatie) in March 2016. In April 2019, the Advocate General at the Supreme Court issued his opinion, which was in favour of Fortum Project Finance. In May 2019, the Supreme Court, however, annulled the decision of the Court of Appeal of Antwerp and referred the case back to the Court of Appeal of Ghent for full retrial. Fortum's appeals concerning 2009-2012 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. The amount of additional tax claimed is EUR 36 million for the year 2008, EUR 27 million for 2009, EUR 15 million for 2010, EUR 21 million for 2011, and EUR 15 million for 2012. The tax has already been paid.

In March 2018, the Swedish Supreme Administrative Court decided not to grant leave to appeal to Fortum with respect to the interest deduction cases relating to the years 2009-2012. The unfavourable decision of the Administrative Court of Appeal from June 2017 therefore remains in force. The additional tax and interest, in total SEK 1,175 million (EUR 122 million), was paid in 2016 and booked as a cost in the second-quarter 2017 results. There are strong grounds to argue that these decisions of the Administrative Court of Appeal and the Supreme Administrative Court violate EU law and fundamental rights under EU law. On these grounds, Fortum filed a summons application in December 2018 to the District Court of Stockholm in which damages are claimed from the Swedish state in these cases. Fortum also filed a request to initiate a mutual agreement procedure between Sweden and the Netherlands for the year 2012 (Note 18).

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 is strengthening its in-house innovation and digitalisation efforts and building partnerships with leading global suppliers, technology and service companies, and research institutions. Fortum makes direct and indirect investments in start-ups that have promising new innovations focused 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 that 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.

The Group reports its R&D expenditure on a yearly basis. In 2019, Fortum’s R&D expenditure was EUR 67 (56) million, or 1.2% (1.1%) of sales.

Sustainability

Fortum gives balanced consideration in its operations to climate and resource issues, as well as its impacts on personnel and society, emphasising the following priority areas:

Personnel and society		**Climate and resources**
Business ethics and compliance	Employee wellbeing, health and safety	Climate change and GHG emissions
Customer rights and satisfaction	Labour rights	Energy efficiency
Human rights	Innovation and digitalisation	Circular economy
Corporate governance	Economic value creation	Emissions to air, land and water
Stakeholder engagement	Diversity and equal opportunity	Water use
		Security of supply

The Group-level sustainability targets are linked to the main sustainability priority areas and emphasise Fortum's role in society. They measure not only environmental and safety targets, but also Fortum's reputation, customer satisfaction, employee wellbeing, and the security of power and heat production. Targets are set annually and are based on continuous operational improvement. A new target in 2019 is the Contractor Safety Improvement index.

The achievement of the sustainability targets is monitored in monthly, quarterly, and annual reporting. Fortum publishes a yearly Sustainability Report with additional information on the company’s sustainability performance.

Group sustainability targets and performance 2019

	Target	IV/19	IV/18	2019	2018
Climate and resources					
Specific CO_2 emissions from total energy production as a five-year average, g/kWh	≤ 200	180	194	186	186
Energy-efficiency improvement by 2020, baseline 2012, GWh/a	≥ 1,900	-	-	1,707	1,637
Major EHS incidents, no.	≤ 18	2	1	11	18
Energy availability of CHP plants, %	≥ 95.0	93.2	97.1	95.9	96.4
Personnel and society					
Reputation index, based on One Fortum Survey	≥ 73.0	-	-	72.3	72.5
Customer satisfaction index (CSI), based on One Fortum Survey	70-74	-	-	54-80	63-83
Lost Workday Injury Frequency, own personnel and contractors	≤ 1.7	1.2	1.4	1.7	1.8
Severe occupational accidents, no.	0	1	3	1	4
Quality of investigation process of occupational accidents, major EHS incidents and near misses	Level 3.0	Level 4.0	Level 3.0	Level 3.0	Level 3.0
GAP index, implementation of EHS minimum requirements	Level 3.0	Level 3.0	-	Level 3.0	Level 2.0
Contractor Safety Improvement index	Level 2.0	Level 2.0*	-	Level 2.0*	-
Sickness-related absences, %	≤ 2.5	2.9	3.0	3.0	2.8

* The reporting of the Contactor safety improvement index started in the second quarter of 2019. The figure is still excluding City Solutions' solar power sites.

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 (long-term target: at least 10%) and capital structure (long-term target: comparable net debt-to-EBITDA around 2.5x).

Fortum is listed on the Nasdaq Helsinki exchange and is included in the STOXX Global ESG Leaders, OMX Sustainability Finland, ECPI®, Euronext Vigeo Eurozone 120, Euronext Vigeo Europe 120, and Equileap Gender Equality indices. Fortum is also ranked in category B in the CDP Climate Change 2019 rating, and it has received a rating A in the MSCI ESG Ratings assessment in 2019, and a Prime Status (B-) rating by ISS ESG Corporate Rating. In June 2019, Fortum became a constituent of the FTSE4Good Index Series.

Fortum's sustainability reporting covers all functions under Fortum's operational control, including subsidiaries in all countries of operation.

Climate and resources

Fortum's Group-level targets for climate and resources are related to CO_2 emissions, energy efficiency, secure supply of electricity and heat for customers, and major Environmental, Health, and Safety (EHS) incidents. Operational-level activities follow the requirements set forth in the ISO 14001 environmental management standard, and 99.8% (99.9%) of Fortum's power and heat production worldwide has ISO 14001 certification.

Fortum's aim is to promote resource efficiency improvements and the transition towards a more extensive circular economy. Fortum's energy production is primarily based on carbon dioxide-free hydropower and nuclear power and on energy-efficient CHP. In line with the strategy, Fortum targets a multi-gigawatt solar and wind portfolio. Fortum expects the concern about climate change to increase the demand for low-carbon production and energy-efficient solutions and products. Fortum aims to mitigate climate change by investing in CO_2-free energy production and by improving energy and resource efficiency.

In 2019, Fortum's direct CO_2 emissions were 19.1 (20.1) Mt. Of the total CO_2 emissions, 2.1 (2.5) Mt were within the EU Emission Trading Scheme (ETS). The estimate for Fortum's free emission allowances in 2019 is 0.7 (0.8) Mt.

Fortum's total CO_2 emissions (million tonnes, Mt)	IV/19	IV/18	2019	2018
Total emissions	5.2	5.7	19.1	20.1
Emissions subject to ETS	0.6	0.7	2.1	2.5
Free emission allowances	-	-	0.7	0.8
Emissions in Russia	4.4	4.7	16.3	16.9

In 2019, Fortum's specific carbon dioxide emissions from total energy production were 189 (192) g/kWh. The specific CO_2 emissions from total energy production as a five-year average were 186 (186) g/kWh, which is better than Fortum's Group target of ≤ 200 g/kWh.

Fortum has a Group-level target to achieve annual energy-efficiency improvements of ≥1,900 GWh by 2020 compared to 2012. Fortum achieved 1,707 GWh/a by the end of 2019.

An uninterrupted and reliable energy supply is critical for society to function. The energy availability of the company's CHP plants in 2019 was, on average, 95.9% (96.4%), outperforming the target of ≥95.0%.

Fortum's target regarding major EHS incidents is to have no more than 18 major EHS incidents annually. Major EHS incidents are monitored, reported and investigated, and corrective actions are implemented. In 2019, there were 11 (18) major EHS incidents in Fortum's operations. The major EHS incidents included three fires, two environmental non-compliances, four leaks, one explosion, and one INES (International Nuclear Event Scale) level 1 incident. The major EHS incidents did not have significant environmental impacts.

Personnel and society

Fortum's Group-level targets for personnel and society are related to operational and occupational safety, employee wellbeing, as well as reputation and customer satisfaction. For Fortum, excellence in safety is the foundation of the company's business and an absolute prerequisite for efficient and interruption-free production. Fortum strives to be a safe workplace for the employees, contractors, and service providers who work for the company. A certified OHSAS 18001 or ISO 45001 safety management system covers 96.5% (97.0%) of Fortum's power and heat production worldwide.

In 2019, Fortum's Lost Workday Injury Frequency (LWIF) for own personnel and contractors was 1.7 (1.8), achieving the set target level (≤1.7). In 2019, there was one occupational violence case in Russia, which was classified as a severe accident. The Group target for 2019 was zero severe occupational accidents.

In 2019, the quality of the investigation process of occupational accidents, major EHS incidents, and serious near misses was at the level of 3.0 (3.0), achieving the set target level (3.0).

In 2019, the GAP index was at the level of 3.0 (2.0), achieving the set target level (3.0). The GAP index measures how well the Group's EHS minimum requirements are realised at the power plant level.

In 2019, the Contractor Safety Improvement index was at the level of 2.0, achieving the set target level (2.0). However, the assessment had not yet covered all Fortum operations. The Contractor Safety Improvement index measures how well Fortum has managed to implement measures targeting improvements in contractor safety.

Fortum's goal regarding workplace wellbeing activities is to promote the health and occupational safety of employees and the functionality of the work community. In 2019, the percentage of sickness-related absences was 3.0 (2.8), which did not meet the target level of ≤ 2.5.

Fortum's targets for reputation and customer satisfaction are monitored annually. In the One Fortum Survey in 2019, the combined company reputation index among key stakeholder groups was 72.3 (72.5) points, on a scale of 0–100, which did not meet the target of ≥ 73.0 points.

The Group-level target (70–74 points, on a scale of 0–100) for customer satisfaction was achieved among all business areas with two exceptions: retail electricity sales and EV charging solutions for both consumers and businesses.

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 2019, Fortum conducted a total of 14 (13) supplier audits in Poland, Russia, India, China, Indonesia, and Vietnam. In addition, one coal supplier in Kazakhstan was assessed against the Bettercoal Code by a third party.

Shares and share capital

Fortum shares on Nasdaq Helsinki

Jan-Dec 2019	No. of shares traded	Total value EUR	High EUR	Low EUR	Average EUR*	Last EUR
FORTUM	372,272,722	7,467,030,668	22.50	18.09	20.14	22.00

* Volume weighted average.

	31 December 2019	31 December 2018
Market capitalisation, EUR million	19,542	16,966
Number of shareholders	123,390	122,980
Finnish State holding, %	50.8	50.8
Nominee registrations and direct foreign shareholders, %	30.5	30.8
Households, %	9.5	9.5
Financial and insurance corporations, %	1.7	1.7
Other Finnish investors, %	7.6	7.3

In addition to Nasdaq Helsinki, Fortum shares were traded on several alternative market places, for example Boat, Cboe and Turquoise, and on the OTC market. During 2019, approximately 73% of Fortum's shares were traded on markets other than Nasdaq Helsinki (source Bloomberg).

On 31 December 2019, Fortum Corporation's share capital was EUR 3,046,185,953 and the total number of registered shares was 888,294,465. Fortum Corporation does not hold any of the company's own shares.

Group personnel

Fortum's operations are mainly based in the Nordic countries, Russia, Poland and the Baltic Rim area. The total number of employees at the end of 2019 was 8,191 (8,286).

At the end of 2019, the Generation segment had 1,109 (1,091) employees, City Solutions 1,970 (2,017), Consumer Solutions 1,327 (1,399), Russia 2,955 (2,941), and Other Operations 830 (838).

Changes in the Group management

In August 2019, Fortum announced that Marco Ryan, a member of Fortum's Board of Directors, resigned from the Board following his appointment at the energy company BP. Fortum's Shareholders' Nomination Board evaluated the Board of Directors' ability to function and concluded that the Board had full capacity to continue in its remaining composition until the 2020 Annual General Meeting.

Annual General Meeting 2019

Fortum Corporation's Annual General Meeting on 26 March 2019 adopted the Financial Statements and the Consolidated Financial Statements for the financial period 1 January-31 December 2018, and discharged from liability the members of the Fortum Board of Directors and the President and CEO for the year 2018.

The Annual General Meeting decided to pay a dividend of EUR 1.10 per share for the financial year that ended on 31 December 2018. The record date for the dividend payment was 28 March 2019 and total dividends of EUR 977 million were paid on 4 April 2019.

The Annual General Meeting confirmed the remuneration for Board service for the upcoming term as follows: EUR 75,000 per year for the Chairman, EUR 57,000 per year for the Deputy Chairman, EUR 40,000 per year for a Member, and EUR 57,000 per year for the Board member acting as the Chairman of the Audit and Risk Committee if he or she is not simultaneously acting as Chairman or Deputy Chairman of the Board. In addition, a fee of EUR 600 will be paid for each Board meeting and Board Committee meeting. For Board members living outside Finland in Europe, the fee for each meeting will be doubled, and for Board members living outside Europe, the fee for each meeting will be tripled. For Board members living in Finland, the fee for each Board and Board Committee meeting will be doubled for meetings held outside Finland and tripled for meetings held outside Europe. For Board and Committee meetings held as a telephone conference, the basic meeting fee will be paid to all members. No fee will be paid for decisions made without a separate meeting.

The Annual General Meeting decided that the number of the members in the Board of Directors will be nine. Mr Matti Lievonen was elected as Chairman, Klaus-Dieter Maubach as Deputy Chairman, and Ms Eva Hamilton, Mr Kim Ignatius, Ms Essimari Kairisto, Ms Anja McAlister, Mr Veli-Matti Reinikkala, Mr Marco Ryan and Mr Philipp Rösler as Members. In August 2019, Marco Ryan resigned from the Board following his appointment at the energy company BP.

In addition, Deloitte Oy was re-elected as the auditor, with Reeta Virolainen, APA, as the principal auditor. The auditor's fee is paid pursuant to an invoice approved by the company.

The Annual General Meeting authorised the Board of Directors to decide on the repurchase and disposal of the company's own shares up to maximum of 20,000,000 shares, which corresponds to approximately 2.25% of all the shares in the company. Only the unrestricted equity of the company can be used to repurchase own shares on the basis of the authorisation. It was also decided that own shares cannot be repurchased or disposed for the purposes of the company's incentive and remuneration schemes. These authorisations cancelled the authorisations resolved by the Annual General Meeting of 2018 and they will be effective until the next Annual General Meeting and in any event no longer than for a period of 18 months. The authorisations have not been used as of 6 February 2020.

The Annual General Meeting authorised the Board of Directors to decide on contributions in the total maximum amount of EUR 500,000 for charitable or similar purposes, and to decide on the recipients, purposes and other terms of the contributions. The authorisation will be effective until the next Annual General Meeting. The authorisation has not been used as of 6 February 2020.

Board decisions

At the meeting held after the Annual General Meeting 2019, Fortum’s Board of Directors elected to the Nomination and Remuneration Committee Matti Lievonen as Chairman, and Eva Hamilton, Klaus-Dieter Maubach and Anja McAlister as members. Furthermore, the Board elected to the Audit and Risk Committee Kim Ignatius as Chairman, and Essimari Kairisto, Veli-Matti Reinikkala, Marco Ryan and Philipp Rösler as members.

Shareholders’ Nomination Board

On 3 October 2019, Mr Kimmo Viertola, Director General, Prime Minister's Office, Ownership steering department (Chairman), Mr Jouko Pölönen, President and CEO, Ilmarinen Mutual Pension Insurance Company, and Mr Risto Murto, President and CEO, Varma Mutual Pension Insurance Company, were appointed to Fortum's Shareholders' Nomination Board. In addition, the Chairman of Fortum's Board of Directors, Mr Matti Lievonen, is a member of the Shareholders' Nomination Board.

Other major events during the fourth quarter of 2019

On 19 December 2019, the Board of Directors decided to commence the 2020-2022 long-term incentive (LTI) plan for key employees and executives. The Board of Directors also decided to update the terms and conditions of the LTI programme, valid for the plans commencing as of the beginning of 2020, to include more precise malus and clawback clauses. The 2020-2022 LTI plan is part of Fortum's ongoing LTI programme and otherwise follows the same principles as the previous plan. The 2020-2022 LTI plan will comprise approximately 140 participants, including the members of Fortum Executive Management. The Board of Directors also decided to establish a Restricted Share programme, as a supplement to the LTI programme, and reserve shares that potentially will be allocated under the 2020-2022 plan. The Restricted Share programme will follow the main terms and conditions of the general LTI programme with the exception that the allocated shares will be delivered after the three-year plan period independent of performance measures, subject to continued employment. The maximum number of shares that may be delivered as a reward is expected to be 660,000 shares for the 2020-2022 LTI plan and 60,000 shares for the 2020-2022 Restricted Share plan.

On 11 October 2019, the Board of Directors decided to establish an Employee Share Savings (ESS) programme and launch the savings period for the year 2020 under that programme. The shares for the ESS programme will be purchased from the market quarterly after Fortum’s interim reports have been published. Dividends paid for the shares will be reinvested in additional shares to be purchased from the market after the dividend payment. The Board of Directors will annually decide on the potential launch of each individual savings period. The ESS programme participants will, as a gross reward, be granted one matching share for each two purchased savings shares after approximately three years from the beginning of the savings period. The total amount of all savings for the 2020 savings period may not exceed EUR 6 million. More than 40% of the eligible employees took the opportunity to invest in the first ESS plan.

Events after the balance sheet date

On 6 February 2020, Fortum announced, in line with its strategy and continued review of the business portfolio, that it had decided to assess strategic options, including possible divestment, of its district heating and cooling businesses in Poland, Estonia, Lithuania, Latvia, and Järvenpää in Finland. Based on initial assessments, these district heating and cooling businesses have been identified as operations that could provide higher growth and value potential with an alternative ownership structure.

On 31 January 2020, Fortum's Shareholders' Nomination Board submitted its proposals to Fortum's Board of Directors for the 2020 Annual General Meeting concerning the number of the Board members, the members to be nominated to the Board of Directors, and the election of the Chairman and Deputy Chairman. The Shareholders' Nomination Board did not reach a unanimous proposal, and consequently did not make a proposal for the remuneration paid to the Board of Directors for their following term of office.

On 10 January 2020, Fortum concluded the sale of its district heating business in Joensuu, Finland, to Savon Voima Oyj, as announced on 20 December 2019. The total consideration of the sale on a debt- and cash-free basis was approximately EUR 530 million and the cash was received at the completion of the divestment on 10 January 2020. Fortum will record a tax-exempt capital gain of approximately EUR 430 million in the City Solutions segment’s first-quarter 2020 results.

Dividend distribution proposal

The distributable funds of Fortum Corporation as at 31 December 2019 amounted to EUR 4,219,128,198.51 including the profit of the financial period 2019 of EUR 213,409,797.80. The company’s liquidity is good and the dividend proposed by the Board of Directors will not compromise the company’s liquidity.

The Board of Directors proposes to the Annual General Meeting that a dividend of EUR 1.10 per share be paid for 2019.

Based on the number of registered shares as at 5 February 2020, the total amount of dividend would be EUR 977,123,911.50. The Board of Directors proposes that the remaining part of the distributable funds be retained in the shareholders’ equity.

Annual General Meeting 2020

Fortum's Annual General Meeting 2020 is planned to take place on 17 March 2020 at 11:00 a.m. EET at the Finlandia Hall, Mannerheimintie 13, Helsinki. The possible dividend-related dates planned for 2020 are:

- Ex-dividend date 18 March 2020
- Record date for dividend payment 19 March 2020
- Dividend payment date 26 March 2020

Espoo, 5 February 2020

Fortum Corporation
Board of Directors

Further information:

Investor Relations and Financial Communications: Ingela Ulfves, tel. +358 40 515 1531, Måns Holmberg, tel. +358 44 518 1518, Rauno Tiihonen, tel. +358 10 453 6150, Pirjo Lifländer, tel. +358 40 643 3317, and investors@fortum.com

Media: Pauliina Vuosio, tel. +358 50 453 2383

The Board of Directors has approved Fortum’s 2019 Financial Statements and Fortum’s auditors have issued their unqualified Audit Report for 2019 on 5 February 2020. The Financial Statements Bulletin has been prepared in accordance with International Accounting Standard (IAS) 34, Interim Financial Reporting, as adopted by the EU.

Financial calendars in 2020:

Financial Statements and Operating and Financial Review for 2019 in week 8 at the latest

Fortum will publish three interim reports in 2020:

- January-March Interim Report on 29 April 2020 at approximately 9:00 EEST
- January-June Half-year Financial Report on 17 July 2020 at approximately 9:00 EEST
- January-September Interim Report on 29 October 2020 at approximately 9:00 EET

Fortum's Annual General Meeting 2020 is planned to take place on 17 March 2020. The possible dividend-related dates for 2020 are:

- Ex-dividend date 18 March 2020
- Record date for dividend payment 19 March 2020
- Dividend payment date 26 March 2020

Fortum’s Capital Markets Day 2020 is planned for 3 December 2020.

Uniper publishes its financial calendar on the website www.ir.uniper.energy. Uniper will publish its interim reports in 2020 on the following dates:

- Report on the Financial Year 2019 on 10 March 2020
- Financial Results January-March 2020 on 7 May 2020
- Financial Results January-June 2020 on 11 August 2020
- Financial Results January-September 2020 on 10 November 2020

Distribution:

Nasdaq Helsinki
Key media
www.fortum.com

More information, including detailed quarterly information, is available on Fortum’s website at www.fortum.com/investors

Condensed consolidated income statement

EUR million	Note	Q4 2019	Q4 2018	2019	2018
Sales	4	1,553	1,599	5,447	5,242
Other income		45	41	110	130
Materials and services		-745	-870	-2,721	-2,795
Employee benefits		-125	-119	-480	-459
Depreciation and amortisation	4,9,10	-154	-139	-575	-536
Other expenses		-176	-178	-591	-594
Comparable operating profit	4	**398**	**333**	**1,191**	**987**
Items affecting comparability		46	-24	-81	151
Operating profit	4	**444**	**309**	**1,110**	**1,138**
Share of profit/loss of associates and joint ventures	4, 11	65	-44	744	38
Interest expense		-39	-36	-167	-148
Interest income		5	6	28	34
Fair value gains and losses on financial instruments		2	-5	8	-8
Other financial expenses - net		-24	30	6	-15
Finance costs - net		-55	-4	-125	-136
Profit before income tax		**454**	**261**	**1,728**	**1,040**
Income tax expense	7	-88	-64	-221	-181
Profit for the period		**367**	**197**	**1,507**	**858**
Attributable to:					
Owners of the parent		356	192	1,482	843
Non-controlling interests		10	5	25	15
		367	**197**	**1,507**	**858**
Earnings per share for profit attributable to the equity owners of the company (EUR per share)					
Basic		**0.40**	0.22	**1.67**	0.95

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

EUR million	Note	Q4 2019	Q4 2018	2019	2018
Comparable operating profit		**398**	**333**	**1,191**	**987**
Impairment charges	4	0	-4	-8	-4
Capital gains and other	4, 6	-2	-1	7	102
Changes in fair values of derivatives hedging future cash flow	4	5	2	-72	98
Nuclear fund adjustment	4, 14	42	-21	-9	-45
Items affecting comparability		46	-24	-81	151
Operating profit		**444**	**309**	**1,110**	**1,138**

See Definitions for key ratios.

Condensed consolidated statement of comprehensive income

EUR million	Q4 2019	Q4 2018	2019	2018
Profit for the period	**367**	**197**	**1,507**	**858**
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 [1)]	59	-300	82	-778
Transfers to income statement	138	11	635	15
Transfers to inventory/property, plant and equipment	-1	0	-4	-2
Deferred taxes	-39	63	-151	162
Net investment hedges				
Fair value gains/losses in the period	-8	10	-24	32
Deferred taxes	2	-2	5	-6
Exchange differences on translating foreign operations [2)]	123	-138	259	-525
Share of other comprehensive income of associates and joint ventures	15	-41	72	-37
Other changes	1	0	5	0
	291	**-397**	**877**	**-1,141**
Items that will not be reclassified to profit or loss in subsequent periods:				
Actuarial gains/losses on defined benefit plans	12	4	-21	3
Actuarial gains/losses on defined benefit plans in associates and joint ventures	-78	45	-208	43
	-66	**50**	**-229**	**46**
Other comprehensive income for the period, net of deferred taxes	**225**	**-347**	**649**	**-1,094**
Total comprehensive income for the period	**592**	**-150**	**2,155**	**-236**
Total comprehensive income attributable to:				
Owners of the parent	579	-145	2,120	-239
Non-controlling interests	14	-5	36	3
	592	**-150**	**2,155**	**-236**

1) Fair valuation of cash flow hedges mainly relates to fair valuation of derivatives, such as futures and forwards, hedging electricity price for future transactions, where hedge accounting is applied. When electricity price is higher (lower) than the hedging price, the impact on equity is negative (positive).

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

Condensed consolidated balance sheet

EUR million	Note	Dec 31 2019	Dec 31 2018
ASSETS			
Non-current assets			
Intangible assets	9	1,143	1,087
Property, plant and equipment and right-of-use assets	10	10,123	9,981
Participations in associates and joint ventures	11	6,435	5,978
Share in State Nuclear Waste Management Fund	14	813	899
Other non-current assets		151	139
Deferred tax assets		77	70
Derivative financial instruments	5	180	229
Long-term interest-bearing receivables	12	651	683
Total non-current assets		**19,571**	**19,065**
Current assets			
Inventories		230	233
Derivative financial instruments	5	131	326
Short-term interest-bearing receivables	12	384	409
Income tax receivables		133	172
Trade and other receivables		1,176	1,620
Deposits and securities (maturity over three months)		76	29
Cash and cash equivalents		1,356	556
Liquid funds	13	1,433	584
Total current assets		**3,486**	**3,344**
Assets held for sale	6	**307**	**-**
Total assets		**23,364**	**22,409**
EQUITY			
Equity attributable to owners of the parent			
Share capital		3,046	3,046
Share premium		73	73
Retained earnings		9,982	9,232
Other equity components		-118	-510
Total		**12,982**	**11,841**
Non-controlling interests		252	236
Total equity		**13,235**	**12,077**
LIABILITIES			
Non-current liabilities			
Interest-bearing liabilities	13	6,118	5,007
Derivative financial instruments	5	137	362
Deferred tax liabilities		865	720
Nuclear provisions	14	813	899
Other provisions	15	87	91
Pension obligations		125	98
Other non-current liabilities		167	182
Total non-current liabilities		**8,311**	**7,358**
Current liabilities			
Interest-bearing liabilities	13	570	1,086
Derivative financial instruments	5	252	829
Trade and other payables		943	1,058
Total current liabilities		**1,766**	**2,973**
Liabilities related to assets held for sale	6	**52**	**-**
Total liabilities		**10,129**	**10,332**
Total equity and liabilities		**23,364**	**22,409**

Condensed consolidated statement of changes in total equity

			Retained earnings		Other equity components					
EUR million	Share capital	Share premium	Retained earnings	Translation of foreign operations	Cash flow hedges	Other OCI items	OCI items associates and joint ventures	Owners of the parent	Non-controlling interests	Total equity
Total equity 31 December 2018	**3,046**	**73**	**11,937**	**-2,705**	**-638**	**99**	**30**	**11,841**	**236**	**12,077**
Net profit for the period			1,482					1,482	25	1,507
Translation differences				247	7	0	-1	253	6	259
Other comprehensive income					561	-40	-136	385	5	390
Total comprehensive income for the period			1,482	247	568	-40	-137	2,120	36	2,156
Cash dividend			-977					-977	-23	-1,000
Other			-2					-2	4	2
Total equity 31 December 2019	**3,046**	**73**	**12,441**	**-2,459**	**-70**	**60**	**-108**	**12,982**	**252**	**13,235**
Total equity 31 December 2017	**3,046**	**73**	**12,062**	**-2,187**	**-40**	**70**	**24**	**13,048**	**239**	**13,287**
Impact from change in accounting principle (IFRS 9 and 15)			7					7		7
Total equity 1 January 2018	**3,046**	**73**	**12,069**	**-2,187**	**-40**	**70**	**24**	**13,055**	**239**	**13,295**
Net profit for the period			843					843	15	858
Translation differences				-519	0	1	-1	-518	-7	-525
Other comprehensive income			0		-599	28	6	-564	-5	-569
Total comprehensive income for the period			843	-519	-598	29	6	-239	3	-236
Cash dividend			-977					-977	-6	-983
Other			2					2	0	2
Total equity 31 December 2018	**3,046**	**73**	**11,937**	**-2,705**	**-638**	**99**	**30**	**11,841**	**236**	**12,077**

Translation differences

Translation differences impacted equity attributable to owners of the parent company with EUR 253 million during 2019 (2018: -518). 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 -14 million during 2019 (2018: 24), is included in other OCI items.

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 recognised in equity. For information regarding exchange rates used, see Note 2 Accounting policies.

Cash flow hedges

The impact on equity attributable to owners of the parent from fair valuation of cash flow hedges, EUR 568 million during 2019 (2018: -598), mainly relates to fair valuation of derivatives, such as futures and forwards, hedging electricity price for future transactions, where hedge accounting is applied. When electricity price is higher (lower) than the hedging price, the impact on equity is negative (positive).

Cash dividends

A dividend for 2018 was decided in the Annual General Meeting on 26 March 2019 and paid on 4 April 2019. See Note 8 Dividend per share.

Condensed consolidated cash flow statement

EUR million	Note	Q4 2019	Q4 2018	2019	2018
Cash flow from operating activities					
Profit for the period		**367**	**197**	**1,507**	**858**
Adjustments:					
Income tax expense	7	88	64	221	181
Finance costs - net		55	4	125	136
Share of profit of associates and joint ventures	11	-65	44	-744	-38
Depreciation and amortisation	9, 10	154	139	575	536
Operating profit before depreciations (EBITDA)		**598**	**449**	**1,685**	**1,674**
Items affecting comparability	4	-46	24	81	-151
Comparable EBITDA		**552**	**473**	**1,766**	**1,523**
Non-cash flow items		9	-22	-1	-90
Interest received		6	5	29	23
Interest paid		-24	-16	-177	-171
Dividends received		0	7	239	61
Realised foreign exchange gains and losses		3	26	14	231
Income taxes paid		-51	-25	-165	-94
Other items		-13	-4	-13	-9
Funds from operations		**482**	**444**	**1,691**	**1,474**
Change in settlements for futures		14	-226	356	-524
Change in working capital		-234	-180	-33	-146
Net cash from operating activities		**261**	**38**	**2,015**	**804**
Cash flow from investing activities					
Capital expenditures	9, 10	-166	-185	-695	-579
Acquisitions of shares	6	-70	-175	-107	-4,088
Proceeds from sales of fixed assets	9, 10	1	2	35	38
Divestments of shares and capital returns	6	1	2	53	259
Shareholder loans to associated companies and joint ventures	12	31	5	9	-24
Change in cash collaterals and restricted cash	12	-9	51	311	-36
Change in other interest-bearing receivables	12	5	8	25	31
Net cash used in investing activities		**-207**	**-292**	**-369**	**-4,398**
Cash flow before financing activities		**55**	**-254**	**1,646**	**-3,594**
Cash flow from financing activities					
Proceeds from long-term liabilities	13	0	0	2,805	1,764
Payments of long-term liabilities	13	-18	-33	-2,567	-586
Change in short-term liabilities	13	-37	157	-78	135
Dividends paid to the owners of the parent	8	0	0	-977	-977
Dividends paid to non-controlling interests [1]		0	0	-23	-5
Other financing items		-1	0	1	-4
Net cash from/used in financing activities		**-56**	**124**	**-839**	**326**
Net increase(+)/decrease(-) in liquid funds		**-2**	**-130**	**806**	**-3,268**
Liquid funds at the beginning of the period	13	**1,430**	**731**	**584**	**3,896**
Foreign exchange differences in liquid funds		6	-16	44	-43
Liquid funds at the end of the period [2]	13	**1,435**	**584**	**1,435**	**584**

1) Dividends paid to non-controlling interests have in previous interim reports been presented in 'Other financing items'.
2) Includes cash balances of EUR 2 million relating to assets held for sale at 31 December 2019. See Note 6 Acquisitions, disposals and assets held for sale.

Realised foreign exchange gains and losses

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.

Change in settlements for futures

In Fortum's cash flow statement the daily cash settlements for futures are shown in cash flow from operating activities whereas the changes in cash collaterals for forwards are included in cash flow from investing activities. The daily cash settlements are included in trade and other receivables and the cash collaterals are included in the short-term interest-bearing receivables, see Note 12 Interest-bearing receivables for additional information.

Additional cash flow information

Change in working capital

EUR million	Q4 2019	Q4 2018	2019	2018
Change in interest-free receivables, decrease(+)/increase(-)	-332	-379	63	-186
Change in inventories, decrease(+)/increase(-)	12	22	4	-3
Change in interest-free liabilities, decrease(-)/increase(+)	86	177	-100	43
Total	**-234**	**-180**	**-33**	**-146**

Capital expenditure in cash flow

EUR million	Q4 2019	Q4 2018	2019	2018
Capital expenditure	197	200	713	584
Change in not yet paid investments, decrease(+)/increase(-)	-29	-11	-9	5
Capitalised borrowing costs	-2	-3	-9	-10
Total	**166**	**185**	**695**	**579**

Capital expenditures for intangible assets and property, plant and equipment were in 2019 EUR 713 million (2018: 584). Capital expenditure in cash flow in 2019 of EUR 695 million (2018: 579) includes payments related to capital expenditure made in the previous year, i.e. change in trade payables related to investments of EUR -9 million (2018: 5) and excludes capitalised borrowing costs of EUR -9 million (2018: -10), which are presented in interest paid.

Acquisition of shares in cash flow

Acquisition of shares, net of cash acquired, amounted to EUR 107 million during 2019 (2018: 4,088). Acquisition of shares during 2018 include mainly the acquisition of shares in Uniper SE. For additional information, see note 6 Acquisitions, disposals and assets held for sale.

Divestment of shares in cash flow

EUR million	Q4 2019	Q4 2018	2019	2018
Proceeds from sales of subsidiaries, net of cash disposed	0	0	15	88
Proceeds from sales and capital returns of associates and joint ventures	1	2	33	171
Proceeds from sales of other investments	0	0	4	0
Total	**1**	**2**	**53**	**259**

During 2019 there were no material divestments. For further information regarding divestments during 2018, see note 6 Acquisitions, disposals and assets held for sale.

Capital structure and key figures

Financial targets give guidance on Fortum's view of the company's long-term value creation potential, its growth strategy and business activities. The long-term over-the-cycle financial targets are Return on capital employed, ROCE, at least 10% and Comparable net debt to EBITDA around 2.5 times.

Change in net debt

EUR million	Note	Q4 2019	Q4 2018	2019	2018
Net debt, beginning of the period		**5,367**	**5,244**	**5,509**	**988**
Impact from change in accounting principle (IFRS 16 and IFRS 9)		0	0	99	1
Foreign exchange rate differences		-11	6	-51	15
Comparable EBITDA		552	473	1,766	1,523
Non-cash flow items		9	-22	-1	-90
Paid net financial costs		-25	14	-142	77
Dividends received		0	7	239	61
Income taxes paid		-51	-25	-165	-94
Change in settlements for futures and working capital		-220	-406	323	-670
Capital expenditures		-166	-185	-695	-579
Acquisitions		-70	-175	-107	-4,088
Divestments and proceeds from sale of fixed asset		3	3	88	298
Shareholder loans to associated companies		31	5	9	-24
Change in other interest-bearing receivables		-5	59	336	-5
Dividends to the owners of the parent		0	0	-977	-977
Dividends to non-controlling interests		0	0	-23	-5
Other financing activities		-4	-4	-4	-7
Net cash flow (- increase in net debt)		53	-254	646	-4,580
Impact of non-cash collateral arrangement		-27	-	281	-
Fair value change of bonds, amortised cost valuation, acquired debt and other changes		-16	5	68	-75
Net debt, end of the period	13	**5,260**	**5,509**	**5,260**	**5,509**

Comparable net debt/EBITDA ratio

EUR million	Note	2019	2018
Interest-bearing liabilities		6,694	6,093
- Liquid funds [1)]		1,435	584
Net debt	13	**5,260**	**5,509**
Operating profit		1,110	1,138
+ Depreciation and amortisation		575	536
EBITDA		**1,685**	**1,674**
- Items affecting comparability		-81	151
Comparable EBITDA		**1,766**	**1,523**
Comparable net debt/EBITDA		**3.0**	**3.6**

1) Net debt is calculated as interest-bearing liabilities minus liquid funds without deducting interest-bearing receivables amounting to EUR 1,035 million (Dec 31 2018: 1,092).

Return on capital employed, %

EUR million	2019	2018
Profit before income tax	**1,728**	**1,040**
Interest expenses	167	148
Other financial expenses [1]	15	26
+Interest and other financial expenses	**181**	**174**
Profit before taxes + interest and other financial expenses	**1,909**	**1,214**
1) Other financial expenses as disclosed in Note 12 Finance costs-net of the Consolidated financial statements of 2018.		
Capital employed		
Total assets	**23,364**	**22,409**
Total liabilities	10,129	10,332
- Interest-bearing liabilities	6,694	6,093
- Total interest-free liabilities	**3,435**	**4,239**
Capital employed	**19,929**	**18,170**
Capital employd at the end of previous period	**18,170**	**18,172**
Average capital employed	**19,051**	**18,171**
Return on capital employed, %	**10.0 %**	**6.7 %**

Key ratios

Definition of key figures are presented in Note 21.

	Dec 31 2019	Dec 31 2018
Comparable EBITDA, EUR million	**1,766**	1,523
Earnings per share (basic), EUR	**1.67**	0.95
Capital employed, EUR million	**19,929**	18,170
Interest-bearing net debt, EUR million	**5,260**	5,509
Capital expenditure and gross investments in shares, EUR million	**819**	4,672
Capital expenditure, EUR million	**713**	584
Return on capital employed, %	**10.0**	6.7
Return on shareholders' equity, %	**11.9**	6.8
Comparable net debt / EBITDA	**3.0**	3.6
Interest coverage	**8.0**	10.0
Interest coverage including capitalised borrowing costs	**7.5**	9.2
Funds from operations/interest-bearing net debt, %	**32.2**	26.8
Gearing, %	**40**	46
Equity per share, EUR	**14.61**	13.33
Equity-to-assets ratio, %	**57**	54
Number of employees	**8,191**	8,286
Average number of employees	**8,248**	8,767
Average number of shares, 1,000 shares	**888,294**	888,312
Diluted adjusted average number of shares, 1,000 shares	**888,294**	888,312
Number of registered shares, 1,000 shares [1]	**888,294**	888,294
Number of registered shares excluding treasury shares, 1,000 shares	**888,294**	888,294

1) On 17 December 2018, Board of Directors decided to cancel all 72,580 treasury shares owned by the company without decreasing the share capital. The cancellation was entered in the Trade Register on 21 December 2018.

Notes to the condensed consolidated interim financial statements

1. Basis of preparation

The unaudited condensed interim financial statements have been prepared in accordance with International Accounting Standard (IAS) 34, Interim Financial Reporting, as adopted by the EU. The condensed interim financial report should be read in conjunction with the consolidated financial statements for the year ended 31 December 2018.

The figures in the consolidated interim financial statements have been rounded and consequently the sum of individual figures may deviate from the sum presented. Key figures have been calculated using exact figures.

According to the ESMA Guidelines on Alternative Performance Measures, an Alternative Performance Measure (APM) is understood as a financial measure of historical or future financial performance, financial position, or cash flows, other than a financial measure defined or specified in the applicable financial reporting framework.

Fortum uses Alternative Performance Measures (APMs) in the financial target setting and forecasting, management's follow up of financial performance of segments and the Group as well as allocation of resources in the Group's performance management process. The business performance of the operations cannot be compared from one period to another without adjusting for items affecting comparability and therefore they are excluded from Comparable operating profit and Comparable EBITDA. The main business performance measurements have been used consistently since 2005.

Fortum's financial targets for capital structure and long-term value creation and profitability are measured with Comparable net debt to EBITDA (long-term over-the-cycle target: around 2.5 times) and Return on capital employed (long-term over-the-cycle target: at least 10%).

Definitions and reconciliation tables are presented in section 'Capital structure and key figures' after the cash flow statement and in Note 21.

2. Accounting policies

The same accounting policies and presentation have been followed in these condensed interim financial statements as were applied in the preparation of the consolidated financial statements for the year ended 31 December 2018 except for the new IFRS 16 Leases standard that was adopted on 1 January 2019. Other amendments and interpretations effective from 1 January 2019 do not have a material impact on Fortum's financial statements.

2.1 New standards effective from 1 January 2019

Adoption of IFRS 16 standard

IFRS 16 Leases standard has been adopted on 1 January 2019. IFRS 16 requires lessees to recognise all leases, except for short-term leases (lease term less than 12 months), leases of low value assets, and leases for which consideration is based on lessee's performance, on the balance sheet as right-of-use assets and lease liabilities. The assets and liabilities are recognised based on the present value of future lease payments. The right-of-use asset is depreciated on a straight-line basis during the lease term. In addition, the assets' carrying values are reviewed continuously to determine whether there is any indication of impairment. However, at transition, Fortum has applied the relief in IFRS 16 that permits reliance on assessment of onerous contracts.

Interest expense from lease liabilities is recognised using the effective interest method, presented in Finance costs – net. In the cash flow statement, the principal portion of the lease payment is presented under Payments of long-term liabilities, and the interest portion as Interest paid under Funds from operations. For leases not capitalised due to exemptions in the standard, the lease payments are recognised on a straight-line basis and presented in Other expenses.

For lessors, there are no significant changes.

Fortum has applied the standard using the modified retrospective method, which means the comparative figures are not restated. Right-of-use assets have been recognised equal to the value of lease liabilities, adjusted by the amount of any prepaid or accrued lease payments relating to that lease recognised in the balance sheet before the initial application. In addition, Fortum has applied the exemption of not recognising short-term leases and leases of low value assets in the balance sheet.

IFRS 16 - Transition impacts

The application of IFRS 16 had the following impact to the 1 January 2019 opening balance:

• Increase of EUR 96 million in Property, plant and equipment and right-of-use assets
• Increase of EUR 99 million in Interest-bearing liabilities
• Decrease of EUR 1 million in Other non-current assets
• Decrease of EUR 3 million in Other provisions
• Decrease of EUR 1 million in Trade and other payables

Reconciliation of lease liabilities and operating lease commitments on transition is presented below:

EUR million	
Operating lease commitments 31 December 2018	**216**
Leases not yet commenced but to which Fortum is committed	-41
Leases with variable payments not included in the measurement of lease liabilities	-16
Exempted from recognition	-12
Discounting effect	-28
Other changes	-20
Lease liabilities 1 January 2019	**99**

The majority of right-of-use assets are office buildings and land areas. No new leases were identified as leases according to IFRS 16.

The weighted average incremental borrowing rate applied to lease liabilities on 1 January 2019 was 1.9%.

Accounting policies according to IFRS 16

A contract is or contains a lease if Fortum has a right to control the use of an identified asset for a non-cancellable period of time in exchange for consideration. When determining the non-cancellable period, Fortum assesses the probability of exercising extension and termination options by considering all relevant facts and circumstances.

When the future lease payments are revised due to changes in index-linked considerations or due to changes in lease terms, the right-of-use asset and the corresponding lease liability is remeasured to reflect these changes. Any differences that may arise from these reassessments, are recognised in the income statement.

2.2 Other new standards and interpretations

Physical settlement of contracts to buy or sell a non-financial item (IFRS 9)
In March 2019, IFRIC published an agenda decision on Physical settlement of contracts to buy or sell a non-financial item (IFRS 9). The decision clarifies how an entity applies IFRS 9 to fixed price contracts to buy or sell a non-financial item that are fair valued through profit or loss even though the contract is physically settled. The published agenda decision discusses the presentation of these contracts in the income statement and will not have an impact to net profit.

For Fortum the amount of contracts within the scope of the agenda decision is limited. Majority of Fortum’s physical contracts are used for own expected purchase, sale or usage requirements and therefore are not fair valued (”own use exemption” under IFRS 9). Physical contracts to buy or sell a non-financial item are fair valued through income statement when fair value option to offset accounting mismatch is used, or when own use exemption or hedge accounting cannot be applied. Effects are treated as changes in fair values of derivatives hedging future cash flow and adjusted to sales and materials and services, EUR -31 million and EUR -15 million, respectively, when calculating Fortum's alternative performance measures.

2.3 The key exchange rates applied in the Fortum Group accounts

The balance sheet date rate is based on 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 ending rate previous year.

Key exchange rates for Fortum Group applied in the accounts:

Average rate	Jan-Dec 2019	Jan-Sept 2019	Jan-June 2019	Jan-Mar 2019	Jan-Dec 2018	Jan-Sept 2018	Jan-June 2018	Jan-Mar 2018
Sweden (SEK)	10.5572	10.5547	10.4782	10.3776	10.2591	10.2392	10.1722	9.9962
Norway (NOK)	9.8524	9.7861	9.7356	9.7491	9.6432	9.6121	9.6294	9.6737
Poland (PLN)	4.2992	4.3056	4.2865	4.2961	4.2614	4.2467	4.2316	4.1790
Russia (RUB)	72.7949	73.4459	74.2121	75.6930	73.8035	72.9249	71.5430	69.7770

Balance sheet date rate	Dec 31 2019	Sept 30 2019	June 30 2019	Mar 31 2019	Dec 31 2018	Sept 30 2018	June 30 2018	Mar 31 2018
Sweden (SEK)	10.4468	10.6958	10.5633	10.3980	10.2548	10.3090	10.4530	10.2843
Norway (NOK)	9.8638	9.8953	9.6938	9.6590	9.9483	9.4665	9.5115	9.6770
Poland (PLN)	4.2568	4.3782	4.2496	4.3006	4.3014	4.2774	4.3732	4.2106
Russia (RUB)	69.9563	70.7557	71.5975	72.8564	79.7153	76.1422	73.1582	70.8897

3. Critical accounting estimates and judgements

The preparation of interim financial statements requires management to make judgements, estimates and assumptions that affect the reported amounts of assets and liabilities, income and expense. Actual results may differ from these estimates. 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.

In preparing these interim financial statements, the significant judgements made by management applying the Group's accounting policies and the key sources of estimation uncertainty were the same as those that applied to the consolidated financial statements for the year ended 31 December 2018 except for the judgement made when finalising the purchase price allocation for the acquisition of Uniper shares (see Note 6 Acquisitions, disposals and assets held for sale).

4. Segment information

Fortum's reportable segments under IFRS are Generation, City Solutions, Consumer Solutions and Russia. Other Operations includes corporate functions, R&D and technology development projects, as well as Fortum's shareholding in Uniper SE.

In November 2018, Fortum announced that the solar and wind businesses were reorganised and the wind operations became a business area within the Generation segment and the solar operations within the City Solutions segment. These were included in Other Operations until 31 December 2018. The Russian wind and solar operations continue as a part of the Russia segment.

Fortum has restated its 2018 comparative segment reporting figures in accordance with the new organisation structure. The restated and previously communicated quarterly information for 2018 were published on 19 March 2019 and can be found in the Interim reports section in Fortum's webpage.

Quarter		Generation[1)]		City Solutions[1)]		Consumer Solutions		Russia		Other Operations		Total	
EUR million	Note	Q4 2019	Q4 2018	Q4 2019	Q4 2018	Q4 2019	Q4 2018	Q4 2019	Q4 2018	Q4 2019	Q4 2018	Q4 2019	Q4 2018
Income statement data by segment													
Power sales [2)]		541	515	45	50	454	502	249	237	0	0	1,289	1,304
Heat sales		0	0	201	193	0	0	57	65	0	0	258	258
Waste treatment sales		0	0	70	62	0	0	0	0	0	0	70	62
Other sales		42	42	50	53	55	53	0	3	32	31	180	182
Sales		**583**	**557**	**366**	**359**	**510**	**555**	**306**	**305**	**32**	**31**	**1,797**	**1,806**
Internal eliminations		-61	-9	-16	-12	-6	-8	0	0	-23	-22	-105	-50
Netting of Nord Pool transactions [3)]												-139	-157
External sales		522	549	351	347	504	547	306	305	9	9	1,553	1,599
Comparable EBITDA		**278**	**225**	**129**	**109**	**35**	**31**	**136**	**127**	**-27**	**-21**	**552**	**473**
Depreciation and amortisation		-39	-37	-50	-45	-16	-15	-41	-38	-8	-5	-154	-139
Comparable operating profit		**239**	**188**	**80**	**64**	**19**	**17**	**94**	**89**	**-34**	**-26**	**398**	**333**
Impairment charges		0	-4	0	0	0	0	0	0	0	0	0	-4
Capital gains and other	6	0	0	1	0	0	0	0	1	-3	-2	-2	-1
Changes in fair values of derivatives hedging future cash flow		27	21	1	-12	-23	-5	0	0	0	0	5	2
Nuclear fund adjustment	14	42	-21	0	0	0	0	0	0	0	0	42	-21
Items affecting comparability		69	-5	2	-12	-22	-5	0	1	-3	-2	46	-24
Operating profit		**308**	**184**	**82**	**52**	**-3**	**11**	**95**	**90**	**-37**	**-28**	**444**	**309**
Share of profit/loss of associates and joint ventures	11	-34	-67	-4	25	0	0	0	0	103	-2	65	-44
Finance costs - net												-55	-4
Income taxes	7											-88	-64
Profit for the period												**367**	**197**
Gross investments / divestments by segment													
Gross investments in shares	6	0	4	3	17	0	0	62	42	4	104	70	167
Capital expenditure	9, 10	77	88	58	68	15	14	36	24	11	5	197	200
of which capitalised borrowing costs		2	2	0	1	0	0	0	0	0	0	2	3
Gross divestments of shares	6	0	0	0	0	0	0	0	0	0	0	0	0

1) Sales, both internal and external, include effects from realised hedging contracts. Effect on sales can be negative or positive depending on the difference between average contract price and realised spot price.
2) Power sales contains realised result from commodity derivatives, which have not had hedge accounting status under IFRS 9, but have been considered operatively as hedges.
3) Sales and purchases with Nord Pool Spot 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.

4. Segment information

Year-to-date

EUR million	Note	Generation[1)] 2019	Generation[1)] 2018	City Solutions[1)] 2019	City Solutions[1)] 2018	Consumer Solutions 2019	Consumer Solutions 2018	Russia 2019	Russia 2018	Other Operations 2019	Other Operations 2018	Total 2019	Total 2018
Income statement data by segment													
Power sales [2)]		2,006	1,771	153	134	1,630	1,547	924	872	0	0	4,714	4,324
Heat sales		0	0	615	604	0	0	145	193	0	0	760	797
Waste treatment sales		0	0	250	211	0	0	0	0	0	0	250	211
Other sales		135	71	181	161	206	212	2	4	115	103	639	550
Sales		**2,141**	**1,842**	**1,200**	**1,110**	**1,835**	**1,759**	**1,071**	**1,069**	**115**	**103**	**6,363**	**5,883**
Internal eliminations		-259	2	-45	-37	3	-11	0	0	-86	-79	-387	-125
Netting of Nord Pool transactions [3)]												-529	-516
External sales		1,883	1,844	1,155	1,073	1,839	1,748	1,071	1,069	29	24	5,447	5,242
Comparable EBITDA		**939**	**763**	**309**	**310**	**141**	**110**	**469**	**417**	**-91**	**-78**	**1,766**	**1,523**
Depreciation and amortisation		-145	-135	-188	-175	-62	-57	-153	-147	-28	-22	-575	-536
Comparable operating profit		**794**	**628**	**121**	**135**	**79**	**53**	**316**	**271**	**-119**	**-99**	**1,191**	**987**
Impairment charges		-3	-4	0	0	0	0	0	0	-6	0	-8	-4
Capital gains and other	6	3	77	5	-1	0	0	1	2	-2	23	7	102
Changes in fair values of derivatives hedging future cash flow		-15	79	2	-4	-59	22	0	0	0	0	-72	98
Nuclear fund adjustment	14	-9	-45	0	0	0	0	0	0	0	0	-9	-45
Items affecting comparability		-23	108	7	-5	-59	22	1	2	-8	23	-81	151
Operating profit		**771**	**736**	**127**	**130**	**20**	**75**	**317**	**273**	**-127**	**-76**	**1,110**	**1,138**
Share of profit/loss of associates and joint ventures	11	10	-72	37	74	0	0	59	36	638	0	744	38
Finance costs - net												-125	-136
Income taxes	7											-221	-181
Profit for the period												**1,507**	**858**
Gross investments / divestments by segment													
Gross investments in shares	6	13	14	9	33	0	0	66	63	18	3,977	106	4,088
Capital expenditure	9, 10	247	248	313	209	55	47	67	54	31	26	713	584
of which capitalised borrowing costs		6	6	3	4	0	0	0	0	0	0	9	10
Gross divestments of shares	6	12	160	2	147	0	0	0	0	16	0	30	306

1) Sales, both internal and external, include effects from realised hedging contracts. Effect on sales can be negative or positive depending on the difference between average contract price and realised spot price.
2) Power sales contains realised result from commodity derivatives, which have not had hedge accounting status under IFRS 9, but have been considered operatively as hedges.
3) Sales and purchases with Nord Pool Spot 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.

Segment assets and liabilities

EUR million	Note	Generation Dec 31 2019	Generation Dec 31 2018	City Solutions Dec 31 2019	City Solutions Dec 31 2018	Consumer Solutions Dec 31 2019	Consumer Solutions Dec 31 2018	Russia Dec 31 2019	Russia Dec 31 2018	Other Operations Dec 31 2019	Other Operations Dec 31 2018	Total Dec 31 2019	Total Dec 31 2018
Non-interest bearing assets		**6,433**	**6,861**	**3,728**	**3,582**	**942**	**1,044**	**2,630**	**2,408**	**192**	**173**	**13,924**	**14,069**
Participations in associates and joint ventures	11	838	854	584	641	0	0	681	495	4,331	3,988	6,435	5,978
Eliminations												-107	-114
Total segment assets		**7,271**	**7,715**	**4,312**	**4,223**	**942**	**1,044**	**3,311**	**2,903**	**4,523**	**4,161**	**20,252**	**19,933**
Interest-bearing receivables	12											1,035	1,092
Deferred tax assets												77	70
Other assets												567	731
Liquid funds												1,435	584
Total assets												**23,364**	**22,409**
Segment liabilities		**1,124**	**1,230**	**419**	**429**	**302**	**396**	**107**	**114**	**167**	**138**	**2,119**	**2,308**
Eliminations												-107	-114
Total segment liabilities												**2,012**	**2,194**
Deferred tax liabilities												885	720
Other liabilities												537	1,325
Total liabilities included in capital employed												**3,435**	**4,239**
Interest-bearing liabilities	13											6,694	6,093
Total equity												13,235	12,077
Total equity and liabilities												**23,364**	**22,409**
Number of employees		1,109	1,091	1,970	2,017	1,327	1,399	2,955	2,941	830	838	8,191	8,286
Average number of employees [1)]		1,122	1,107	1,979	1,994	1,379	1,473	2,942	3,378	825	814	8,248	8,767

1) Average number of employees is based on a monthly average for the reporting period.

4. Segment information

Segment assets and liabilities include assets held for sale. See Note 6, Acquisitions, disposals and assets held for sale.

Comparable operating profit including share of profits from associates and joint ventures and Comparable return on net assets

		Generation		City Solutions		Consumer Solutions		Russia		Other Operations	
EUR million	**Note**	**Dec 31 2019**	**Dec 31 2018**	**Dec 31 2019**	**Dec 31 2018**	**Dec 31 2019**	**Dec 31 2018**	**Dec 31 2019**	**Dec 31 2018**	**Dec 31 2019**	**Dec 31 2018**
Comparable operating profit		**794**	**628**	**121**	**135**	**79**	**53**	**316**	**271**	**-119**	**-99**
Share of profit/loss of associates and joint ventures	11	10	-72	37	74	0	0	59	36	638	0
Adjustment to share of profit/loss of associates and joint ventures		-13	94	22	0	0	0	0	0	-461	-38
Comparable operating profit including share of profit of associates and joint ventures		**791**	**650**	**179**	**209**	**79**	**53**	**375**	**307**	**58**	**-137**
Segment assets at the end of the period		7,271	7,715	4,312	4,223	942	1,044	3,311	2,903	4,523	4,161
Segment liabilities at the end of the period		1,124	1,230	419	429	302	396	107	114	167	138
Comparable net assets		**6,147**	**6,485**	**3,892**	**3,794**	**640**	**648**	**3,205**	**2,789**	**4,356**	**4,023**
Comparable net assets average [1)]		**6,190**	**6,019**	**3,823**	**3,808**	**602**	**671**	**3,041**	**2,976**	**4,191**	**2,361**
Comparable return on net assets, %		**12.8**	**10.8**	**4.7**	**5.5**	**13.2**	**7.8**	**12.3**	**10.3**	**1.4**	**-5.8**

1) Average net assets are calculated using using the opening balance of the financial year and each quarter's closing value.

Segment assets and liabilities include assets held for sale. See Note 6, Acquisitions, disposals and assets held for sale.

5. Financial risk management

The Group has not made any significant changes in policies regarding risk management during the period. Aspects of the Group's financial risk management objectives and policies are consistent with those disclosed in the consolidated financial statements for the year ended 31 December 2018.

Fair value hierarchy information

Financial instruments that are measured in the balance sheet at fair value are presented according to following fair value measurement hierarchy:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities;

Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices);

Level 3: inputs for the asset or liability that is not based on observable market data (unobservable inputs).

See also accounting policies in the consolidated financial statements 2018, in Note 16 Financial assets and liabilities by fair value hierarchy.

Financial assets

	Level 1		Level 2		Level 3		Netting 1)		Total	
EUR million	**Dec 31 2019**	**Dec 31 2018**	**Dec 31 2019**	**Dec 31 2018**	**Dec 31 2019**	**Dec 31 2018**	**Dec 31 2019**	**Dec 31 2018**	**Dec 31 2019**	**Dec 31 2018**
In non-current assets										
Other investments 2)	0	0			75	49			75	49
Derivative financial instruments										
Electricity derivatives										
Hedge accounting			9	23			-8	-22	1	1
Non-hedge accounting			26	146			-15	-94	12	52
Interest rate and currency derivatives										
Hedge accounting			154	149					154	149
Non-hedge accounting			2	4					2	4
Other commodity future and forward contracts										
Non-hedge accounting	10	29	1				-1	-5	10	24
Interest-bearing receivables					23	41			23	41
Total in non-current assets	**10**	**29**	**192**	**322**	**98**	**90**	**-24**	**-121**	**278**	**319**
In current assets										
Derivative financial instruments										
Electricity derivatives										
Hedge accounting			101	93			-59	-83	42	10
Non-hedge accounting	1	2	304	585			-265	-502	39	84
Interest rate and currency derivatives										
Hedge accounting			9	19					9	19
Non-hedge accounting			7	97					7	97
Other commodity future and forward contracts										
Non-hedge accounting	314	203	2				-282	-87	34	116
Interest-bearing receivables	281				34	30			315	30
Total in current assets	**596**	**205**	**423**	**794**	**34**	**30**	**-606**	**-672**	**446**	**356**
Total	**606**	**234**	**615**	**1,116**	**132**	**120**	**-630**	**-793**	**724**	**675**

1) Receivables to and liabilities from electricity and other commodity exchanges arising from standard derivative contracts with same delivery period are netted.
2) Other investments i.e. shares which are not classified as associated companies or joint ventures, consist mainly of shares in unlisted companies of EUR 75 million (Dec 31 2018: 49). This includes Fortum's indirect shareholding in Fennovoima of EUR 33 million (Dec 31 2018: 33). Fair value gains and losses of other investments are booked through profit and loss.

Financial liabilities

	Level 1		Level 2		Level 3		Netting [1]		Total	
EUR million	Dec 31 2019	Dec 31 2018	Dec 31 2019	Dec 31 2018	Dec 31 2019	Dec 31 2018	Dec 31 2019	Dec 31 2018	Dec 31 2019	Dec 31 2018
In non-current liabilities										
Interest-bearing liabilities [2]			2,293	930					2,293	930
Derivative financial instruments										
Electricity derivatives										
Hedge accounting			38	257			-8	-22	30	235
Non-hedge accounting			37	163			-15	-94	22	70
Interest rate and currency derivatives										
Hedge accounting			72	42					72	42
Non-hedge accounting			3	2					3	2
Other commodity future and forward contracts										
Non-hedge accounting	11	18	0	0			-1	-5	10	13
Total in non-current liabilities	**11**	**18**	**2,443**	**1,394**	**0**	**0**	**-24**	**-121**	**2,430**	**1,292**
In current liabilities										
Interest-bearing liabilities			281						281	
Derivative financial instruments										
Electricity derivatives										
Hedge accounting			143	724			-59	-83	85	641
Non-hedge accounting	0	1	328	566			-265	-502	62	65
Interest rate and currency derivatives										
Hedge accounting			4	1					4	1
Non-hedge accounting			49	45					49	45
Other commodity future and forward contracts										
Non-hedge accounting	334	158	0	7			-282	-87	52	77
Total in current liabilities	**334**	**159**	**805**	**1,343**	**0**	**0**	**-606**	**-672**	**533**	**829**
Total	**345**	**177**	**3,248**	**2,737**	**0**	**0**	**-630**	**-793**	**2,963**	**2,121**

1) Receivables to and liabilities from electricity and other commodity exchanges arising from standard derivative contracts with same delivery period are netted.
2) Fair valued part of bonds when hedge accounting is applied (fair value hedge).

Net fair value amount of interest rate and currency derivatives is EUR 45 million, including assets of EUR 172 million and liabilities of EUR 127 million. Fortum has cash collaterals based on Credit Support Annex agreements with some counterparties. At the end of December 2019 Fortum had received EUR 65 million from Credit Support Annex agreements. The received cash has been booked as short-term liability.

Regarding the interest-bearing receivables and liabilities, see Note 12 Interest-bearing receivables, Note 13 Interest-bearing net debt and Note 17 Pledged assets and contingent liabilities.

6. Acquisitions, disposals and assets held for sale

6.1 Acquisitions

EUR million	Q4 2019	Q4 2018	2019	2018
Gross investments in shares in subsidiary companies	0	17	13	36
Gross investments in shares in associated companies and joint ventures	65	146	73	4,041
Gross investments in other shares	4	4	20	11
Total	**70**	**167**	**106**	**4,088**

Acquisitions during 2019

In May 2019, Fortum announced the restructuring of Fortum's and Skellefteå Kraft's ownership in the two jointly owned Swedish wind parks Solberg and Blaiken. Through an asset swap arrangement Fortum became the sole owner of the 76-MW Solberg wind park and Skellefteå Kraft the sole owner of the 248-MW Blaiken wind park. Both the investments in Solberg and divestment of Blaiken includes shares and assets. The asset swap arrangement was finalised in August 2019 and had only a minor impact on Fortum's cash flow and results.

During 2019 Fortum invested EUR 66 million (2018: 61) to the wind investment fund 50/50 owned by Fortum and RUSNANO in Russia.

Acquisitions during 2018

In September 2017, Fortum signed a transaction agreement with E.ON under which E.ON had the right to decide to tender its 46.65% shareholding in Uniper SE into Fortum's public takeover offer. In November 2017, Fortum launched a voluntary public takeover offer ("offer") to all Uniper shareholders. On 8 January 2018, E.ON decided to tender its shares to Fortum's offer. In February 2018, Fortum announced that shareholders representing 47.12% of the shares in Uniper had accepted the offer. The completion of Fortum's offer was subject to several competition and regulatory approvals. The final regulatory decisions were received 15 June 2018. In line with the Russian regulatory approvals, Fortum is allowed to purchase additional shares up to 50% of shares and voting rights in Uniper. The final settlement of the offer took place on 26 June 2018.

The shareholders who tendered their shares to Fortum's offer were paid EUR 21.31 per share. The shareholders also benefitted from Uniper's dividend that was paid following the Annual General Meeting in early June 2018. Fortum paid a total consideration of EUR 3.7 billion for all shares tendered. The total consideration was financed with existing cash resources of EUR 1.95 billion and bridge loan financing from committed credit facilities of EUR 1.75 billion. On 26 June 2018, Fortum closed the Uniper offer and became the company's largest shareholder with 47.35% of the shares. Since then Fortum acquired additional shares in Uniper and held 49.99% of the shares at 31 December 2018. There has been no change in the ownership during 2019.

On 8 October 2019, Fortum entered into agreements to acquire all the shares held by funds managed by Elliott Management Corporation and its affiliates ("Elliott") and Knight Vinke Energy Advisors Limited and its affiliates ("Knight Vinke"), a total in excess of 20.5%. Fortum will pay approximately EUR 2.3 billion for the combined shareholding, corresponding to EUR 29.93 per share. Upon closing of the transactions, Fortum's share in Uniper will increase to more than 70.5% and the total investment in Uniper to approximately EUR 6.2 billion, representing an average acquisition price of EUR 23.97 per share. On 30 December 2019, Fortum received regulatory clearance in the United States for the transaction. Closing of the transaction is still subject to customary merger control clearances in Russia, and is expected by the end of the first quarter of 2020. Fortum will fully consolidate Uniper as a subsidiary in its financial statements from closing of the transaction. See also note 16 Capital and other commitments.

Uniper is an international energy company with activities in Europe, Russia and other markets worldwide. Uniper's businesses are well aligned with Fortum's core competencies. The company operates power plants in Europe and Russia, with a total installed generation capacity of around 36 gigawatts, and it runs extensive energy trading operations as well as maintains gas storage facilities in Germany, Austria and the UK.

In 2018, Uniper's sales totaled EUR 78.2 billion and adjusted EBITDA was EUR 1.5 billion. Uniper employs around 12,000 people and had total assets of EUR 51 billion at the end of 2018. Uniper is listed on the Frankfurt stock exchange.

Fortum consolidates Uniper as an associated company from 30 June 2018 with three months time lag (see Note 11 Changes in participations in associated companies and joint ventures).

Uniper purchase price allocation	EUR million
Total acquisition cost	3,968
Acquired net assets at 30 June 2018	5,512
Fortum's share of goodwill on the balance sheet of Uniper at 30 June 2018	-930
Fair value adjustment at 30 June 2018	-613
Fair value of the acquired net assets at 30 June 2018	**3,968**

The purchase price allocation was finalised during Q2/2019. Uniper's balance sheet at 30 June 2018 was used as the starting point for the purchase price allocation, however a fair value adjustment of EUR 613 million has been made for the acquired assets and liabilities. The total acquisition cost including direct costs relating to the acquisition, EUR 3,968 million, is reported in the 'Participations in associates and joint ventures'.

Fortum's share of the goodwill on Uniper's balance sheet, EUR 930 million, is derecognised as it is not an identifiable asset according to IFRS. Potential future impairments of goodwill (existing at 30 June 2018) booked by Uniper will thereby be reversed to Fortum's share of profits of associates and joint ventures.

Fair value adjustment, EUR 613 million, relates mainly to political and regulatory risks that are reflected in the fair value of certain generation and production assets. The fair value adjustment will be reversed to Share of profits of associates and joint ventures over a period of 20 years from 1 January 2019, approximately EUR 30 million on annual basis. If Uniper reports negative impacts relating to these generation and production assets, Fortum will assess potential need to use this fair value adjustment to reverse these negative impacts. The remaining fair value adjustment post tax at 31 December 2019 amounted to EUR 582 million.

Preparing purchase price allocation requires management to make judgements when determining the fair value of the assets and liabilities acquired. In Uniper transaction the purchase price allocation has been based on publicly available information since Uniper is a listed company and a competitor of Fortum. Due to the unique circumstances, preparing the purchase price allocation has required management judgement.

For information about Fortum's share of profit from Uniper, see note 11 Changes in participations in associates and joint ventures.

In August 2018 Fortum acquired all shares of three independent Latvian heat producers SIA BK Enerģija, SIA Energy & Communication and SIA Sprino as well as the shares of SIA Lake Development. The acquired production companies will continue to deliver heat to Daugavpil's municipal district heating company PAS Daugavpils Siltumtikli.

In October 2018 Fortum acquired the metal recycling business in Fincumet Group. In the transaction Fortum acquired shares in three companies: Fincumet Oy, Niemen Romukauppa Oy and NJS-Patentti Oy.

During 2018 Fortum invested EUR 61 million to the wind investment fund 50/50 owned by Fortum and RUSNANO in Russia.

6.2 Disposals

EUR million	Q4 2019	Q4 2018	2019	2018
Gross divestments of shares in subsidiary companies	0	0	15	147
Gross divestments of shares in associated companies and joint ventures	0	0	10	160
Gross divestments of other investments	0	0	4	0
Total	**0**	**0**	**30**	**306**

Disposals during 2019

In August 2019 the restructuring of Fortum's and Skellefteå Kraft's ownership in the two jointly owned Swedish wind parks Solberg and Blaiken was finalised. See note 6.1 Aquisitions for additional information.

On 20 December 2019, Fortum and Credit Suisse Energy Infrastructure Partners (CSEIP) signed an agreement whereby funds advised by CSEIP were to acquire an 80% stake in Fortum's Nordic wind portfolio. The total consideration of the divestment of the 80% stake on a debt- and cash-free basis is expected to be approximately EUR 250 million (including Sørfjord wind park which is still under construction), of which EUR 170 million is related to the first quarter of 2020. The transaction is subject to regulatory approvals in the EU and is expected to close in the first quarter of 2020. The sale will have a minor positive effect on the Generation segment's first-quarter 2020 comparable operating profit.

On 20 December 2019, Fortum signed an agreement to sell its district heating business in Joensuu, Finland to Savon Voima Oyj. The total consideration on a debt- and cash-free basis was approximately EUR 530 million and the cash was received at the completion of the divestment on 10 January 2020. See Note 20 Events after the balance sheet date.

Disposals during 2018

In June 2018 Fortum sold its 10% ownership in Hafslund Produksjon Holding AS to Svartisen Holding AS, a Norwegian company owned by the Finnish energy companies Vantaan Energia Oy, Oy Turku Energia – Åbo Energi Ab and Oulun Seudun Sähkö. As part of the restructuring of the Hafslund ownership in 2017, Fortum acquired the ownership in Hafslund Produksjon. The sales price for the shares was EUR 160 million and Fortum booked a sales gain of EUR 77 million in the Generation segment in the second quarter 2018 results.

On 31 August 2018, Fortum sold a 54% share of its solar power company operating four solar power plants in India to UK Climate Investments (40%) and Elite Alfred Berg (14%). In line with Fortum's 'capital recycling' business model, the result from the transaction, EUR 26 million, was recognized in Other operations' Comparable operating profit. The total consideration from the divestment on a debt- and cash-free basis, including the effect of deconsolidating Fortum's minority part of the net debt, was EUR 147 million. In April 2019, Elite Alfred Berg used their option to buy an additional 2% from Fortum.

6.3 Assets held for sale

At 31 December 2019 assets relating to the disposal of Fortum's share in the Nordic wind portfolio, excluding the Sørfjord wind park which is still under construction, (Generation segment) and assets relating to the disposal of the district heating business in Joensuu, Finland (City Solutions segment), have been classified as assets held for sale.

EUR million	31 Dec 2019
Assets held for sale	
Intangible assets and property, plant and equipment and right-of-use assets	290
Other non-current and current assets	15
Liquid funds	2
Total	**307**
Liabilities related to assets held for sale	
Lease liabilities	6
Deferred tax liabilities	20
Other liabilities and provisions	26
Total	**52**

7. Income taxes

Taxes for the period totalled EUR 221 million (2018: 181). The effective income tax rate according to the income statement was 12.8% (2018: 17.5%). The comparable effective income tax rate, excluding the impact of the share of profit from associated companies, joint ventures as well as non-taxable capital gains, tax rate changes and other major one time income tax effects, was 22.4% (2018: 22.0%).

Fortum has paid taxes in previous years regarding ongoing tax disputes. The appeal processes are ongoing and based on legal analysis and legal opinions the payments are booked as a receivable, EUR 114 million (Dec 31 2018: 114), included in Income tax receivables. For additional information see Note 18 Legal actions and official proceedings.

8. Dividend per share

A dividend in respect of 2019 of EUR 1.10 per share, amounting to a total dividend of EUR 977 million based on the amount of shares registered as at 5 February 2020, is to be proposed at the planned Annual General Meeting on 17 March 2020. These Financial statements do not reflect this dividend.

A dividend for 2018 of EUR 1.10 per share, amounting to a total of EUR 977 million, was decided in the Annual General Meeting on 26 March 2019 and the dividend was paid on 4 April 2019.

A dividend for 2017 of EUR 1.10 per share, amounting to a total of EUR 977 million, was decided in the Annual General Meeting on 28 March 2018 and the dividend was paid on 10 April 2018.

9. Changes in intangible assets

EUR million	Dec 31 2019	Dec 31 2018
Closing balance 31 Dec	**1,087**	**1,064**
Impact from change in accounting principle (IFRS 15) [1)]	-	20
Opening balance 1 Jan	**1,087**	**1,083**
Acquisitions	12	22
Capital expenditures	75	53
Changes in emission rights	14	16
Depreciation and amortisation	-84	-81
Divestments	0	-6
Transfer to assets held for sale [2)]	-12	-
Reclassifications	26	37
Translation differences and other adjustments	24	-37
Closing balance	**1,143**	**1,087**

1) See additional information in 2018 Consolidated Financial Statements, Note 1 Accounting policies.
2) See Note 6 Acquisitions, disposals and assets held for sale.

Goodwill included in intangible assets

EUR million	Dec 31 2019	Dec 31 2018
Goodwill included in opening balance	**588**	**613**
Translation differences and other adjustments	24	-25
Goodwill included in closing balance	**612**	**588**

10. Changes in property, plant and equipment, and right-of-use assets

EUR million	Dec 31 2019	Dec 31 2018
Closing balance 31 Dec	**9,981**	**10,510**
Impact from change in accounting principle (IFRS 16) [1)]	96	**-**
Opening balance 1 Jan	**10,078**	**10,510**
Acquisitions	12	14
Capital expenditures	638	532
Additions and decreases in right-of-use assets	31	-
Changes of nuclear asset retirement cost	-14	16
Disposals	-34	-2
Depreciation and amortisation	-491	-455
Divestments	-9	-136
Transfer to assets held for sale [2)]	-278	-
Reclassifications	-15	-37
Translation differences and other adjustments	206	-459
Closing balance	**10,123**	**9,981**

1) See additional information in Note 2 Accounting policies.
2) See Note 6 Acquisitions, disposals and assets held for sale.

11. Changes in participations in associates and joint ventures

EUR million	Dec 31 2019	Dec 31 2018
Closing balance 31 Dec	**5,978**	**1,900**
Impact from change in accounting principle (IFRS 9)[1)]	-	165
Opening balance 1 Jan	**5,978**	**2,066**
Investments	73	4,066
Share of profit of associates and joint ventures	744	38
Dividend income received	-239	-61
Divestments and capital returns	-27	-95
Reclassifications	-16	58
OCI items associated companies	-137	6
Translation differences and other adjustments	59	-99
Closing balance	**6,435**	**5,978**

1) See additional information in 2018 Consolidated Financial Statements, Note 1 Accounting policies.

In August 2019 the restructuring of Fortum's and Skellefteå Kraft's ownership in the two jointly owned Swedish wind parks Solberg and Blaiken was finalised. During 2019 Fortum invested EUR 66 million (2018: 61) to the wind investment fund 50/50 owned by Fortum and RUSNANO in Russia. There were no other material acquisitions or divestments during 2019.

During 2018 Fortum acquired 49.99% of the shares in Uniper. On 31 August 2018, Fortum sold a 54% share of its solar power company and as a consequence the subsidiary was reclassified as a joint venture.
For more information, see Note 6 Acquisitions, disposals and assets held for sale.

Share of profit of associates and joint ventures

EUR million	Q4 2019	Q4 2018	2019	2018
Principal associates				
Uniper	98	-2	632	-2
OKG AB	-14	-62	12	-58
Forsmarks Kraftgrupp AB	-15	-6	-3	-7
Kemijoki Oy	-2	-2	-5	-9
TGC-1	7	2	54	40
Principal associates, total	**74**	**-70**	**690**	**-35**
Principal joint ventures				
Stockholm Exergi AB	-6	21	24	61
TVO Oyj	-4	3	6	1
Principal joint ventures, total	**-9**	**24**	**30**	**62**
Other associates	6	0	5	3
Other joint ventures	-5	1	18	9
Total	**65**	**-44**	**744**	**38**

The share of profit from associates and joint ventures during Q4 2019 increased to EUR 65 million (Q4 2018: -44) and during 2019 to EUR 744 million (2018: 38), mainly due to share of profit from Uniper.

Uniper's share of profit is based on reported Net income/loss attributable to shareholders of Uniper SE including impact from Non-operating results e.g. fair value measurement of derivative financial instruments which are subject to volatility. Non-operating results impacted the share of profits in Q4 2019 with EUR 99 million (Q4 2018: 79) and EUR 392 million in 2019 (2018: 79). Fortum's Q4 2019 share of profits from Uniper include Fortum's share of Uniper's Q3 2019 results and the impact from reinstatement of UK capacity market in October 2019 and EUR 8 million reversal of the fair value adjustment (EUR 31 million in 2019). See more information in Note 6 Acquisitions, disposals and assets held for sale.

The share of profit from associates and joint ventures in 2018 of EUR 38 million included nuclear-related adjustments of EUR -37 million and other items relating to nuclear decommissioning of EUR -33 million, mainly from OKG. For more information, see Note 19 Participations in associated companies and joint ventures of 2018 Consolidated Financial Statements.

According to Fortum Group accounting policies the share of profits from associates and joint ventures are included in Fortum Group figures based on the latest available information. As Uniper is a listed company and publishes its interim reports later than Fortum, Fortum's share of Uniper's results is accounted for with a time-lag of one quarter with potential adjustments. The share of profit of TGC-1 is also accounted for based on previous quarter information since updated interim information is normally not available.

Dividends received

During 2019 Fortum received EUR 239 million (2018: 61) in dividends from associates and joint ventures of which EUR 165 million (2018: 0) was received from Uniper and EUR 40 million (2018: 39) from Stockholm Exergi.

12. Interest-bearing receivables

EUR million	Carrying amount Dec 31 2019	Fair value Dec 31 2019	Carrying amount Dec 31 2018	Fair value Dec 31 2018
Long-term loan receivables from associates	564	599	581	601
Long-term loan receivables from joint ventures	61	69	60	68
Other long-term interest-bearing receivables	26	27	43	43
Total long-term interest-bearing receivables	**651**	**695**	**683**	**712**
Collateral arrangement securities	281	281	-	-
Other short-term interest-bearing receivables	103	103	409	409
Total short-term interest-bearing receivables	**384**	**384**	**409**	**409**
Total	**1,035**	**1,079**	**1,092**	**1,121**

Long-term interest-bearing receivables include receivables from associated companies and joint ventures of EUR 625 million (Dec 31 2018: 641). These receivables include EUR 558 million (Dec 31 2018: 575) from Swedish nuclear companies, OKG AB and Forsmarks Kraftgrupp AB, which are mainly funded with shareholder loans, pro rata to each shareholder's ownership.

Interest-bearing receivables include also EUR 57 million (Dec 31 2018: 70) receivable from SIBUR, a Russian gas processing and petrochemicals company regarding divested shares of OOO Tobolsk CHP.

Other short-term interest-bearing receivables include EUR 65 million (Dec 31 2018: 379) restricted cash.

During Q1 2019 Fortum entered into a non-cash collateral arrangement to release pledged cash from Nordic power exchange. Fortum has borrowed securities which have replaced pledged cash. At the end of December 2019 Fortum booked a short-term interest-bearing receivable of EUR 281 million and a corresponding short-term liability. See Note 13 Interest-bearing net debt and Note 17 Pledged assets and contingent liabilities.

13. Interest-bearing net debt

Net debt

EUR million	Net debt Dec 31 2019	Classified as assets held for sale [1]	Balance sheet Dec 31 2019	Net debt Dec 31 2018
Interest-bearing liabilities	6,694	-6	6,688	6,093
Liquid funds	1,435	-2	1,433	584
Net debt	**5,260**	**-4**	**5,256**	**5,509**

1) See Note 6 Acquisitions, disposals and assets held for sale.

Net debt is calculated as interest-bearing liabilities less liquid funds without deducting interest-bearing receivables amounting to EUR 1,035 million (Dec 31 2018: 1,092). Interest-bearing receivables mainly consist of shareholder loans to partly-owned nuclear companies regarded as long-term financing. For more information, see Note 12 Interest-bearing receivables.

EUR million	Dec 31 2019	Dec 31 2018
Loans	6,580	6,093
Lease liabilities [1,2]	108	-
Total	**6,688**	**6,093**

1) See Note 2 Accounting policies.
2) Excluding lease liabilities of EUR 6 million relating to assets held for sale at 31 December 2019. See Note 6 Acquisitions, disposals and assets held for sale.

Loans

EUR million	Carrying amount Dec 31 2019	Fair value Dec 31 2019	Carrying amount Dec 31 2018	Fair value Dec 31 2018
Bonds	4,251	4,478	2,496	2,629
Loans from financial institutions	362	378	1,847	1,901
Reborrowing from the Finnish State Nuclear Waste Management Fund 1)	1,185	1,250	1,158	1,218
Other long-term interest-bearing liabilities 2)	304	346	309	351
Total long-term interest-bearing liabilities 3)	**6,102**	**6,452**	**5,810**	**6,099**
Collateral arrangement liability	281	281	-	-
Other short-term interest-bearing liabilities	197	197	283	284
Total short-term interest-bearing liabilities	**478**	**478**	**283**	**284**
Total	**6,580**	**6,930**	**6,093**	**6,383**

1) The reborrowing from the Finnish State Nuclear Waste Management Fund includes the part relating to Loviisa nuclear power plant as well as borrowing done through TVO.

2) Includes loans from Finnish pension institutions of EUR 33 million (Dec 31 2018: 38), loans from the City of Oslo of EUR 202 million (Dec 31 2018: 201) and other loans of EUR 69 million (Dec 31 2018: 70).

3) Includes current portion of long-term liabilities of EUR 73 million (Dec 31 2018: 803).

Interest-bearing liabilities

During the first quarter of 2019 Fortum issued new bonds under its Euro Medium Term Note (EMTN) programme with a total nominal amount of EUR 2.5 billion: EUR 1.0 billion, four-year bond with 0.875% fixed coupon and two EUR 750 million bonds for seven- and ten-years with 1.625%/ 2.125% fixed coupons, respectively.

In March 2019 Fortum repaid maturing bond of EUR 750 million and prepaid the bridge loan of EUR 1.75 billion drawn in June 2018 for the financing of the shares in Uniper.

The amount of reborrowing from the Finnish State Nuclear Waste Management Fund and TVO was increased by EUR 27 million to EUR 1,185 million. Further, Fortum signed a five-year EUR 300 million bilateral financial loan agreement which was drawn at the beginning of April 2019.

During the first quarter of 2019 Fortum entered into a non-cash collateral arrangement to release pledged cash from Nordic power exchange. At end of December Fortum booked a short-term interest-bearing liability of EUR 281 million to the lender of the securities, which are included in interest-bearing receivables. See Note 12 Interest-bearing receivables and Note 17 Pledged assets and contingent liabilities.

At the end of December 2019, the amount of short-term financing included EUR 65 million (Dec 31 2018: 75) from Credit Support Annex agreements. The interest-bearing liabilities decreased during the last quarter by EUR 109 million from EUR 6,797 million to EUR 6,688 million.

The average interest rate for the portfolio consisting mainly of EUR loans was 1.6% at the balance sheet date (Dec 31 2018: 1.7%). Part of the external loans, EUR 787 million (Dec 31 2018: 686), have been swapped to RUB and the average interest cost for these loans including cost for hedging the RUB was 7.8% at the balance sheet date (Dec 31 2018: 8.3%). The average interest rate on total loans and derivatives at the balance sheet date was 2.3% (Dec 31 2018: 2.4%).

Maturity of loans

EUR million	Dec 31 2019
2020 1)	551
2021	526
2022	1,036
2023	1,093
2024	303
2025 and later	3,071
Total	**6,580**

1) The cash received as collateral based on Credit Support Annex agreements, amounting to EUR 65 million, has been booked as short-term liability.

Maturity of undiscounted lease liabilities

EUR million	Dec 31 2019
Due within a year	20
Due after one year and within five years	52
Due after five years	65
Total	**137**

In addition, Fortum has a EUR 22 million commitment to leases that have not yet commenced.

Liquid funds

EUR million	Dec 31 2019	Dec 31 2018
Deposits and securities with maturity more than 3 months	76	29
Cash and cash equivalents	1,356	556
Total [1)]	**1,433**	**584**

1) Excluding cash balances of EUR 2 million relating to assets held for sale at 31 December 2019. Note 6 Acquisitions, disposals and assets held for sale.

Total liquid funds increased by EUR 3 million from EUR 1,430 million to EUR 1,433 million during Q4 2019.

Liquid funds consist of deposits and cash in bank accounts amounting to EUR 893 million and commercial papers of EUR 540 million. Deposits and securities include fixed-term deposits and commercial papers with maturity more than three months but less than twelve months. The average interest rate on deposits and securities excluding Russian deposits on 31 December 2019 was -0.13% (Dec 31 2018: -0.11%). Liquid funds held by PAO Fortum amounted to EUR 201 million (Dec 31 2018: 317), of which EUR 151 million (Dec 31 2018: 316) was held as bank deposits. The average interest rate for this portfolio was 3.9% at the balance sheet date.

Liquid funds totaling EUR 1,099 million (Dec 31 2018: 168) are placed with counterparties that have an investment grade credit rating. In addition, EUR 334 million (Dec 31 2018: 416) have been placed with counterparties separately reviewed and approved by the Group's credit control department.

In the fourth quarter of 2019, Fortum signed new committed credit facilities of an additional EUR 8.3 billion for the purchase of Uniper shares announced on 8 October 2019. At the end of December 2019, the committed and undrawn credit facilities amounted to EUR 10.1 billion (2018: 1.8). On 7 January 2020, Fortum cancelled EUR 3.0 billion of these new committed credit facilities.

14. Nuclear related assets and liabilities

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 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.

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 the disposal of spent fuel.

14.1 Nuclear related assets and liabilities for 100% owned nuclear power plant, Loviisa

EUR million	Dec 31 2019	Dec 31 2018
Carrying values on the balance sheet		
Nuclear provisions	813	899
Fortum's share of the State Nuclear Waste Management Fund	813	899
Short term receivable from the State Nuclear Waste Management Fund	51	-
Legal liability and actual share of the State Nuclear Waste Management Fund		
Liability for nuclear waste management according to the Nuclear Energy Act	1,214	1,180
Funding obligation target	1,135	1,180
Fortum's share of the State Nuclear Waste Management Fund	1,180	1,153
Share of the fund not recognised on the balance sheet	316	254

Legal liability for Loviisa nuclear power plant

The legal liability on 31 December 2019, decided by the Ministry of Economic Affairs and Employment in November 2019, was EUR 1,214 million.

The legal liability is based on a cost estimate, which is updated every year, and a technical plan, which is updated every third year. The legal liability is determined by assuming that the decommissioning would start at the beginning of the year following the assessment year. Finnish nuclear operators have submitted updated technical plan and cost estimates to the Ministry of Economic Affairs and Employment in June 2019. The decision on the updated legal liability from the Ministry of Economic Affairs and Employment was received in November 2019.

Fortum's share in the State Nuclear Waste Management Fund

According to the 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 connection with the decision of size of the legal liability. Based on the law, Fortum applied for a periodisation of the fund target, due to a change in the legal liability. The application was approved by the Ministry of Economic Affairs and Employment in November 2019 confirming the funding target at EUR 1,135 million.

Nuclear provision and fund accounted for according to IFRS

Nuclear provisions include the provision for decommissioning and the provision for disposal of spent fuel. 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 cost estimate update prepared in Q2 2019 decreased the nuclear provision for the Loviisa power plant by EUR 100 million, of which the part relating to spent fuel was recognised immediately to the income statement and the part relating to decommissioning was capitalised as property, plant and equipment. The reduced provision led to negative nuclear fund adjustment of EUR 54 million and positive effect to other financial expenses - net of EUR 40 million during second quarter of 2019. The periodisation of the fund target in Q4 2019 reporting led to a positive fund adjustment of EUR 51 million, but did not have any impact on the provision.

The carrying value of the nuclear provisions, calculated according to IAS 37, decreased by EUR 86 million compared to 31 December 2018, totaling EUR 813 million at 31 December 2019.

Fortum's share of the Finnish Nuclear Waste Management Fund is from an IFRS perspective overfunded by EUR 316 million, since Fortum's share of the Fund on 31 December 2019 was EUR 1,180 million and the carrying value on the balance sheet was EUR 813 million and the short-term receivable from the Fund EUR 51 million, see Note 23 Trade and other receivables. The Fund on Fortum's balance sheet can at maximum be equal to the amount of the provisions according to IFRS. As long as the Fund is overfunded from an IFRS perspective, the operating profit is adjusted positively if the provisions increase more than the Fund, and negatively if the provision decreases below the actual value of the fund. This accounting effect is not included in Comparable operating profit but as Nuclear fund adjustment in Items affecting comparability, see Note 4 Segment information.

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 13 Interest-bearing net debt and Note 17 Pledged assets and contingent liabilities.

14.2 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 and interest costs. Invoiced cost is accounted 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	Dec 31 2019	Dec 31 2018
Carrying values in TVO with Fortum assumptions		
Nuclear provisions	1,041	1,016
Share of the State Nuclear Waste Management Fund	1,041	1,016
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	1,471	1,506
Share of the State Nuclear Waste Management Fund	1,506	1,471
Share of the fund not recognised on the balance sheet	465	455

TVO's legal liability, provision and share of the fund are based on same principles as described above for Loviisa nuclear power plant. The updated technical plan and cost estimates had a small impact on Fortum's share in TVO's nuclear related assets and liabilities.

TVO's share of the Finnish State Nuclear Waste Management Fund is from an IFRS perspective overfunded by EUR 465 million (of which Fortum's share is EUR 124 million), since TVO's share of the Fund on 31 December 2019 was EUR 1,506 million and the carrying value on the consolidated balance sheet was EUR 1,041 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 13 Interest-bearing net debt.

OKG's and Forsmark's total nuclear related assets and liabilities (100%)

EUR million	Dec 31 2019	Dec 31 2018
OKG's and Forsmark's nuclear related assets and liabilities [1]		
Nuclear provisions	3,932	3,930
Share in the State Nuclear Waste Management Fund	3,363	3,230
Net amount	**-570**	**-701**
of which Fortum's net share consolidated with equity method	**-201**	**-242**

1) Accounted for according to Fortum's accounting principles. The 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.

Nuclear waste fees and guarantees are updated every third year by governmental decision after a proposal from Swedish Radiation Safety Authority (SSM). From September 2018 onwards the proposal is prepared by the National Debt Office. The proposal is based on cost estimates done by SKB and the license holders. An updated technical plan for nuclear waste management was decided by SKB in September 2019 and was handed in to SSM in the end of Q3 2019. In December 2017 the Swedish government decided the waste fees and guarantees for years 2018-2020. Nuclear waste fees are currently based on future costs with the assumed lifetime of 50 years (40 years in previous decision) for each unit of a nuclear power plant.

In addition to nuclear waste fees nuclear power companies provide guarantees for any uncovered liability and unexpected events. Fortum's guarantees given on behalf of nuclear associated companies are presented in Note 17 Pledged assets and contingent liabilities.

15. Other provisions

	Environmental		Other provisions	
EUR million	Dec 31 2019	Dec 31 2018	Dec 31 2019	Dec 31 2018
Opening balance	**41**	**43**	**65**	**79**
Increase in provisions	3	0	14	25
Provisions used	-1	0	-22	-33
Unused provisions reversed	-1	0	-3	-4
Transfer to assets held for sale [1]	-1	0	0	0
Exchange rate differences and other changes	8	-1	-2	-3
Closing balance	**49**	**41**	**52**	**65**
Current provisions [2]	**0**	**0**	**13**	**14**
Non-current provisions	**49**	**41**	**38**	**50**

1) See Note 6 Acquisitions, disposals and assets held for sale.

2) Included in Trade and other payables on the consolidated balance sheet.

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.

Dismantling provisions for the Finnish coal fired power plants are included in Other provisions.

16. Capital and other commitments

Capital commitments

EUR million	Dec 31 2019	Dec 31 2018
Property, plant and equipment	260	322

Other commitments

On 8 October 2019, Fortum entered into agreements to acquire all the shares in Uniper SE held by funds managed by Elliott Management Corporation and its affiliates (Elliott) and Knight Vinke Energy Advisors Limited and its affiliates (Knight Vinke), a total shareholding in excess of 20.5%. The transaction will be financed with existing cash resources and committed credit facilities underwritten by Barclays Bank PLC. In the said agreements Fortum has committed to paying the acquisition price of EUR 2.3-2.6 billion depending on the amount of shares acquired.

Fortum has committed to provide a maximum of EUR 85 million to Voimaosakeyhtiö SF, for its participation in the Fennovoima nuclear power project in Finland. Furthermore, Fortum's remaining direct commitment regarding the construction of a waste-to-energy combined heat and power plant (CHP) in Kaunas, Lithuania is EUR 7 million at maximum. The investment is made through Kauno Kogeneracinė Jėgainė (KKJ), a joint venture owned together with Lietuvos Energija.

Fortum has also committed to provide a maximum of EUR 7 million to a joint venture with Numaligarh Refinery Limited (NRL) and Chempolis to build and operate a biorefinery in Assam, India.

Teollisuuden Voima Oyj (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 the end of December 2019 Fortum had EUR 170 million (Dec 31 2018: 170) outstanding receivables regarding Olkiluoto 3 and is additionally committed to provide at maximum EUR 63 million. TVO shareholder loan is classified as participation in joint ventures.

In June 2018 the Swedish Government approved the legislation regarding Sweden’s national strategy for implementation of the EU’s Water Framework Directive. The largest hydro industry companies will create a common hydro-power fund to finance large parts of the environmental actions needed. The fund will have a total financial cap of SEK 10 billion to be paid over a 20-year period, and the largest operators will contribute to the fund proportionately based on their respective market share of hydro-power production. Fortum's share is 23% of the funds' total financing.

17. Pledged assets and contingent liabilities

EUR million	Dec 31 2019	Dec 31 2018
Pledged assets on own behalf		
For debt		
Pledges	288	288
Real estate mortgages	137	137
For other commitments		
Pledges	309	346
Real estate mortgages	2	21
Pledged assets on behalf of others		
Pledges	33	31
Other guarantees on own behalf		
Other guarantees	25	167
Guarantees on behalf of associates and joint ventures		
Guarantees	875	622

Pledged assets for debt

Participants in the Finnish 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 amounts to EUR 269 million (Dec 31 2018: 269).

Fortum Tartu in Estonia (60% owned by Fortum) has given real estate mortgages for a value of EUR 96 million (Dec 31 2018: 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 (Dec 31 2018: 41).

Regarding the relevant interest-bearing liabilities, see Note 13 Interest-bearing net debt.

Pledged assets for other commitments

Pledges include restricted cash of EUR 21 million (Dec 31 2018: 346) and securities of EUR 281 million (Dec 31 2018: 0) for trading of electricity, gas and CO_2 emission allowances in Nasdaq Commodities, Intercontinental Exchange (ICE), European Energy Exchange (EEX) and Polish Power Exchange (TGE). See Note 12 Interest-bearing receivables.

Fortum has given real estate mortgages in power plants in Finland, total value of EUR 2 million (Dec 31 2018: 21), 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 decomissioning 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. The size of the securities given is updated yearly in the second quarter based on the decisions regarding the legal liabilities and the funding target which are determined at the end of the previous year.

See additional information in Note 14 Nuclear related assets and liabilities.

Pledged assets on behalf of others

Pledged assets on behalf of others consist of restricted cash of EUR 33 million (Dec 31 2018: 31) posted as collateral toward Nasdaq Clearing AB covering Fortum’s required contribution to the Commodity Market Default Fund (default fund). The default fund is a mutualized fund whereby all participants on the Nordic power exchange (OMX Nasdaq Commodities) post collateral in relation to their exposure on the market in order to cover potential defaults by members which may cause losses exceeding the members' own collateral. See Note 12 Interest-bearing receivables.

Other guarantees on own behalf

On 1 January 2019, Fortum acquired all remaining C-shares of TVO entitling to the power production of the Meri-Pori coal condensing power plant. Fortum is now entitled to 100% of the power production of the plant. The guarantee amounted to EUR 125 million in December 2018 until the guarantee was released on 1 January 2019. The Meri-Pori power plant is mainly used in Fingrid’s capacity reserve and as back-up capacity.

Guarantees on behalf of associated companies and joint ventures

Guarantees on behalf of associated companies and joint ventures mainly consist of guarantees relating to Fortum's associated nuclear companies (Teollisuuden Voima Oyj, Forsmarks Kraftgrupp AB and OKG AB). Guarantees have been given on behalf of Forsmarks Kraftgrupp AB and OKG AB amounting to SEK 8,239 million (EUR 789 million) (Dec 31 2018: 526). There are two types of guarantees given. The Financing Amount is given to cover Fortum's share of the uncovered part in the Nuclear Waste Fund, assuming no further production and that no further nuclear waste fees are paid in. The uncovered amount is calculated by the authorities and is based on 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 amounts for the guarantees are updated every third year by governmental decision. The Financing Amount given by Fortum on behalf of Forsmarks Kraftgrupp AB and OKG AB is SEK 5,695 million (EUR 545 million) and the Supplementary Amount is SEK 2,544 million (EUR 244 million).

The guarantee given on behalf of Teollisuuden Voima Oyj to the Finnish State Nuclear Waste Management Fund amounts to EUR 21 million (Dec 31 2018: 36). The guarantee covers the unpaid legal liability due to periodisation as well as risks for unexpected future costs.

Fortum has minority shares in legal companies owning nuclear power plants in Finland and Sweden. Fortum consolidates these companies according to the equity method meaning that Fortum's share of the assets and liabilities are netted to the balance sheet. For information regarding nuclear related assets and liabilities of Loviisa nuclear power plant as well as Swedish and Finnish nuclear production companies where Fortum has a minority shareholding see Note 14 Nuclear related assets and liabilities.

The guarantees given to the Russian Wind fund have been relased during Q4 2019 (Dec 31 2018: EUR 48 million).

Other contingent liabilities

Fortum's 100% owned subsidiary Fortum Heat and Gas Oy has a contingent liability, based on the Finnish Companies Act's (734/1978) Chapter 14a Paragraph 6, with Neste Oyj following the demerger of Fortum Oil and Gas Oy in 2004.

18. Legal actions and official proceedings

Tax cases in Finland

There are no ongoing tax cases with material impact in Finland.

Tax cases in Sweden

Cases relating to Swedish interest deductions

In March 2018, the Swedish Supreme Administrative Court decided not to grant Fortum leave to appeal with respect to the interest deduction cases relating to the years 2009-2012. The unfavourable decision of the Administrative Court of Appeal from June 2017 therefore remains in force. The additional tax and interest claimed, in total SEK 1,175 million (EUR 122 million), was paid in 2016 and booked as a cost in 2017. There are strong grounds to argue that the aforementioned decisions of the Administrative Court of Appeal and the Supreme Administrative Court violate EU law and fundamental rights under EU law. On these grounds, Fortum has in December 2018 filed a summons application to the District Court of Stockholm in which damages are claimed from the Swedish state in these cases. Moreover, Fortum has filed a request to initiate a mutual agreement procedure between Sweden and the Netherlands for the year 2012.

Cases relating to the Swedish hydro real estate tax

Fortum Sverige AB has through an appeal process in Swedish courts claimed that the property tax rate for hydropower plants shall be lowered to the normal 0.5 percent of the tax assessment value. The case concerns the years 2009-2014 and includes several legal arguments for the claim including state aid arguments. Fortum Sverige AB did not receive a permission to appeal from the Supreme Administrative Court in this matter. As the Administrative Court, the Administrative Court of Appeal in Stockholm and the Supreme Administrative Court have handled only the arguments concerning state aid, the case has now been transferred back to the Administrative Court concerning the other legal arguments. The disputed amount, excluding interest for the time period, totals approximately SEK 510 million (approximately EUR 49 million).

Moreover, Swedish Fortum companies have appeals for 2011-2016 pending before the Administrative Court relating to the property tax rate for their hydropower plants referring to the same legal grounds. Fortum has paid the real estate tax in accordance with the legislation. If the final court decision would be unfavourable to Fortum, this would not have any result impact for Fortum.
Fortum Sverige AB has in December 2018 filed a complaint to the EU commission regarding the Swedish property tax for hydropower plants regarding 2017 and prior years. Fortum has asked the commission to investigate whether the Swedish legislation regarding the property tax for hydropower plants and the Swedish court decisions are in line with EU state aid rules.

Tax cases in Belgium

Fortum has received income tax assessments in Belgium for the years 2008, 2009, 2010, 2011 and 2012. The tax authorities disagree with the tax treatment of Fortum EIF NV which was later merged into Fortum Project Finance NV. Fortum finds the tax authorities interpretation not to be based on the local regulation and has appealed the decisions. In June 2014, the court of First instance in Antwerp rejected Fortum's appeal for the years 2008 and 2009. 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 Antwerp 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 the Supreme Court (Hof van Cassatie) in March 2016. In April 2019, the Advocate General at the Supreme Court issued his opinion which was in favour of Fortum Project Finance. He dismissed the arguments made by the Belgian State and confirmed the judgment of the Court of Appeal of Antwerp.

In May 2019, the Supreme Court, however, annulled the decision of the Court of Appeal of Antwerp and referred the case back to the Court of Appeal of Ghent for full retrial. Fortum's appeals concerning 2009-2012 are still pending and Fortum expects the remaining years to follow the final decision for 2008. Fortum has made an assessment supported by legal opinions not to recognise a provision. 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, approximately EUR 21 million for the year 2011 and approximately EUR 15 million for the year 2012. The tax has already been paid.

Other legal actions and official proceedings

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.

Status of TVO's Olkiluoto 3 project

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. OL3 was procured as a fixed-price turnkey project from a consortium (Supplier) formed by AREVA GmbH, AREVA NP SAS and Siemens AG.

A comprehensive settlement agreement between TVO and the Supplier was signed and it came into force in March 2018. The settlement agreement concerns the completion of the OL3 EPR project and related disputes.

The settlement agreement resulted in a financial compensation of EUR 450 million to be paid to TVO in two installments. TVO received the first payment of EUR 328 million of the settlement amount in March 2018 at the entry into force of the settlement agreement. In December 2019, the Supplier paid the second installment of financial compensation amounting to EUR 122 million. The amount corresponding to the total settlement amount has been entered as property, plant and equipment in the TVO Group balance sheet.

The settlement agreement also stipulates that in the event that the Supplier fails to complete the OL3 project by the end of 2019, the Supplier will pay a penalty to TVO for such delay in an amount which will depend on the actual time of completion of the OL3 project, not exceeding EUR 400 million.

In December 2019, TVO received an updated schedule for the commissioning of the OL3 EPR plant unit from the Supplier. According to the received information, nuclear fuel will be loaded into the reactor in June 2020, the first connection to the grid will take place in November 2020, and the start of regular electricity production of the OL3 EPR nuclear power plant unit will take place in March 2021.

More information on the settlement agreement, see Note 37 Legal actions and official proceedings of the consolidated financial statements 2018.

19. Related party transactions

Related parties are described in the consolidated financial statements for the year ended 31 December 2018. There have been no material changes during 2019.

At the end of 2019 the Finnish State owned 50.76% of Fortum's shares. There has been no change in the number of shares the Finnish State owns in Fortum during 2019.

Transactions with associated companies and joint ventures

EUR million	2019	2018
Sales	23	39
Purchases	373	379
Interest income on loan receivables	12	13

Balances with associated companies and joint ventures

EUR million	Dec 31 2019	Dec 31 2018
Long-term interest-bearing loan receivables	625	641
Trade receivables	69	54
Other receivables	18	18
Long-term loan payables	294	294
Trade payables	21	33
Other payables	3	14

20. Events after the balance sheet date

Disposal of district heating business, Joensuu, Finland

On 10 January 2020, Fortum concluded the sale of its district heating business in Joensuu, Finland, to Savon Voima Oyj, as announced on 20 December 2019. The total consideration of the sale on a debt- and cash-free basis was approximately EUR 530 million and the cash was received at the completion of the divestment on 10 January 2020. Fortum will record a tax-exempt capital gain of approximately EUR 430 million in the City Solutions segment's first-quarter 2020 results.

See Note 6, Acquisitions, disposals and assets held for sale.

21. Definitions of key figures

Alternative performance measures

Business performance	Definition	Reason to use the measure	Reference to reconciliation
Comparable EBITDA	Operating profit + depreciations and amortisations - items affecting comparablity	Comparable EBITDA is representing the underlying cash flow generated by the total Group and segments. Used as a component in the capital structure target of Comparable net debt /EBITDA.	Capital structure and key ratios after cash flow statement
Comparable operating profit	Operating profit - items affecting comparability	Comparable operating profit is 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.	Income statement
Items affecting comparability	Impairment charges + capital gains and other + changes in fair values of derivatives hedging future cash flow + nuclear fund adjustment	Component used in calculating comparable operating profit and comparable EBITDA.	Income statement
Impairment charges	Impairment charges and related provisions (mainly dismantling), which are adjusted from depreciation and amortisation.	Component used in calculating comparable operating profit and comparable EBITDA.	Income statement
Capital gains and other	Capital gains and transaction costs from acquisitions, which are adjusted from other income and other expenses respectively. Profits from the capital recycling business model are presented in comparable operating profit because the business results are realised through divesting the shareholding, either partially or totally.	Component used in calculating comparable operating profit and comparable EBITDA.	Income statement
Changes in fair values of derivatives hedging future cash flow	Effects from financial derivatives hedging future cash-flows where hedge accounting is not applied or own use exemption cannot be used according to IFRS 9, which are adjusted from other income or to sales and materials and services respectively when calculating Fortum's alternative performance measures.	Component used in calculating comparable operating profit and comparable EBITDA.	Income statement

21. Definitions of key figures

Business performance	Definition	Reason to use the measure	Reference to reconciliation
Nuclear fund adjustment	Effects from the accounting of Fortum´s part of the Finnish Nuclear Waste Fund where the asset on the balance sheet cannot exceed the related liabilities according to IFRIC interpretation 5, which is adjusted from materials and services. In addition adjustments are made for accounting effects from valuation according to IFRS.	Component used in calculating comparable operating profit and comparable EBITDA.	Income statement
Comparable return on net assets, %	$\frac{\text{Comparable operating profit + share of profit (loss) in associated companies and joint ventures + adjustment for share of profit of associated companies and joint ventures}}{\text{Comparable net assets average}} \times 100$	Comparable return on net assets is 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.	Note 4 Segment information
Adjustment for Share of profit of associated companies and joint ventures	Adjustment for material items affecting comparability.	Share of profit of associates and joint ventures is included in profit component in the comparable return on net assets calculation and the adjustments are done based on similar components as in Items affecting comparability.	Note 4 Segment information
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).	Comparable net assets is a component in Comparable return on net assets calculation where return on capital allocated directly to the businesses is measured.	Note 4 Segment information

21. Definitions of key figures

Capital structure	Definition	Reason to use the measure	Reconciliation
Comparable net debt / EBITDA	$\frac{\text{Interest-bearing net debt}}{\text{Comparable EBITDA}}$	Financial targets give guidance on Fortum's view of the company's long-term value creation potential, its growth strategy and business activities. Comparable net debt to EBITDA is one of the Fortum's long-term over-the-cycle financial targets measuring the capital structure of the Group.	Capital structure and key ratios after cash flow statement
Interest-bearing net debt	Interest-bearing liabilities - liquid funds	Interest-bearing net debt is used in the follow-up of the indebtedness of the group i.e. capital structure especially as a component in the long-term over-the-cycle financial target of Comparable net debt / EBITDA in the Group.	Note 13 Interest-bearing net debt
Return on capital employed (ROCE), %	$\frac{\text{Profit before taxes + interest and other financial expenses}}{\text{Capital employed average}} \times 100$	Return on capital employed (ROCE) is a long-term over the cycle financial ratio measuring the profitability and how efficiently invested capital is used. It gives guidance on company's long-term value creation potential, its growth strategy and business activities.	Capital structure and key ratios after cash flow statement
Capital employed	Total assets - total non-interest bearing liabilities	Capital employed is the book value of the invested capital and it is used as a component when calculating the Return of capital employed in the group.	Capital structure and key ratios after cash flow statement

Other key figures

Share based key figures

Earnings per share (EPS)	$\frac{\text{Profit for the period - non-controlling interests}}{\text{Average number of shares during the period}}$
Equity per share	$\frac{\text{Shareholder's equity}}{\text{Number of shares at the end of the period}}$

21. Definitions of key figures

Other key figures

FFO/Net debt, %	Funds from operations (FFO) / Interest-bearing net debt	x 100
Funds from operations (FFO)	Net cash from operating activities before change in working capital and change in settlements for futures	
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 useage/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 certain point of time due to legal requirements.	
Gross investments in shares	Investments in subsidiary shares, shares in associated companies and joint ventures and other investments. Investments in subsidiary shares are net of cash and grossed with interest-bearing liabilities in the acquired company.	
Return on shareholders' equity (ROE), %	Profit for the year / Total equity average	x 100
Gearing, %	Interest-bearing net debt / Total equity including non-controlling interest	x 100
Equity-to-assets ratio, %	Total equity including non-controlling interest / Total assets	x 100
Interest coverage	Operating profit / Net interest expenses	
Interest coverage including capitalised borrowing costs	Operating profit / Net interest expenses - capitalised borrowing costs	

Definitions for tax figures

Effective income tax rate,%	Income tax expense / Profit before income tax	x 100
Comparable effective income tax rate,%	Income tax expense - effects from tax rate changes and major one time tax effects / Profit before income tax decreased by profits from associated companies and joint ventures as well as tax exempt capital gains or losses	x 100
Last twelve months (LTM)	Twelve months preceding the reporting date	

Market conditions and achieved power prices

Power consumption

TWh	Q4 2019	Q4 2018	2019	2018
Nordic countries	108	108	392	399
Russia	286	285	1,059	1,055
Tyumen	25	25	94	92
Chelyabinsk	9	9	35	35
Russia Urals area	69	70	260	260

Average prices

	Q4 2019	Q4 2018	2019	2018
Spot price for power in Nord Pool power exchange, EUR/MWh	38.6	47.6	38.9	44.0
Spot price for power in Finland, EUR/MWh	43.5	49.6	44.0	46.8
Spot price for power in Sweden, SE3, Stockholm EUR/MWh	38.5	48.2	38.4	44.5
Spot price for power in Sweden, SE2, Sundsvall EUR/MWh	37.5	47.4	37.9	44.2
Spot price for power in the First Price Zone of Russia, RUB/MWh 1)	1,232	1,309	1,289	1,247
Average capacity price, tRUB/MW/month	684	682	624	609
Spot price for power in Germany, EUR/MWh	36.6	52.6	37.7	44.5
Average regulated gas price in Urals region, RUB/1000 m^3	3,937	3,883	3,910	3,801
Average capacity price for CCS, tRUB/MW/month 2)	166	158	154	148
Average capacity price for CSA, tRUB/MW/month 2)	1,186	1,196	1,096	1,075
Spot price for power (market price), Urals hub, RUB/MWh 1)	1,081	1,099	1,117	1,043
CO_2, (ETS EUA), EUR/tonne CO_2	25	20	25	16
Coal (ICE Rotterdam), USD/tonne	57	93	61	92
Oil (Brent Crude), USD/bbl	62	69	64	72

1) Excluding capacity tariff.

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

Water reservoirs

TWh	Dec 31 2019	Dec 31 2018
Nordic water reservoirs level	79	74
Nordic water reservoirs level, long-term average	84	83

Export/import

TWh (+ = import to, - = export from Nordic area)	Q4 2019	Q4 2018	2019	2018
Export / import between Nordic area and Continental Europe + Baltics	-1	-4	-8	-10
Export / import between Nordic area and Russia	2	2	8	8
Export / import Nordic area, Total	1	-2	0	-2

Power market liberalisation in Russia

%	Q4 2019	Q4 2018	2019	2018
Share of power sold at the liberalised price	79%	80%	80%	80%

Achieved power prices

	Q4 2019	Q4 2018	2019	2018
Generation segment's Nordic power price, EUR/MWh	37.6	37.2	36.8	34.6
Russia segment's power price, RUB/MWh	2,003	1,982	1,990	1,888
Russia segment's power price, EUR/MWh 1)	28.2	26.0	27.3	25.6

1) Translated using average exchange rate.

Fortum's production and sales volumes

Power generation

TWh	Q4 2019	Q4 2018	2019	2018
Power generation in Europe	13.0	11.5	46.8	44.4
Power generation in Russia	7.4	8.0	29.3	29.6
Power generation in other countries	0.1	0.1	0.2	0.4
Total	**20.5**	**19.9**	**76.3**	**74.6**

Heat production

TWh	Q4 2019	Q4 2018	2019	2018
Heat production in Europe	3.8	3.1	9.1	9.4
Heat production in Russia	6.0	6.4	17.3	20.4
Total	**9.8**	**9.6**	**26.4**	**29.8**

Power generation capacity by segment

MW	Dec 31 2019	Dec 31 2018
Generation [1)]	8,220	8,024
City Solutions [2)]	1,082	788
Russia	4,928	4,912
Other	0	0
Total	**14,230**	**13,724**

1) Including 308 MW of Meri-Pori power plant, which will be under reserve capacity agreement during period July 2017 - June 2020.

2) Additional 250 MW solar in India was commissioned in July 2019.

Heat production capacity by segment

MW	Dec 31 2019	Dec 31 2018
City Solutions	4,812	4,780
Russia [1)]	8,437	10,229
Total	**13,249**	**15,009**

1) Decrease is mainly due to transfer of heat networks in Chelyabinsk and certain heat-only boilers to Yustek JV under a lease agreement in Q1 2019.

Power generation by source in the Nordic area

TWh	Q4 2019	Q4 2018	2019	2018
Hydro and wind power	5.9	4.9	20.7	19.4
Nuclear power	6.3	6.1	23.5	22.8
Thermal power	0.5	0.3	1.4	1.3
Total	**12.7**	**11.4**	**45.5**	**43.5**

Power generation by source in the Nordic area

%	Q4 2019	Q4 2018	2019	2018
Hydro and wind power	46	43	45	45
Nuclear power	50	54	52	52
Thermal power	4	2	3	3
Total	**100**	**100**	**100**	**100**

Power sales

EUR million	Q4 2019	Q4 2018	2019	2018
Power sales in Europe	848	914	3,063	2,922
Power sales in Russia	249	237	924	872
Power sales in other countries	5	0	8	15
Total	**1,102**	**1,151**	**3,995**	**3,810**

Fortum's production and sales volumes

Heat sales

EUR million	Q4 2019	Q4 2018	2019	2018
Heat sales in Europe	202	205	618	615
Heat sales in Russia	57	65	145	193
Total	**259**	**270**	**763**	**808**

Power sales by area

TWh	Q4 2019	Q4 2018	2019	2018
Finland	5.9	6.2	23.1	23.1
Sweden	8.9	8.1	31.5	29.7
Russia	8.8	9.1	33.8	34.1
Norway	4.4	4.7	15.0	15.3
Other countries	0.7	0.4	2.5	1.8
Total	**28.8**	**28.5**	**105.8**	**104.0**

NordPool transactions are calculated as a net amount of hourly sales and purchases at the Group level.

Heat sales by area

TWh	Q4 2019	Q4 2018	2019	2018
Russia	6.0	7.7	16.9	20.7
Finland	1.2	1.2	3.8	3.8
Poland	1.1	1.2	3.3	3.5
Other countries	1.2	1.2	3.6	3.5
Total	**9.5**	**11.3**	**27.6**	**31.5**