

Disclaimer

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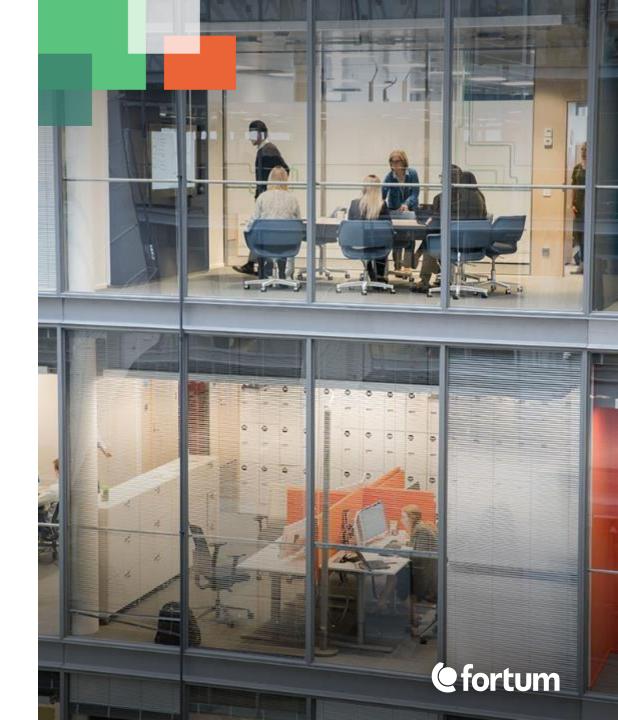
Past performance is no guide to future performance, and persons needing advice should consult an independent financial adviser.

Any references to the future represent the management's current best understanding. However the final outcome may differ from them.



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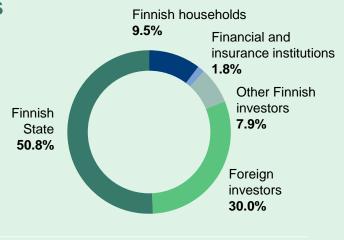
Fortum at a glance

Description of Fortum

- A leading clean-energy company across the Nordic region, the Baltic countries, Poland, and Russia
- A circular economy champion, providing solutions for sustainable cities, including waste, recycling, and biomass
- Rated BBB (negative outlook) and BBB (stable outlook) by S&P and Fitch respectively
- In 2018, Fortum closed its tender offer to shareholders in Uniper (holding of 49.99% of the outstanding shares and voting rights as of 31.12.2018)

Key shareholders

- Listed on the Helsinki Stock Exchange since 1998
- Market capitalisation of ~EUR 17bn
- Finnish State is a majority owner

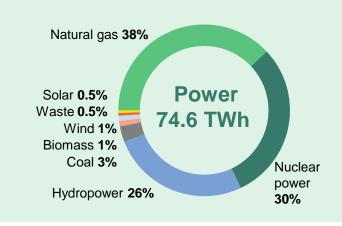


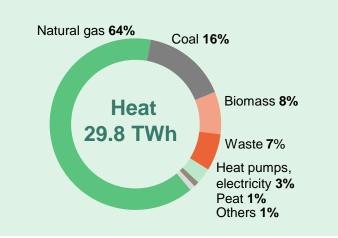
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Operations by business segment



Production by source







Fortum's geographical footprint



Nordic countries

- Power generation 43.5 TWh
- Heat sales 5.9 TWh
- Electricity customers

 2.4 million



Russia

PAO Fortum

- Power generation 29.5 TWh
- #8 Heat sales

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Sales EUR 5.2 bn

Comparable

EBITDA EUR 1.5 bn

Total assets EUR 22 bn

Personnel 8,300



Poland

Power generation **0.6 TWh**

Heat sales

3.5 TWh



Baltic countries

Power generation **0.7 TWh**

Heat sales

1.4 TWh

Sales by market area 2018 Poland Other 4%





= Fortum market share ranking

Note: Ranking based on year 2017 pro forma figures Source: Fortum, company data, shares of the largest actors



Three main drivers are shaping the future electricity markets

Climate and Environment

- Decarbonisation to reach Paris agreement targets
- Electrification in heating, transportation and key industrial processes
- Resource efficiency

Politics and Regulation

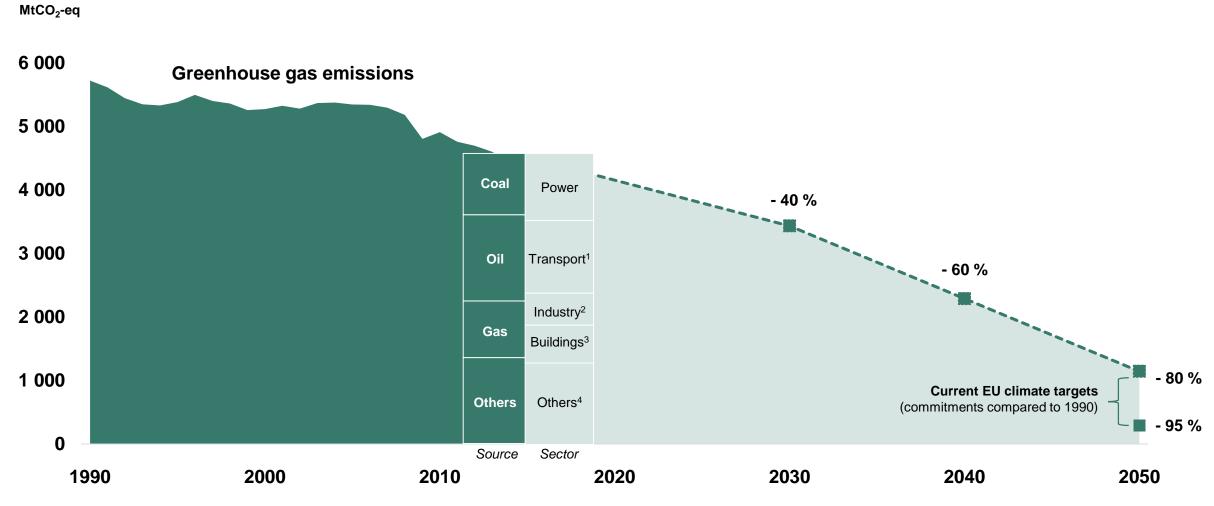
- National and international interests
- Market models
- Emission trading
- Geopolitical uncertainty

Technology Development

- Solar and wind
- Digitalisation and artificial intelligence
- Short-term and seasonal storage
- E-mobility ecosystem
- **Demand response**



Europe needs to eliminate CO₂ emissions to reach climate goals – this requires actions from all sectors



Sources: European Environmental Agency (total emissions), IEA World Energy Outlook 2018 (fuel emissions), EURELECTRIC (sector emissions), Fortum Industrial Intelligence

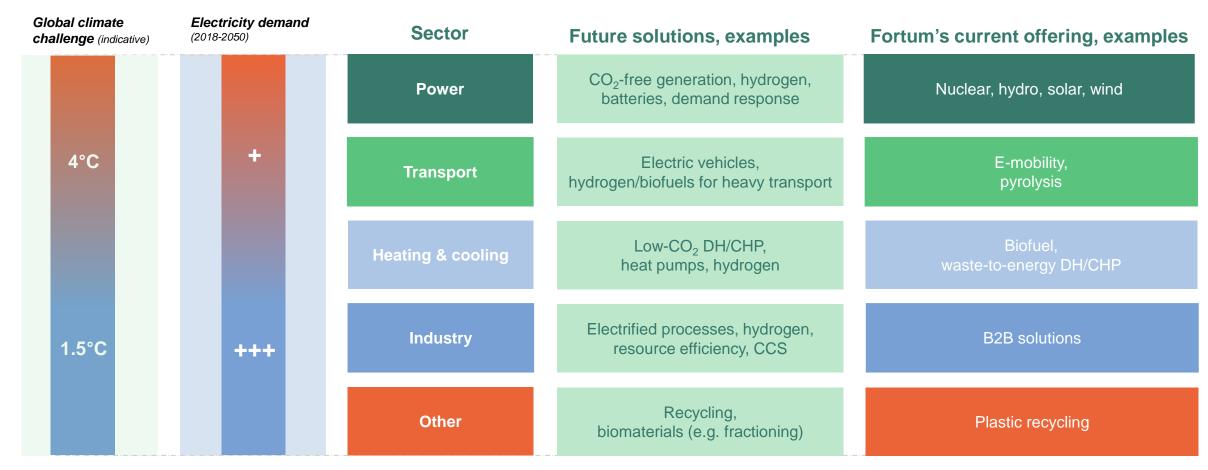
¹ including international aviation and marine

² iron & steel and chemicals are among the biggest contributors

³ residential and commercial heating & cooling

⁴ non-energy related emissions: industrial processes and product use, waste management, agriculture, fugitive emissions

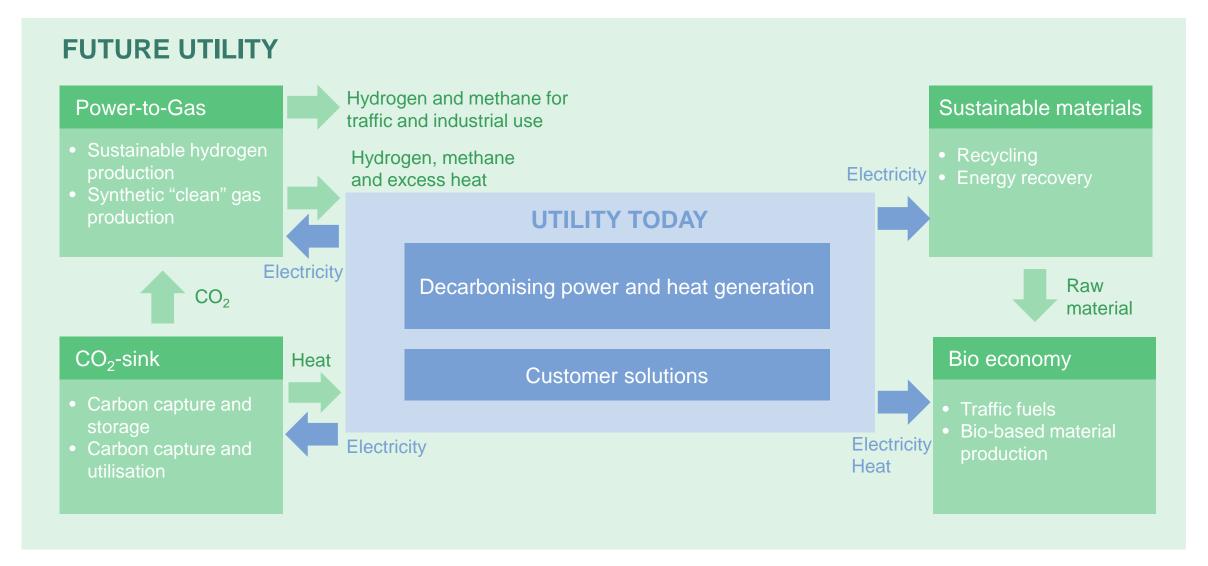
The decades of electricity will affect several sectors – and Fortum is well positioned for decarbonisation



DH/CHP = District heating/combined heat and power CCS = Carbon capture and storage



Building the utility of the future





Volatility and uncertainty in the European power market increases the value of flexible assets

Intermittent renewables

Nuclear and coal closures

Increasing role of gas

Supply-demand balance

Increased interconnection between Nordics and Continent

Commodity and CO₂ prices

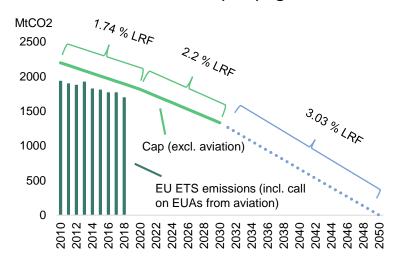
Weather conditions





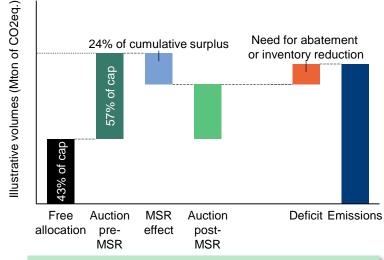
The MSR introduces tightness to carbon market

Linear reduction factor (LRF) tightens the market



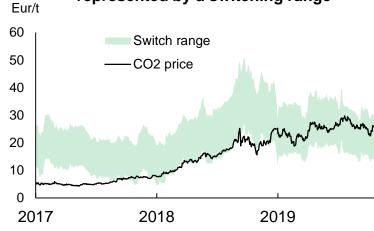
- Linear reduction factor (LRF) is the percentage of baseline supply¹ by which the annual supply of allowances (cap) is reduced every year. LRF is set at
 - 1.74% for 2013-2020 (equals to a reduction of 38 MtCO₂/year)
 - 2.2% for 2021-2030 (equals to a reduction of 48 MtCO₂/year)
- In total, emissions are set to decrease by 43% by 2030 vs. 2005
- Next LRF review is scheduled for 2024
 - 3.03% LRF from 2030 onwards would deliver net zero emissions by 2050

Market stability reserve restores scarcity by reducing future auction volumes



- When TNAC² > 833 Mt, MSR deducts 24% of the TNAC from the auction volume each year placing them into the reserve during 2019-2023
 - MSR rate is 12% during 2024-2030
- When TNAC < 400 Mt, MSR releases 100 million EUAs annually from the reserve adding them to future auctions
- 900 million back loaded allowances from 2014-2016 will be transferred into the MSR in 2019-2020
- As from 2023, allowances in MSR above the total number of allowances auctioned during the previous year will be cancelled
- Next MSR review is scheduled in 2021

Abatement from coal to gas switching depends on coal and gas prices, together represented by a switching range



- CO₂ price has almost quadrupled since November 2017, when the final decision was reached on the future EU ETS rules, including the intake rate of the Market Stability Reserve, which became operational in January 2019
- Market tightness forces the EUA market to find ways to reducing demand, including by coal-togas switching, making the relative gas/coal price an important price anchor for CO2
- Political risks also continue to play a role in EUA prices, with developments around Brexit and national coal phase-out policies in particular being closely watched

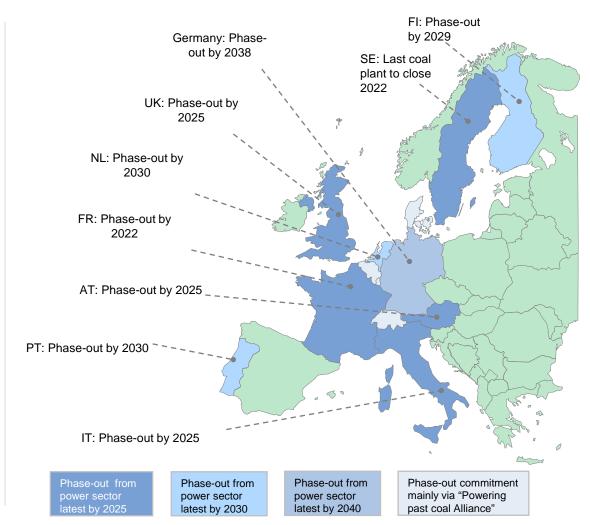
Efficiency assumptions in switching range; at low-end: gas 52% and coal 34%; at high-end: gas 48% and coal 38%. O&M cost assumptions apply.



 $^{^2}$ TNAC = total number of allowances in circulation = supply – (demand + allowances in the MSR). According to the latest publication May 15, 2018 the TNAC corresponds to 1655 million allowances.

Several Western European countries exiting coal over the next decade

- France to phase out coal from power sector at latest in 2022
- United Kingdom to exclude coal condense from capacity market by capping allowed emissions from 2025
- Netherlands' new government aims at exit by 2030, regulation not yet in place
- Poland: investments in new coal generation, after 2025 will be based on CHP or other technologies, which will allow the emission standards on the level of 450kg CO₂ per MWh of generated energy
- Germany to set a binding coal exit date by end of 2019
 - Closure of 12.5 GW by 2022 (compared to 42.5 GW in 2017), additional 13 GW by 2030, latest 2038 all remaining capacity
 - Compensation for hard coal operators expected to based on auctions, lignite operators negotiate compensations directly with the government
 - Coal regions to receive EUR 40 billion over next 20 years
 - EUR 2 billion annual compensation to customers in lower grid fees and/or taxes proposed
 - Respective amount of CO₂ allowances to be cancelled in the EU Emission Trading Scheme (ETS)





Positioning Fortum for the decade of electricity – For a cleaner world





Fortum's strategic priorities in a changing energy market

- 1. Pursue operational excellence and increased flexibility
- Ensure benchmark performance
- Focus on cash flow and efficient use of balance sheet

- 2. Ensure value creation from investments and portfolio optimisation
- Increase shareholder value from Uniper
- Optimise portfolio to fit the changing business environment

- 3. Drive focused growth in the power value chain
- Grow in CO₂-free power generation
- Develop value-adding offerings and solutions for customers

- 4. Build options for significant new businesses
- Create new sizeable profit contributor independent of power prices
- Build on industrial logic and synergies with current businesses and competences



Delivering on financial targets through operational excellence and portfolio optimisation in the short to mid term

Strategic priorities...

Operational excellence

- Continue productivity improvement
- Prioritise capital expenditure

Increased flexibility

- Maximise flexibility in current businesses and assets
- Develop new sources of flexibility

Value creation and portfolio optimisation

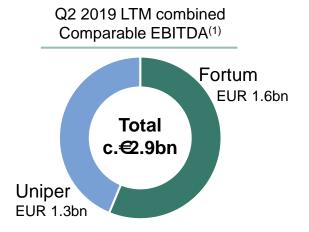
- Ensure competitive asset fit for changing business environment
- Focus on core businesses
- Selective investments

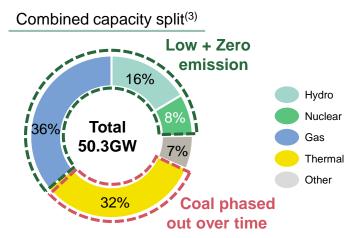
... creating value

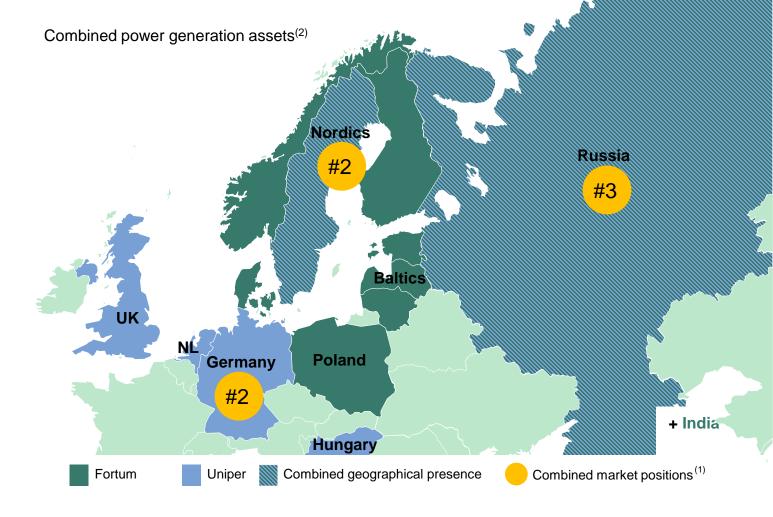
- Benchmark performance
- Optimise cash flow
- Strengthen balance sheet
- Create financial flexibility
- Solid investment grade rating



Scale, competences and resources to prosper, grow and lead European energy transition







¹⁾ Comparable EBITDA is based on the Fortum's Comparable EBITDA and Uniper's Adjusted EBITDA as defined in Fortum's and Uniper's financial statements. No impacts from the assumed transaction has been included.



Market positions for Central-Europe/Europe and Nordics are based on total installed capacity; the market position in Russia is based on thermal capacity.
 Based on 31 Dec. 2018 capacity.

Portfolio well positioned for energy transition - overall combined share of coal based activities is moderate

Coal share from generation and from sales (calculated from disclosed numbers assumptions below)

	Fortum 2018	Uniper 2018	Combined
Sales, MEUR	5,242	78,176	83,418 ⁽¹⁾
Coal and lignite generation based sales, MEUR	242	1,590	1,832 ⁽¹⁾
Share of coal based sales, (%)	5	2	2
Generation (power and heat), TWh	104	114	218
Coal and lignite based, TWh	7	32	39
Share of coal based generation, (%)	7	28	18

Note: For Fortum avg. coal based power sales price assumption 35 €/MWh and for heat 35 €/MWh, for Uniper avg. coal based sales price assumption 50 €/MWh. Fortum data includes also heat production, Uniper data only power generation.

1. Combined sales is presented for illustrative purposes only and do not include possible impacts from aligning differences in accounting principles, effects from co-owned power companies or eliminations of sales between the Groups.

Source: Fortum Sustainability report 2018, page 22 and Fortum Financial statements and operating and financial review 2018, page 2. Uniper Sustainability Report 2018, page 62.



Illustrative combined key financials

Financial information in the table below is derived and based on Fortum's Half-year Financial Report January-June 2019 and Financials 2018 and Uniper's Half-year Interim Report 2019 and Annual Report 2018

EUR million	Fortum LTM Q2 2019	Uniper LTM Q2 2019	Impact from transaction ⁽⁴⁾	Combined LTM Q2 2019
Sales	5,404	78,928		84,332
Comparable EBITDA ⁽¹⁾	1,621	1,260		2,881
Capex ⁽²⁾	715	638		1,353
Interest-bearing liabilities, 30 June 2019(3)	6,719	1,570	2,253	10,542
Liquid funds, 30 June 2019 ⁽³⁾	1,297	717		2,014
Net interest-bearing liabilities, 30 June 2019(3)	5,422	853	2,253	8,528
Number of employees, 30 June 2019	8,383	11,962		20,345

Combined key financials are presented for illustrative purposes only and they do not include possible impacts from aligning differences in accounting principles, effects from co-owned power companies or eliminations of sales, purchases, receivables and payables between the Groups.



⁽¹⁾ Comparable EBITDA is based on the Fortum's Comparable EBITDA and Uniper's Adjusted EBITDA as defined in Fortum's and Uniper's financial statements. No impacts from the assumed transaction has been included.

⁽²⁾ Capex is based on Fortum's reported Capex and Uniper's reported Investments.

⁽³⁾ Fortum's interest-bearing liabilities and liquid funds as defined in Fortum's financial statements. Uniper's Interest-bearing liabilities includes 'Financial liabilities and liabilities from leases' as defined in Uniper's financial statements (but excludes 'Margining liabilities' amounting to EUR 1,002 million). Liquid funds as defined in Uniper's financial statements. Please see further information regarding Fortum's Net debt and Uniper's Net financial position and Economic net debt in their respective financial statements.

^{(4) &#}x27;Impact from transaction' is based on the acquisition of approximately 20.5% of Uniper's outstanding share capital at a price of EUR 29.93 per share.

Fortum is a forerunner in sustainability

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

Increasing CO₂-free power generation

Annual CO₂-free power generation has almost tripled from 15 TWh in 1990 to 43 TWh in 2018

Among the lowest specific emissions

96% of its power generation in the EU and 57% of its total power generation was CO₂-free in 2018. Fortum's specific emissions from power generation in the EU were 28 gCO₂/kWh in 2018, total 174 gCO₂/kWh.

Growing in solar and wind

Targeting a multi-gigawatt portfolio in solar and wind

Fortum listed in several sustainability indexes and ratings:





















Fortum's long-term financial targets and dividend policy

Return on capital employed (ROCE) of at least

10%

Comparable
Net debt/EBITDA ratio
at around

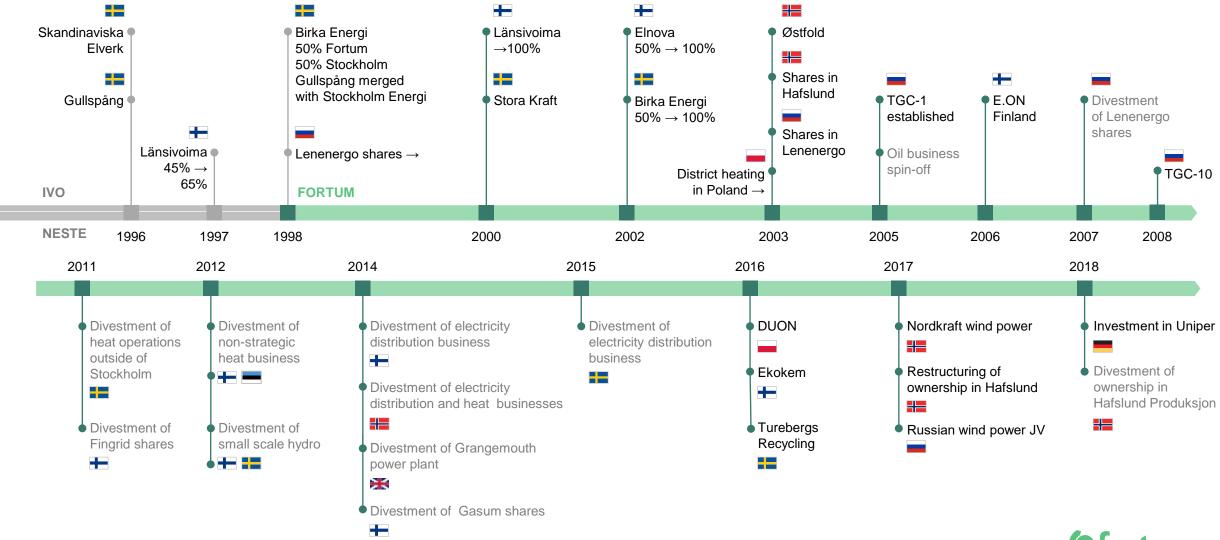
2.5x

Having a solid investment grade rating is a key priority for Fortum

Fortum's dividend policy is
to pay a **Stable**, **sustainable**, and over
time increasing dividend
of 50-80% of earnings per share,
excluding one-time items



Fortum's evolution and historical strategic route







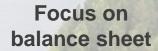
Strong results improvement and agreement on majority stake in Uniper

- Nordic spot power price down, -31% Y/Y
 - Achieved power price at EUR 35.7, up 1.1 EUR/MWh
- Reservoir levels around long-term average
- Comparable EBITDA at EUR 295 million, +28%
- Comparable operating profit at EUR 153 million, +59%
- Share of profits of associates and JVs at EUR 106 (12) million
- EPS at EUR 0.20 (0.05)
 - Items affecting comparability EUR -0.02 (-0.01)
 - Uniper contribution EUR 0.10 (-)
- Strong cash flow from operating activities at EUR 262 (133) million
- Comparable Net debt/EBITDA at 3.2x (LTM)



Strategy execution continues

Fortum to acquire at least 20.5% in Uniper, Fortum's ownership to be >70.5%



Espoo Clean Heat: Coal exit in Espoo target 2025



Fortum to take majority position in Uniper

Agreement

- Fortum has entered into agreements with Elliott and Knight Vinke to acquire in excess of 20.5% in Uniper for approximately EUR 2.3 billion, corresponding to EUR 29.93 per share, increasing Fortum's share in Uniper to more than 70.5% and the total investment in Uniper to approximately EUR 6.2 billion (average price paid EUR 23.97 per share)
- Fortum rules out a domination and/or profit and loss transfer agreement or squeeze-out for a period of at least two years
- Fortum intends to be represented on Uniper's Supervisory Board commensurate with its ownership without delay
- Fortum offers commitments to Uniper's employees and seeks continued dialogue with employee representatives

Regulatory approvals

- Closing of the transaction, subject to customary regulatory clearances in Russia and the United States, is expected
 by the end of the first quarter of 2020. Fortum is in discussions with the Russian state authorities and has made a
 preparatory filing to the Russian Federal Antimonopoly Service
- No further European Commission clearance is required; in 2018, Fortum already received unconditional merger clearance from the Commission

Financials

- 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 underwritten by Barclays Bank PLC
- Fortum is committed to maintaining an investment-grade rating post transaction and to strengthening its financial profile longer term, which will provide appropriate financial stability and support to the enlarged group

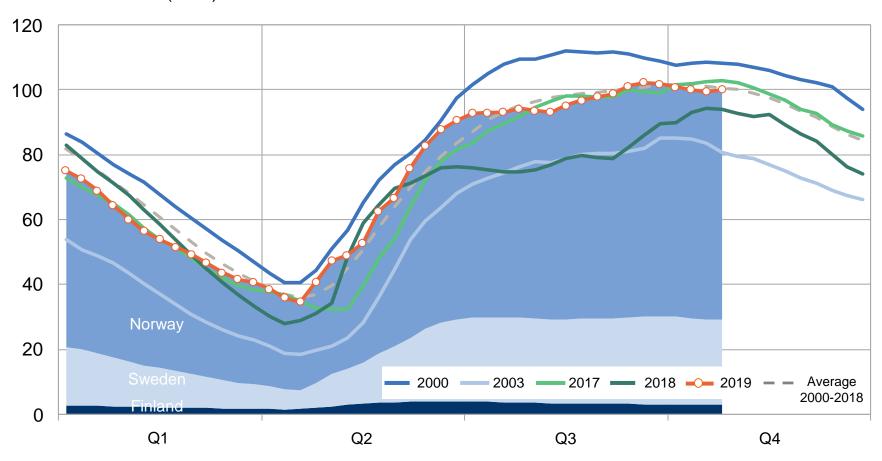


Creating a leader in the European energy transition

- The transaction delivers on Fortum's vision and strategy, investing in a diversified European power generation with attractive hydro, nuclear, and gas assets and a platform for growth
- Fortum and Uniper have the strategic mix of businesses and expertise required to successfully drive Europe's transition from conventional to cleaner and more secure energy
- As a responsible and committed parent company, Fortum looks forward to working with Uniper's management team and employees on the creation and implementation of a joint vision
- Fortum is committed to protecting the core interests of Uniper's employees and to providing attractive prospects

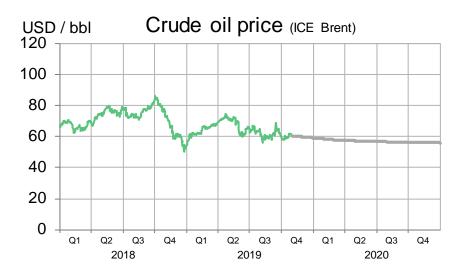
Nordic water reservoirs

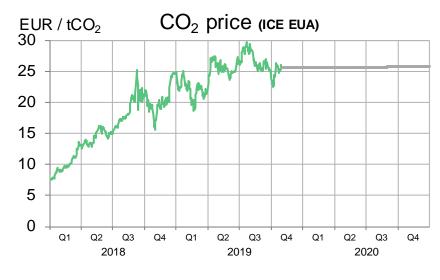
Reservoir content (TWh)

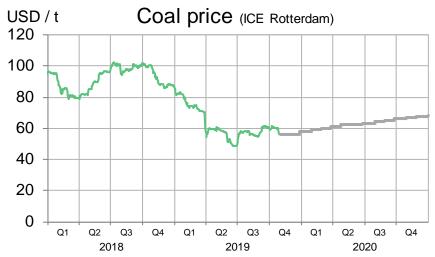


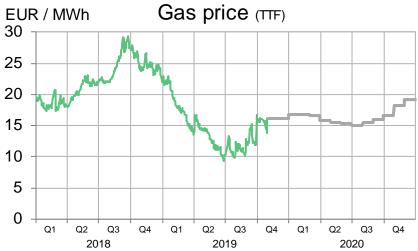


Fuel and CO₂ allowance prices









Source: ICE, Thomson Reuters

Nordic power price development





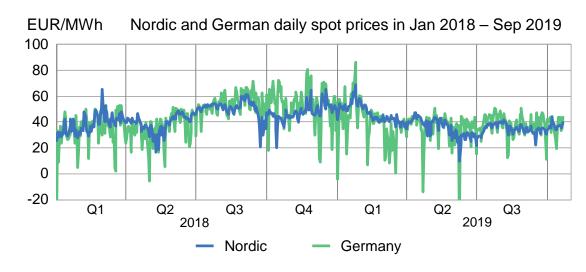
German and Nordic forward prices fairly stable

Spot price

- During Q3 2019, the average spread was 2.7 EUR/MWh with the Nordic system average price at 34.7 EUR/MWh and German price at 37.4 EUR/MWh
- Continuously weak gas price and high generation from renewable energy sources contributed to the low German spot price. During September, Nordic prices weakened following the improving hydrological situation.
- During 2012-2018, the average realised German-Nordic spot spread was 4.6 EUR/MWh, fluctuating on an annual level in the range of -1...15 EUR/MWh

Forward price

- During Q3 2019, the spread for 2020 delivery traded in the range 11.8-15.4 EUR/MWh, average at 13.6 EUR/MWh
- The German-Nordic spread is essentially determined by the supplydemand balance in the Nordics and on Continental Europe, in combination with available interconnector capacity. Thus investments in interconnectors, demand growth, expansion of renewable capacity, as well as phasing out of nuclear and coal capacity all play a key role.

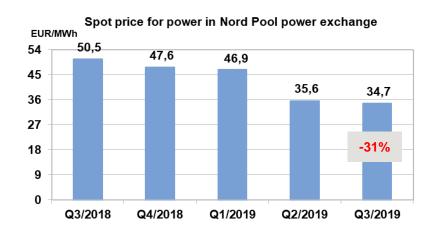


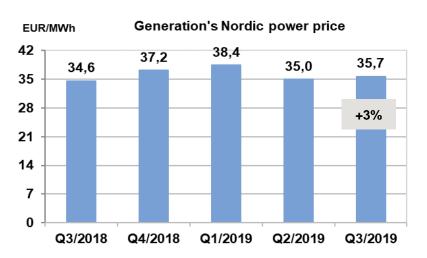


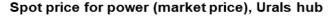
Including 21 October 2019 Source: Nord Pool, Bloomberg

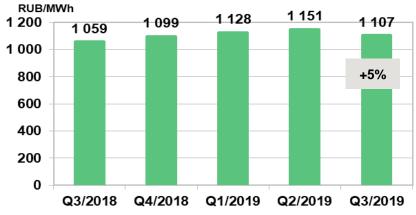


Fortum's achieved power price +3% in Q3 despite lower Nordic power price – Russian achieved price +11%

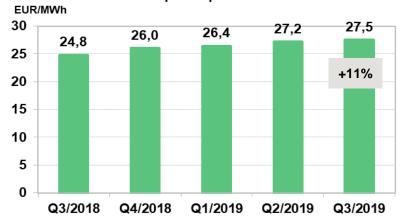








Achieved power price for PAO Fortum



Changes refer to year-on-year difference (Q3 2019 versus Q3 2018) NOTE: Achieved power price (includes capacity payments) in roubles increased by 5%



Generation

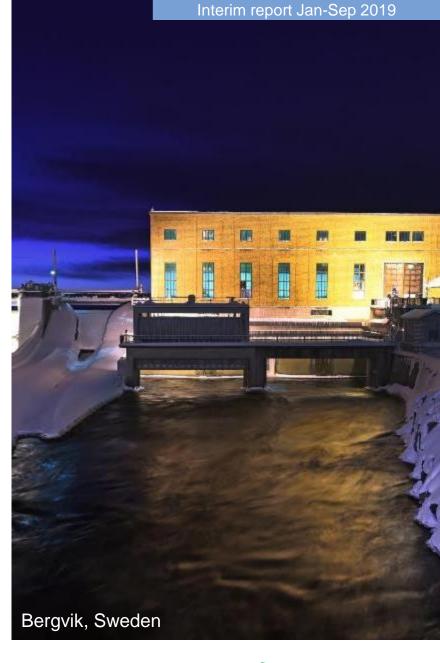
Q3 2019

- Higher achieved power price,
 +1.1 EUR/MWh, +3%
- Good operational performance and load factor
 - Higher hydro and nuclear volumes

Q1-Q3 2019

- Higher achieved power price,
 +2.7 EUR/MWh, +8%
- Good operational performance and load factor
 - Higher nuclear volumes

MEUR	Q3 2019	Q3 2018	Q1-Q3 2019	Q1-Q3 2018	2018	LTM
Sales	458	360	1,558	1,285	1,842	2,115
Comparable EBITDA	176	103	660	538	763	885
Comparable operating profit	140	69	555	440	628	743
Comparable net assets			5,953	6,072	6,485	
Comparable RONA %					10.8	13.0
Gross investments	81	72	184	170	262	276





City Solutions

Q3 2019

- Longer maintenance breaks at some CHPs
- Weaker performance in recycling and waste business
- Higher fuel and CO₂ costs

Q1-Q3 2019

- EUR 26 million of profit from sale of solar stake (2018)
- H1 profit was partly offset by Q3 loss
- → Corrective measures being reviewed in order to improve the performance

MEUR	Q3 2019	Q3 2018	Q1-Q3 2019	Q1-Q3 2018	2018	LTM
Sales	200	178	834	751	1,110	1,193
Comparable EBITDA	11	47	179	201	310	288
Comparable operating profit	-36	4	41	71	135	105
Comparable net assets			3,790	3,726	3,794	
Comparable RONA %					5.5	4.5
Gross investments	53	73	262	157	242	347





Consumer Solutions

Q3 2019

- Higher sales margin
 - Active development of product and service offering
- Improved performance in Poland
- Continued competition with high customer churn in the Nordics

Q1-Q3 2019

- Higher sales margin
 - Favourable market conditions continued in H1, part of impact temporary
 - Active development of product and service offering

MEUR	Q3 2019	Q3 2018	Q1-Q3 2019	Q1-Q3 2018	2018	LTM
Sales	311	332	1,326	1,204	1,759	1,881
Comparable EBITDA	31	22	106	79	110	137
Comparable operating profit	16	7	60	36	53	77
Comparable net assets			564	631	648	
Customer base, million			2.40	2.47	2.47	
Gross investments	13	12	39	33	47	53





Russia

Q3 2019

- Improved result in heat business
- Higher electricity margins
- FX impact EUR 5 million

Q1-Q3 2019

- Higher electricity margins and CSA payments
- Lower bad-debt provisions
- Heat distribution business transferred to Yustek JV
- FX impact EUR -2 million

In 2019, no new units will receive higher CSA payments

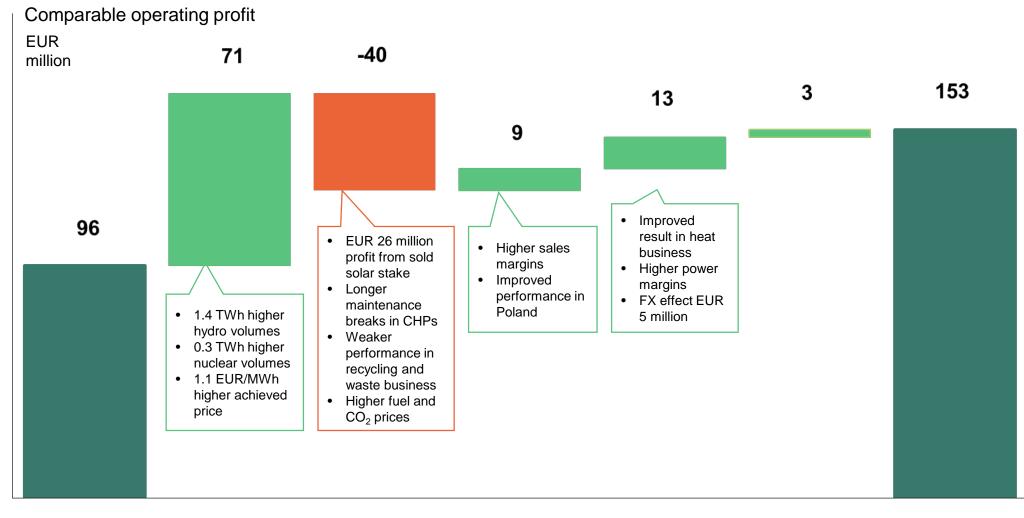
MEUR	Q3 2019	Q3 2018	Q1-Q3 2019	Q1-Q3 2018	2018	LTM
Sales	229	200	765	764	1,069	1,070
Comparable EBITDA	91	76	333	291	417	459
Comparable operating profit	53	40	222	182	271	311
Comparable net assets			3,098	2,853	2,789	
Comparable RONA %					10.3	12.4
Gross investments	16	11	35	51	117	101

CSA=Capacity Supply Agreement





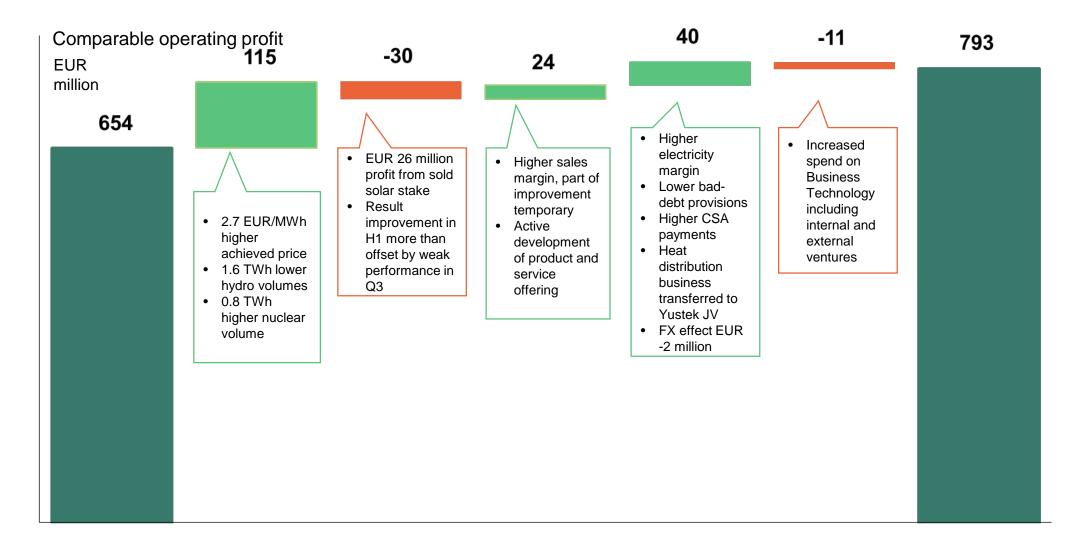
Q3 2019 – strong performance in Generation, disappointing performance in City Solutions





Other

Q1-Q3 2019 – solid performance in Generation and Russia





Key financials

MEUR	Q3 2019	Q3 2018	Q1-Q3 2019	Q1-Q3 2018	2018	LTM
Sales	1,060	971	3,894	3,643	5,242	5,493
Comparable EBITDA	295	230	1,213	1,051	1,523	1,685
Comparable operating profit	153	96	793	654	987	1,126
Operating profit	124	91	666	829	1,138	975
Share of profits of associates and joint ventures	106	12	678	82	38	634
Profit before income taxes	198	45	1,274	779	1,040	1,535
Earnings per share, EUR	0.20	0.05	1.27	0.73	0.95	1.48
Net cash from operating activities	262	133	1,753	767	804	1,790

Q1-Q3 2019

- Comparable operating profit mainly supported by Generation and Russia
- Share of profits from associates of EUR 678 million
 - Uniper EUR 534 million:
 - EUR 218 million underlying result
 - EUR 293 million non-operating result
 - EUR 23 million reversal of fair value adjustment
- EPS EUR 1.27
 - Items affecting comparability -0.11 (0.17)
 - Uniper impact 0.60 (-)



Income statement

MEUR	Q3 2019	Q3 2018	Q1-Q3 2019	Q1-Q3 2018	2018	LTM
Sales	1,060	971	3,894	3,643	5,242	5,493
Other income	20	47	65	89	130	106
Materials and services	-533	-545	-1,976	-1,925	-2,795	-2,846
Employee benefits	-110	-105	-355	-340	-459	-474
Depreciations and amortisation	-143	-134	-421	-397	-536	-560
Other expenses	-142	-138	-415	-417	-594	-592
Comparable operating profit	153	96	793	654	987	1,126
Items affecting comparability	-29	-5	-127	175	151	-151
Operating profit	124	91	666	829	1,138	975
Share of profits/loss of associates						
and joint ventures	106	12	678	82	38	634
Finance costs - net	-32	-58	-70	-132	-136	-74
Profit before income tax	198	45	1,274	779	1,040	1,535
Income tax expense	-25	1	-134	-118	-181	-197
Profit for the period	173	46	1,140	661	858	1,337

Q1-Q3 2019

- Share of profits from associates include Uniper share of EUR 534 million
- Finance costs net
 - Net financial expenses include EUR +40 million from nuclear technical update in Q2
 - EUR 13 million cost related to repayment of bridge financing for Uniper investment in Q1



Cash flow statement

MEUR	Q3 2019	Q3 2018	Q1-Q3 2019	Q1-Q3 2018	2018	LTM
Comparable EBITDA	295	230	1,213	1,051	1,523	1,685
Realised FX gains/losses	1	72	11	205	231	37
Paid net financial costs, income taxes and other	-85	-81	-255	-280	-341	-316
Dividends received	10	0	239	53	61	247
Change in working capital	15	-81	201	35	-146	20
Change in settlements for futures	26	-8	342	-298	-524	116
Net cash from operating activities	262	133	1,753	767	804	1,790
Capital expenditures	-160	-142	-529	-394	-579	-714
Acquisitions of shares	-21	-163	-37	-3,913	-4,088	-212
Divestments of shares and capital returns	20	88	51	258	259	52
Change in cash collaterals and restricted cash	-2	89	320	-87	-36	371
Other investing activities	47	-19	33	31	46	47
Cash flow from investing activities	-116	-147	-162	-4,107	-4,398	-453
Cash flow before financing activities	146	-14	1,591	-3,340	-3,594	1,337
Paid dividends to the owners of the parent	0	0	-977	-977	-977	-977
Paid dividends to non-controlling interests	0	-2	-23	-5	-5	-23

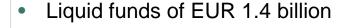
Q1-Q3 2019

- Cash flow strengthened due to
 - improvement of EUR 162 million in comparable EBITDA
 - change in settlements for futures EUR 342 million
 - working capital EUR
 201 million and
 - dividends received from associates EUR 239 million
- Acquisition of shares in 2018 mainly related to investment in Uniper shares

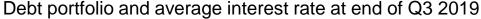


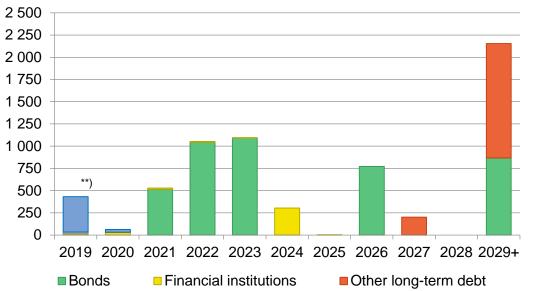
Ongoing actions to deleverage aim to optimise cash flow and maintain financial flexibility

	LTM	2018	TARGET
Comparable EBITDA, MEUR	1,685	1,523	
Interest-bearing net debt, MEUR	5,367	5,509	
Comparable net debt/EBITDA ratio*)	3.2x	3.6x	Around 2.5x
Return on capital employed (ROCE), %	9.0	6.7	At least 10%



- Undrawn committed credit lines of EUR 1.8 billion, of which EUR 1.75 billion is maturing in June 2023
- Total loans and borrowings of EUR 6,700 million
 - Average interest rate of 2.2% (2018: 2.4%)
 - Portfolio mainly in EUR and SEK with average interest cost 1.4% (2018: 1.7%)
 - EUR 779 million (2018: 686) swapped to RUB, average interest cost including cost for hedging 8.4% (2018: 8.3%)
 - Other short-term debt includes new noncash collaterals and settlement





^{*)} Uniper's EBITDA or debt are not consolidated as Uniper is accounted for as an associated company.



¹⁾ In addition, Fortum received EUR 67 million based on Credit Support Annex agreements with several counterparties. This amount has been booked as short-term liability.

Outlook

Demand growth

Electricity demand in the Nordics is expected to grow by ~0.5% on average

Hedging

Rest 2019: ~80% at EUR 33 per MWh

2020: ~70% at EUR 33 per MWh (Q2: 60% at EUR 31)

2021: ~35% at EUR 33 per MWh

2019 Estimated annual capital expenditure,

including maintenance and excluding acquisitions

EUR 600-650 million

In 2020, capital expenditure is expected to decline

Targeted cost synergies of Hafslund transaction

EUR 15-20 million gradually materialising 2019-2020

- City Solutions:
 EUR 5-10 million
- Consumer Solutions:~EUR 10 million

Taxation

Effective tax rate for 2019 for the Group 19-21%

In Sweden hydro assets' real estate tax rate to decrease over a four-year period (2017-2020)

Loviisa, Finland



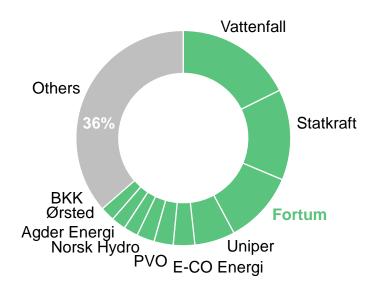
Appendices



Still a highly fragmented Nordic power market Fortum has the largest electricity customer base in the Nordics

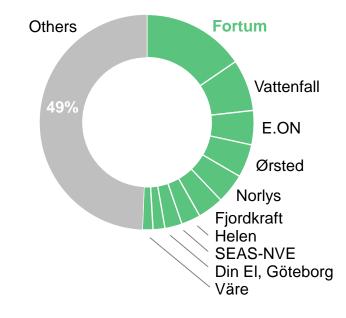
Power generation in 2018 400 TWh

>350 companies



Electricity retail

15.5 million customers ~350 companies

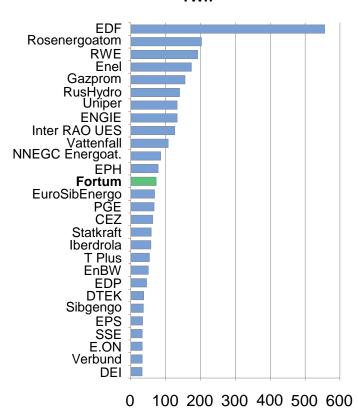




Fortum mid-sized European power generation player – major producer in global heat

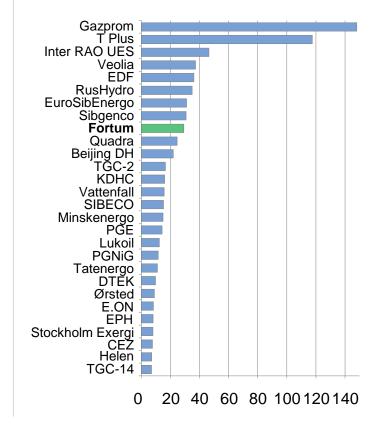
Power generation

Largest producers in Europe and Russia, 2017
TWh



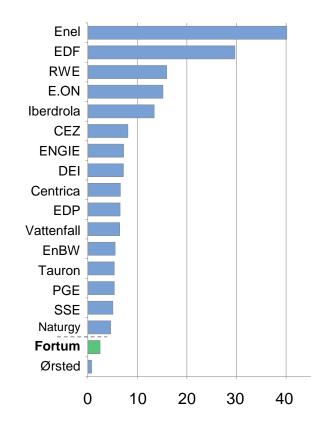
Heat production





Customers

Electricity customers in Europe, 2017 Millions



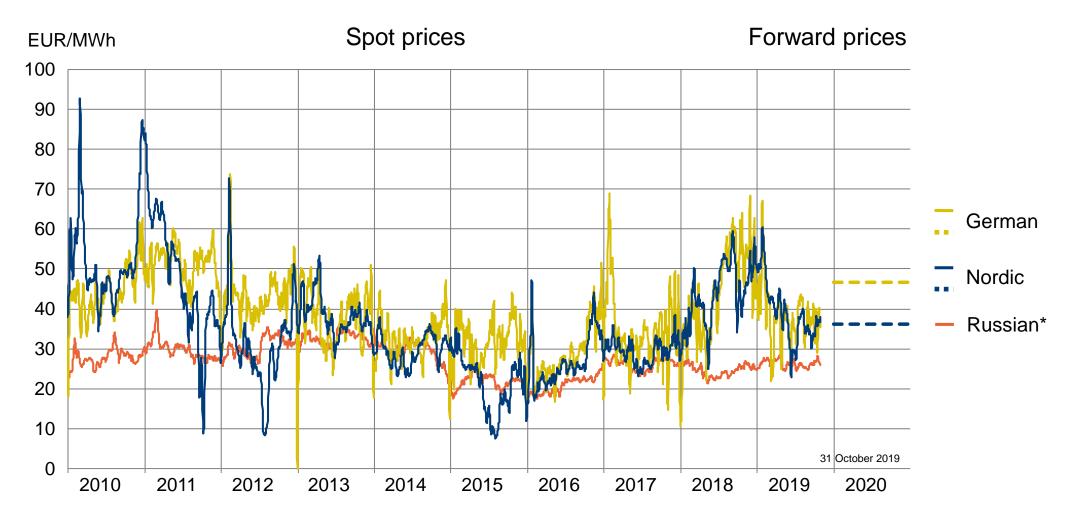


Nordic year forwards





Wholesale power prices



^{*} Including weighted average capacity price



Nordic, Baltic, Continental and UK markets are integrating – Interconnection capacity growing to over 13 GW by end-2023

The Northern Seas Offshore Grid and the Baltic Energy Market Integration Plan are included as priority electricity corridors in EU's Infrastructure Guidelines, approved in April 2013

1 700 MW COBRAcable from DK to NL has been taken into operation in September 2019

2 New 400 MW Zealand – DE connection via Kriegers Flak offshore wind area due in March 2020

3 EU's Connecting Europe Facility co-financing 3rd EE-LV transmission line, due to be ready in 2020

- 4 Jutland DE capacity will grow by 860 MW by end-2020, with further 1,000 MW increase by end-2023
- 1,400 MW NordLink as first direct NO-DE link is due to start commercial operation in March 2021
- 6 Two 1,400 MW NO-UK links as EU Projects of Common Interest: NSL to England due to be ready in 2021, NorthConnect to Scotland under debate in Norway and not yet permitted



- New internal Nordic grid investments provide for increased available capacity for export to the Continent and Baltics
- 7 1,400 MW DK-UK Viking Link has been contracted to be built by end-2023
- 8 700 MW LT-PL Harmony Link to be built by 2025 as a part of the Baltic synchronisation project
- 9 Svenska Kraftnät and 50Hertz signed 1/2017 a cooperation agreement on building the 700 MW Hansa PowerBridge DC link between Sweden and Germany by 2026

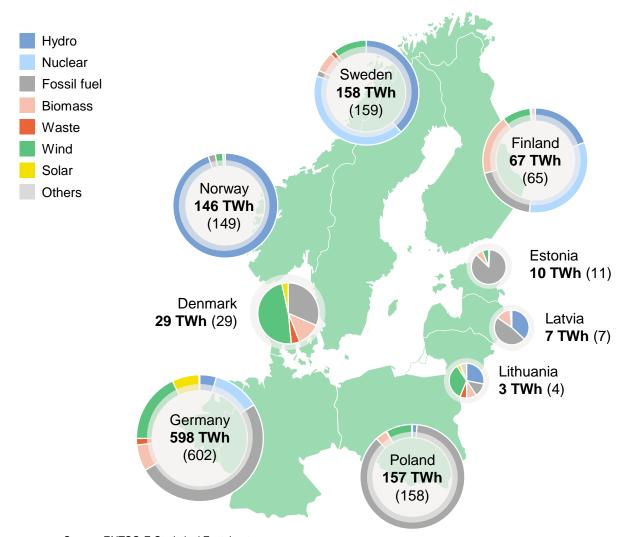




Existing interconnectors



Power Generation in the Baltic Rim in 2018 (2017)



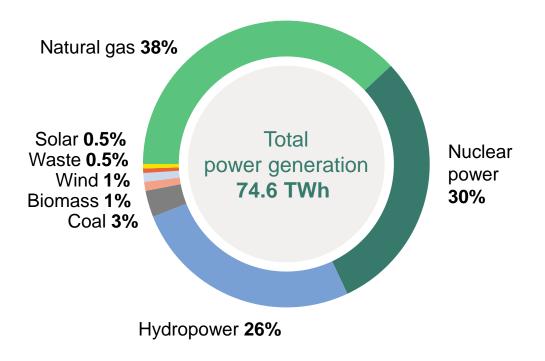
	NORDIC	S	BALTICS	
2018	TWh	%	TWh	%
Hydro	*212	53	3	17
Nuclear	88	22	-	-
Fossil fuel	28	7	13	62
Biomass	26	6	2	9
Waste	3	1	0	1
Wind	40	10	2	9
Solar	1	0	0	1
Others	2	1	0	1
Total generation	400	100	20	100
	Net expo	rt	Net impo 9 TWh	rt

^{*)} Normal annual Nordic hydro generation 200 TWh, variation +/- 40 TWh.

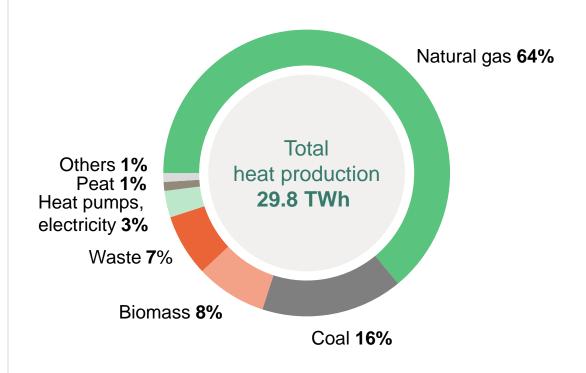


Fortum's power and heat production by source

Fortum's power generation in 2018



Fortum's heat production in 2018

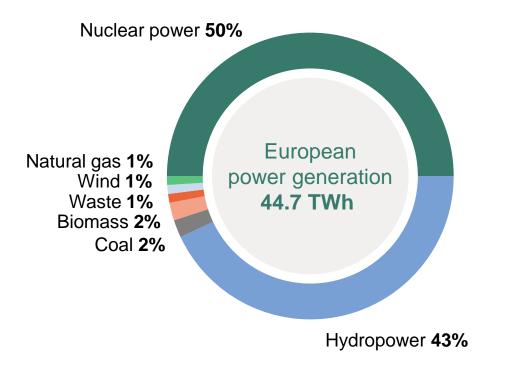


Note: Fortum's power generation capacity 13,724 MW (hydro 4,672, nuclear 2,819, CHP 5,629, condensing 376, wind 194 and solar 35) and heat production capacity 15,009 MW at the end of 2018

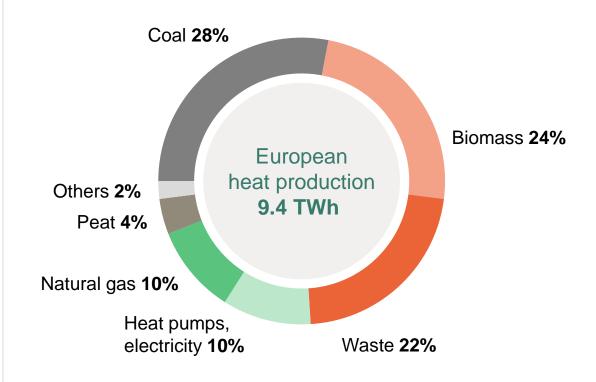


Fortum's European power and heat production by source

Fortum's European power generation in 2018



Fortum's heat European production in 2018



Note: Fortum's European power generation capacity 8,811 MW (hydro 4,672, nuclear 2,819, CHP 786, condensing 376, wind 159) and heat production capacity 4,780 MW at the end of 2018



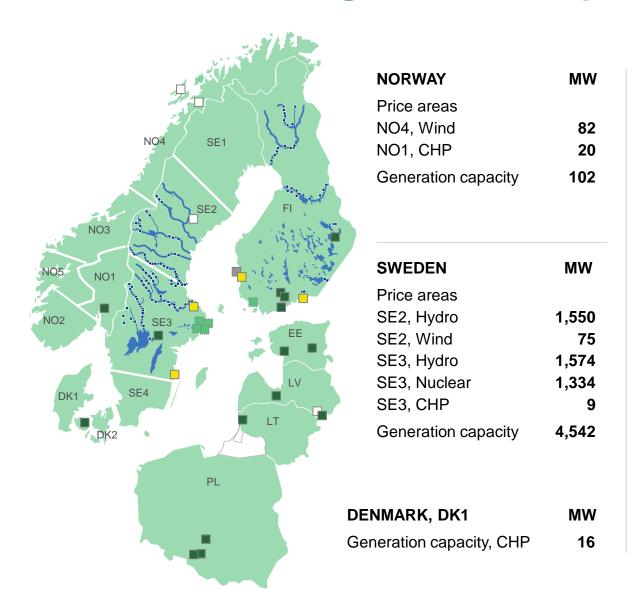
Fortum's Nordic, Baltic and Polish generation capacity

GENERATION CAPACITY MW Hydro 4,672 Nuclear 2,819 CHP 785 Other thermal 376 Wind 159

Nordic, Baltic and Polish generation capacity **8,811**

Figures 31 December 2018

Associated companies' plants (not included in the MWs) Stockholm Exergi (Former Fortum Värme), Stockholm; TSE, Naantali



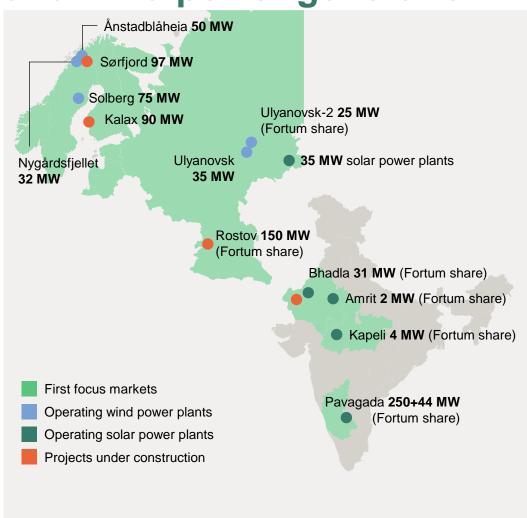
FINLAND	MW
Hydro	1,548
Nuclear	1,485
CHP	451
Other thermal	376
Generation capacity	3,860

BALTICS AND POLAND	MW
Generation capacity,	CHP
in Estonia in Latvia in Lithuania in Poland	49 34 20 186
in Latvia, Wind	2



Fortum is growing towards gigawatt scale target in solar

and wind power generation



PORTFOLIO	TECHNOLOGY	STATUS	CAPACITY MW	FORTUM SHARE, MW	SUPPLY STARTS/ STARTED
FINLAND			90	90	
Kalax	Wind	Under construction	90	90	Q1 2021
NORWAY			179	179	
Nygårdsfjellet	Wind	Operational	32	32	2006 and 2011
Ånstadblåheia	Wind	Operational	50	50	2018
Sørfjord	Wind	Under construction	97	97	Q4 2019-Q3 2020
SWEDEN			75	75	
Solberg	Wind	Operational	75	75	2018
RUSSIA			2,009	1,098	
Bugulchansk	Solar	Operational	15	15	2016-2017
Pleshanovsk	Solar	Operational	10	10	2017
Grachevsk	Solar	Operational	10	10	2017
	Solar	Under development	110+6	110+6	2021-2022
Ulyanovsk	Wind	Operational	35	35	2018
Ulyanovsk 2	Wind	Operational	50	25 (50%)	1.1.2019
Rostov	Wind	Under construction	300	150 (50%)	H1 2020
Rusnano JV	Wind	Under development	1,473	737 (50%)	2018-2023
INDIA			685	581	
Amrit	Solar	Operational	5	2 (44%)	2012
Kapeli	Solar	Operational	10	4 (44%)	2014
Bhadla	Solar	Operational	70	31 (44%)	2017
Pavagada	Solar	Operational	100	44 (44%)	2017
Pavagada 2	Solar	Operational	250	250	Q3 2019
Rajasthan	Solar	Under construction	250	250	Q4 2020
TOTAL			3,038	2,023	
		Under development	1,589	853	
		Under construction	737	587	
		Operational	712	583	



Fortum's nuclear fleet

	LOVIISA	OLKILUOTO	OSKARSHAMN	FORSMARK
Commercial operation started	Unit 1: 1977 Unit 2: 1981	Unit 1: 1978 Unit 2: 1980 Unit 3: (Under construction)	Unit 1: 1972* Unit 2: 1974* Unit 3: 1985	Unit 1: 1980 Unit 2: 1981 Unit 3: 1985
Generation Capacity	Unit 1: 507 MW Unit 2: 507 MW Total: 1,014 MW	Unit 1: 890 MW Unit 2: 890 MW (Unit 3: 1,600 MW) Total: 1,780 MW (3,380 MW)	Unit 1: 473 MW* Unit 2: 638 MW* Unit 3: 1,400 MW Total: 1,400 MW	Unit 1: 984 MW Unit 2: 1,116 MW Unit 3: 1,159 MW Total: 3,259 MW
Fortum's share	100% 1,014 MW	27% 473 MW	43% 602 MW	22% 724 MW
Yearly production Fortum's share of production	8 TWh 8 TWh	14 TWh 4 TWh	11 TWh 5 TWh	25 TWh 6 TWh
Share of Fortum's Nordic production	19%	9%	11%	13%
Majority owner Fortum's share	Fortum	Pohjolan Voima 26.6%	Uniper 43.4%	Vattenfall 22.2%
Operated by	Fortum	Teollisuuden Voima (TVO)	OKG Aktiebolag	Forsmarks Kraftgrupp

RESPONSIBILITIES

*Out of operation; on decommissioning phase

Loviisa: Fortum is the owner, licensee and operator with all the responsibilities specified in the Nuclear Energy Act, Nuclear Liability Act, and other relevant nuclear legislation

Other units: Fortum is solely an owner with none of the responsibilities assigned to the licensee in the nuclear legislation. Other responsibilities are specified in the Companies Act and the Articles of Association and are mostly financial.



Fortum's nuclear power in the Nordics

LOAD FACTOR (%)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Oskarshamn 1*	80	51	63	85	68	77	72	1	12	74	60	81	82	0
Oskarshamn 2*	90	78	76	86	75	90	77	81	33	0	0	0	0	0
Oskarshamn 3	85	95	88	70	17	31	68	69	77	75	79	83	77	87
Forsmark 1	85	76	81	88	88	93	79	88	87	94	79	95	88	94
Forsmark 2	94	72	85	79	64	38	94	82	89	89	91	75	82	87
Forsmark 3	95	92	88	69	86	81	85	93	88	83	58	82	86	81
Loviisa 1	95	93	94	86	96	93	94	84	92	92	93	88	93	91
Loviisa 2	95	88	96	93	95	89	94	91	93	89	92	93	93	85
Olkiluoto 1	98	94	97	94	97	92	95	90	97	94	96	91	93	87
Olkiluoto 2	94	97	94	97	95	95	91	96	93	97	89	94	81	94

Source: Fortum

Finnish units world class in availability

Overview of production and consumption:

www.fortum.com/investors - energy related links





^{*)} Out of operation; on decommissioning phase

Thermal power generation capacity in Russia on 31 Dec 2018

YEAR	SUPPLY STARTS	POWER PLANT	FUEL TYPE	CCS CAPACITY	CSA CAPACITY	PRODUCTION TYPE	TOTAL CAPACITY
< 2011		Tyumen CHP-2	Gas	755		CHP/Condensing	755
		Chelyabinsk CHP-2	Gas, coal	320		CHP/Condensing	320
		Argayash CHP	Coal	256		CHP/Condensing	256
		Chelyabinsk CHP-1	Gas	134		CHP/Condensing	134
2011	Feb/2011	Tyumen CHP-1	Gas	472	210	CHP/Condensing	682
	Jun/2011	Chelyabinsk CHP-3	Gas	360	233	CHP/Condensing	593
2013	Apr/2013	Nyagan 1 GRES	Gas		453	Condensing	453
	Dec/2013	Nyagan 2 GRES	Gas		453	Condensing	453
2015	Jan/2015	Nyagan 3 GRES	Gas		455	Condensing	455
	Dec/2015	Chelyabinsk GRES	Gas		247	CHP/Condensing	247
2016	Mar/2016	Chelyabinsk GRES	Gas		248	CHP/Condensing	248
2017	Dec/2017	Chelyabinsk GRES	Gas	248		CHP/CCGT	248

2,544 MW 2,299 MW 4,843 MW



Day ahead wholesale market prices in Russia

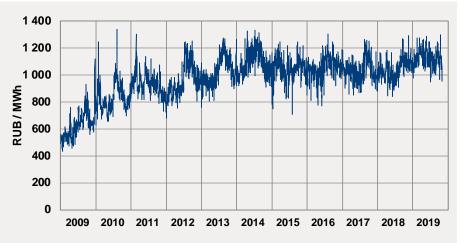
Key electricity, capacity and gas prices in the PAO Fortum area

	III/19	III/18	I-III/19	I-III/18	2018	LTM
Electricity spot price (market price), Urals hub, RUB/MWh	1,107	1,059	1,129	1,025	1,043	1,121
Average regulated gas price, Urals region, RUB 1000 m ³	3,937	3,812	3,883	3,774	3,801	3,896
Average capacity price for CCS, tRUB/MW/month	145	138	150	144	148	152
Average capacity price for CSA, tRUB/MW/month	1,004	993	1,066	1,033	1,075	1,099
Average capacity price, tRUB/MW/month	571	556	604	585	609	624
Achieved power price for Fortum in Russia, RUB/MWh	1,974	1,884	1,985	1,854	1,888	1,984
Achieved power price for Fortum in Russia, EUR/MWh	27.5	24.8	27.0	25.4	25.6	26.8



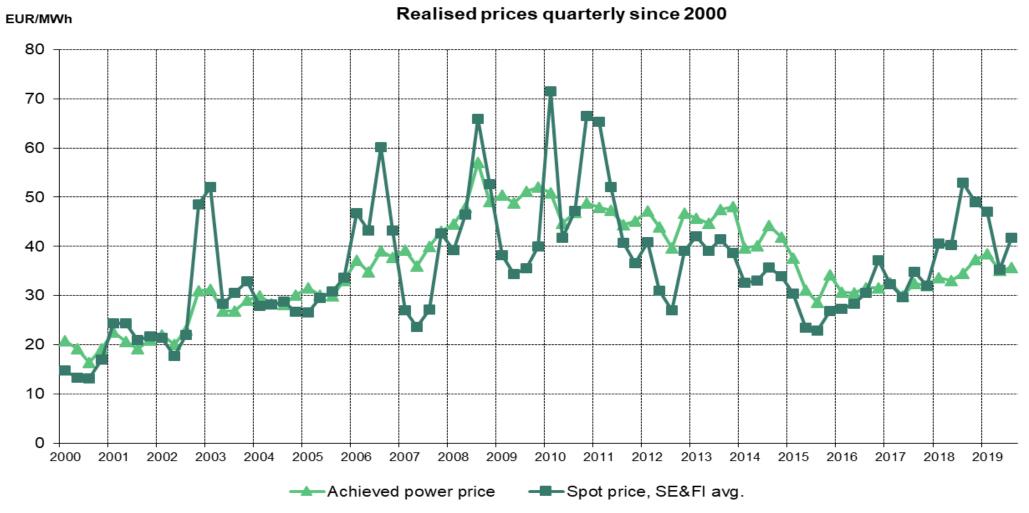
Source: ATS
In addition to the power price generators receive a capacity payment.







Hedging improves stability and predictability – principles based on risk mitigation





Capital returns: 2018 EUR 1.10 per share ~ EUR 1 billion

Fortum's target is to pay a stable, sustainable, and over time increasing dividend of 50-80% of earnings per share excluding one-off items

Fortum's dividend policy is based on the following preconditions:

- The dividend policy ensures that shareholders receive a fair remuneration for their entrusted capital, supported by the company's long-term strategy that aims at increasing earnings per share and thereby the dividend.
- When proposing the dividend, the Board of Directors looks at a range of factors, including the macro environment, balance sheet strength as well as future investment plans.

Since 1998 Fortum has paid dividends totaling EUR 15.6 billion

Five year history of dividend per share







Fortum Investor Relations and Financial Communications

Next events:

Financial Statements Bulletin 2019 on 6 February 2020 The AGM 2020 on 17 March 2020 The ex-dividend date 18 March 2020 Q1/2020 results on 29 April 2020 Q2/2020 results on 17 July 2020 Q3/2020 results on 29 October 2020 The CMD planned for 3 December 2020

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