



Equity story of

FORTUM – For a cleaner world

Investor / Analyst material

July 2019

Disclaimer

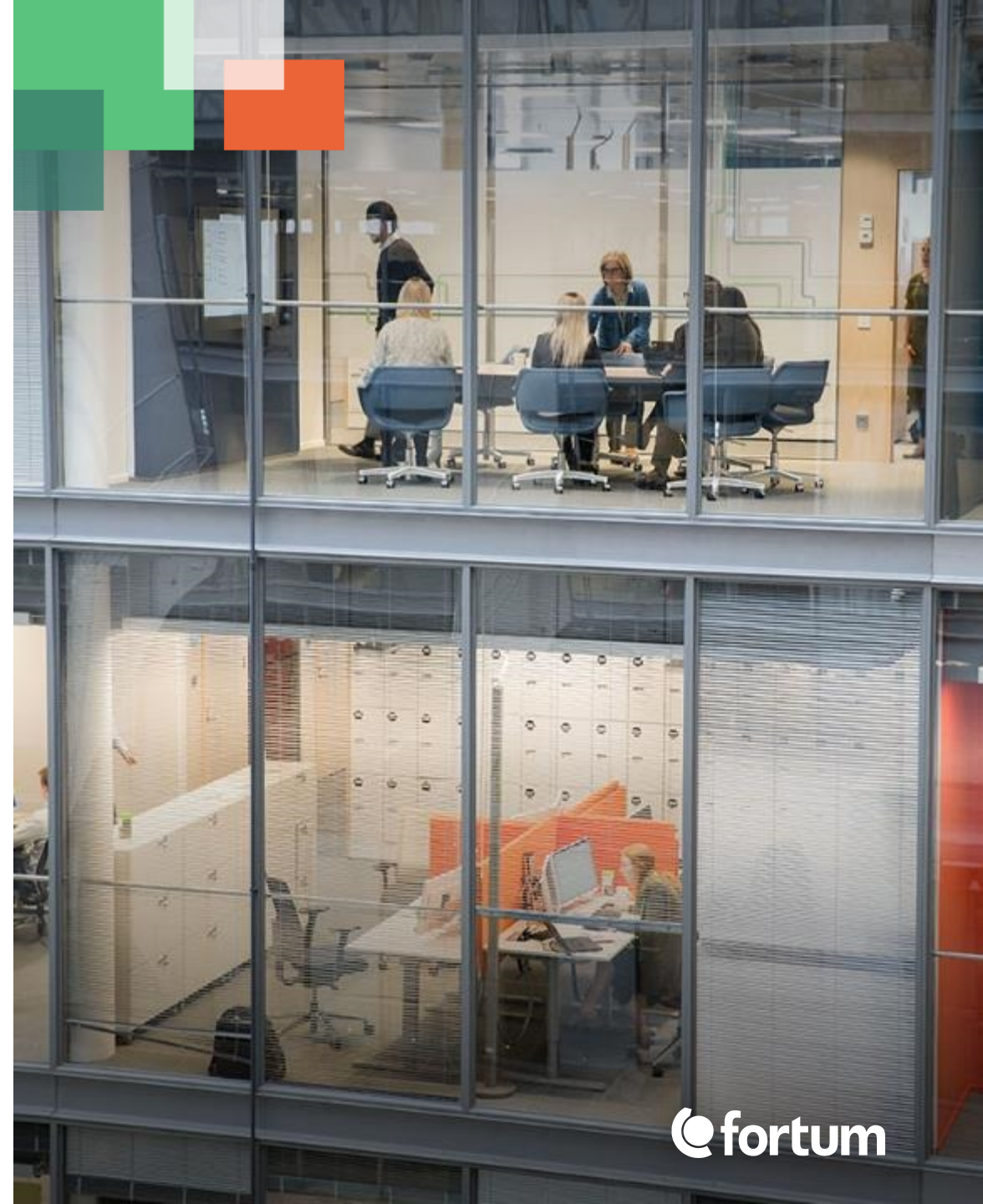
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Any references to the future represent the management's current best understanding. However the final outcome may differ from them.

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Fortum at a glance

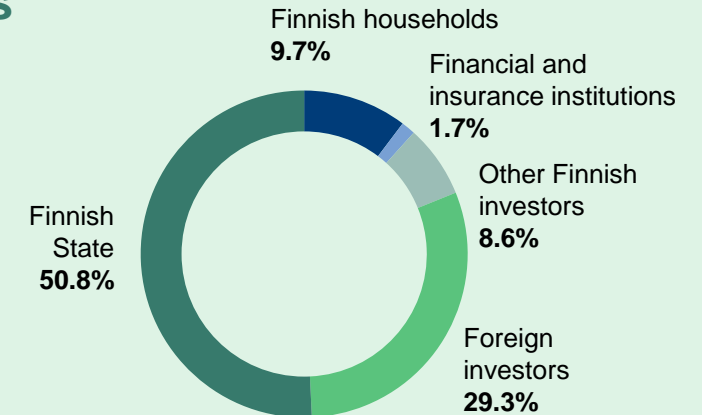
Description of Fortum

- 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)

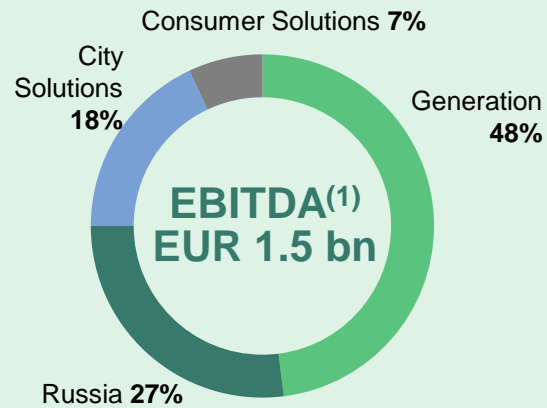
Key shareholders

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

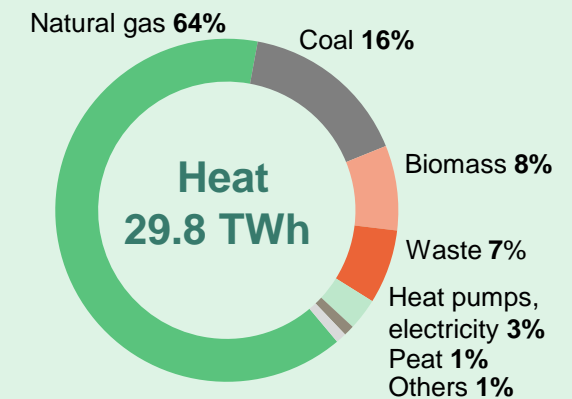
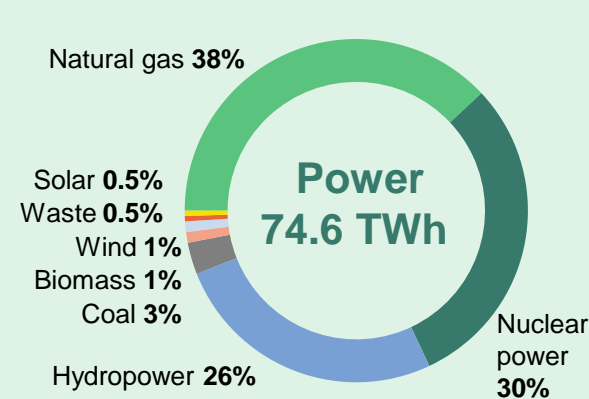
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Operations by business segment



Production by source



Note: All data as of FYE 2018 unless otherwise stated

(1) Comparable EBITDA defined as operating profit plus depreciation and amortisation less items affecting comparability

Fortum's geographical footprint



Nordic countries

- #3** Power generation
43.5 TWh
- #4** Heat sales
5.9 TWh
- #1** Electricity customers
2.4 million



Russia PAO Fortum

- #10** Power generation
29.5 TWh
- #8** Heat sales
20.7 TWh

Key figures 2018

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

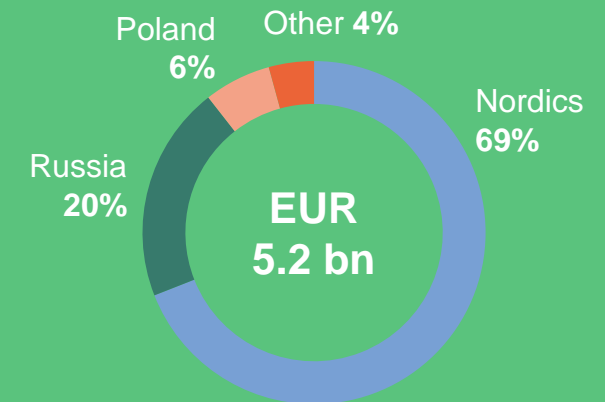


Baltic countries

Power generation
0.7 TWh

Heat sales
1.4 TWh

Sales by market area 2018



x

= 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

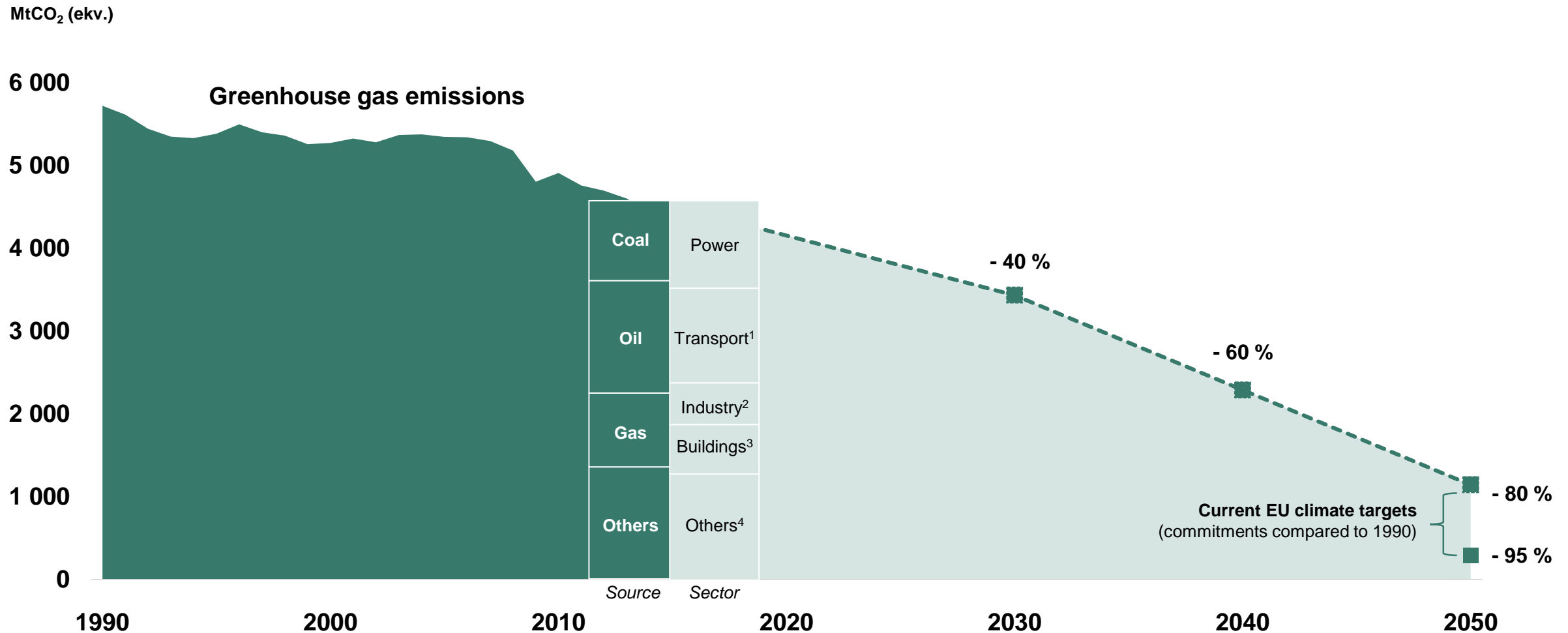
Politics and Regulation

- 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

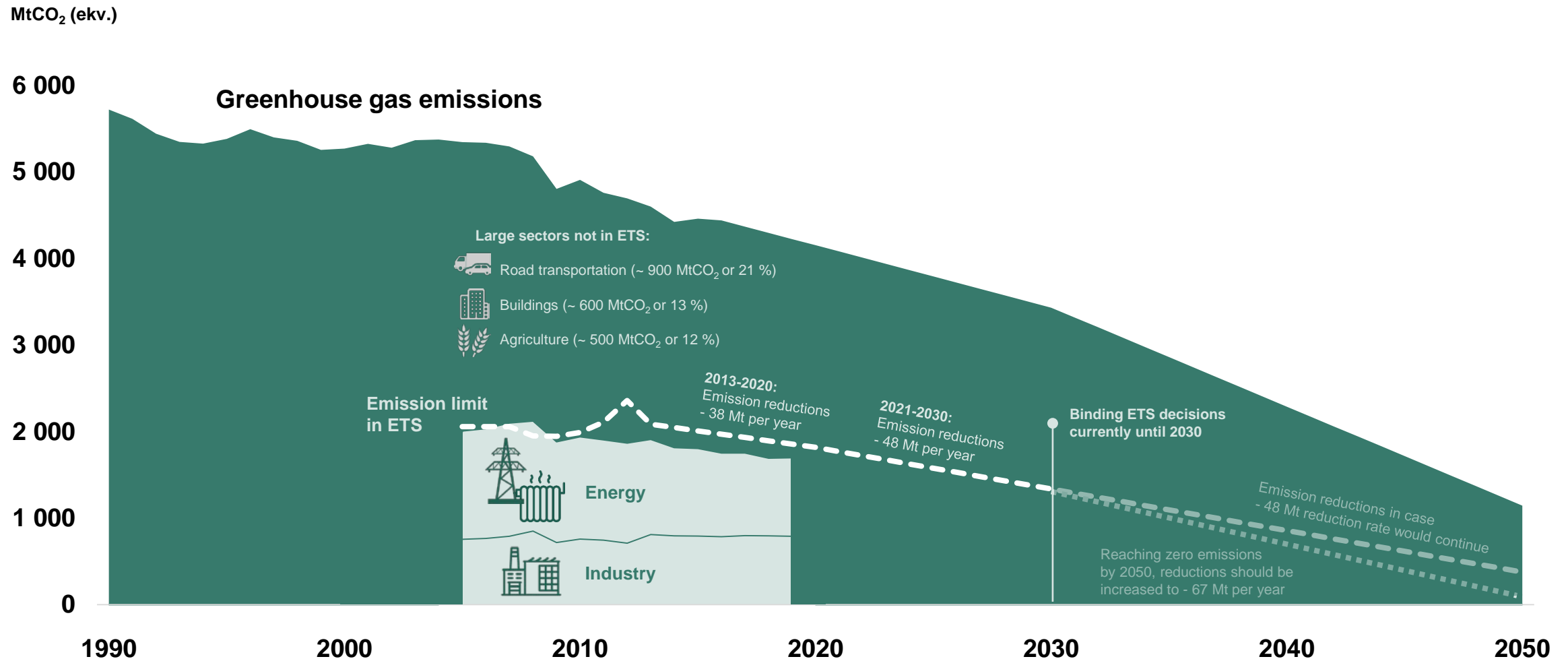
¹ including international aviation and marine

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

Emission trading system (ETS) started in 2005 to gradually limit emissions mainly in energy and industry



Source: European Environment Agency (EEA)

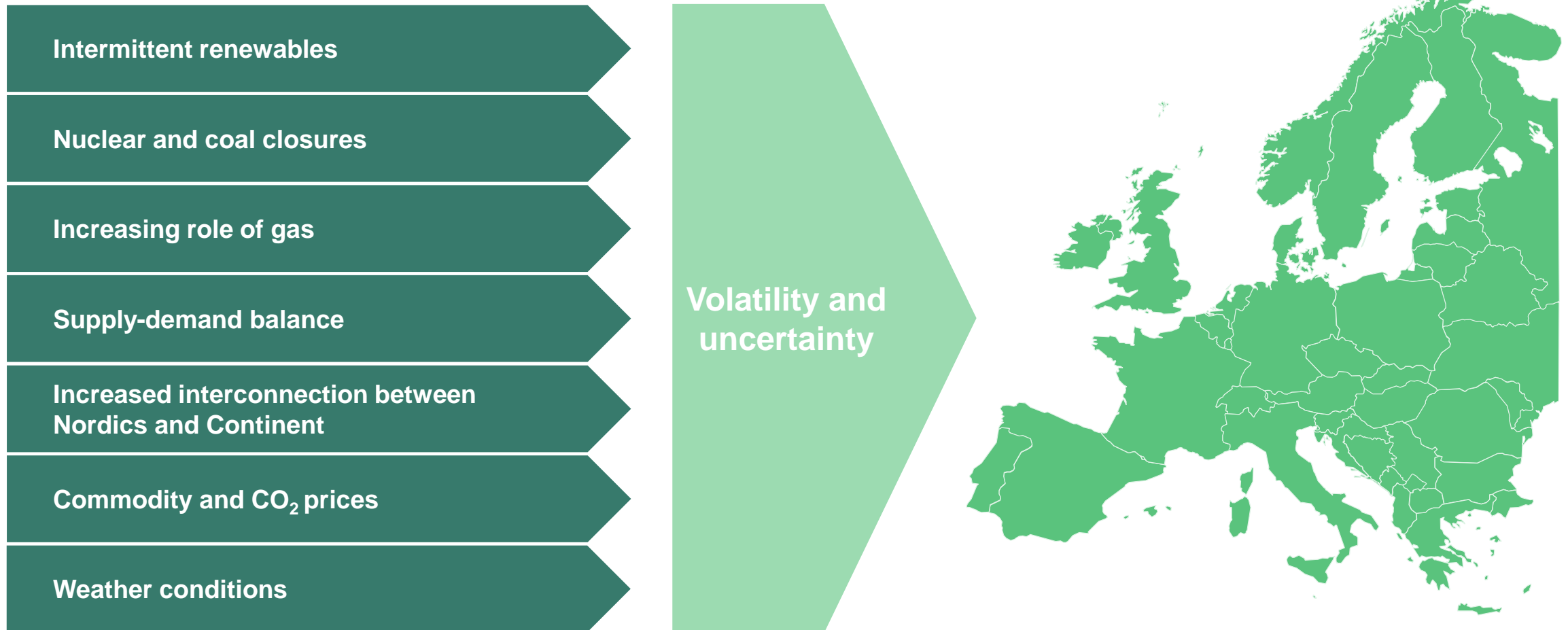
- 2013-2020 linear reduction factor (LRF) -1,74 % per year
- 2021-2030 LRF -2,20 % per year
- To reach zero emissions by 2050, LRF assumed 3,05 % from 2030 onwards

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

Global climate challenge (indicative)	Electricity demand (2018-2050)	Sector	Future solutions, examples	Fortum's current offering, examples
4°C	+	Power	CO ₂ -free generation, hydrogen, batteries, demand response	Nuclear, hydro, solar, wind
		Transport	Electric vehicles, hydrogen/biofuels for heavy transport	E-mobility, pyrolysis
		Heating & cooling	Low-CO ₂ DH/CHP, heat pumps, hydrogen	Biofuel, waste-to-energy DH/CHP
1.5°C	+++	Industry	Electrified processes, hydrogen, resource efficiency, CCS	B2B solutions
		Other	Recycling, biomaterials (e.g. fractioning)	Plastic recycling

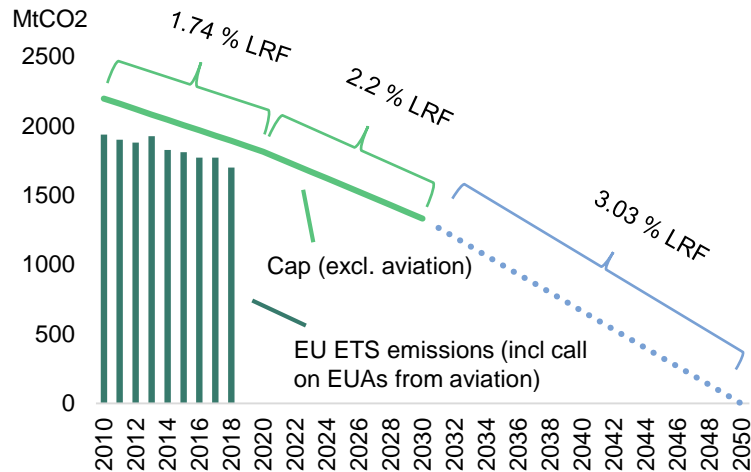
DH/CHP = District heating/combined heat and power
CCS = Carbon capture and storage

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



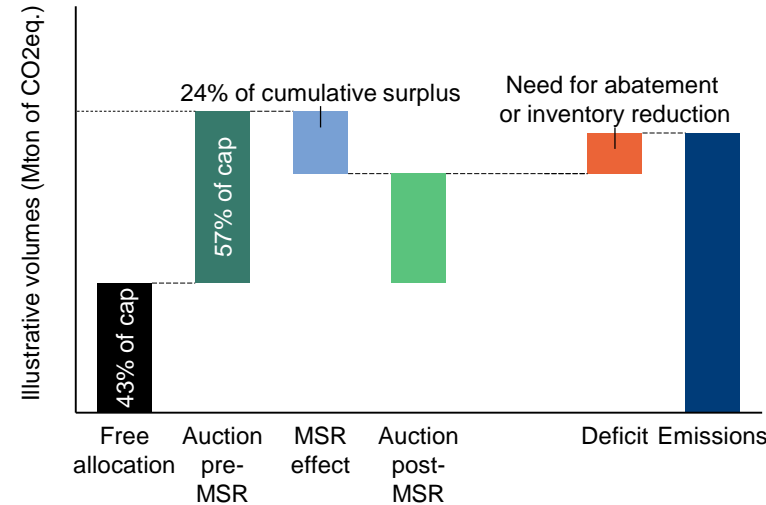
The MSR introduces tightness to carbon market

Linear reduction factor (LRF) tightens the market



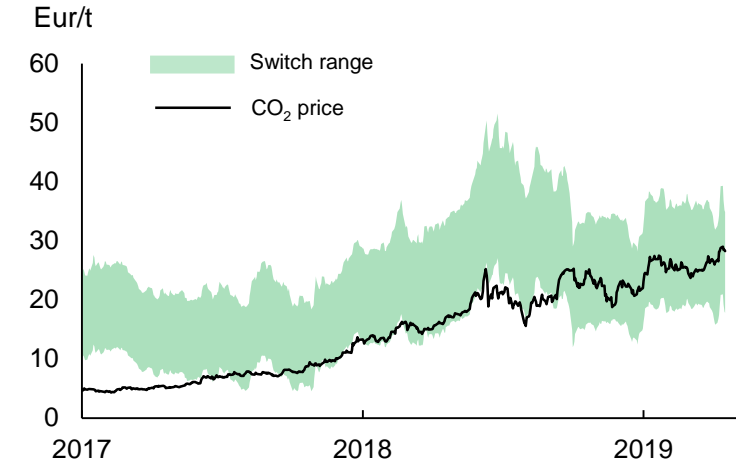
- Linear reduction factor (LRF) is the percentage of baseline supply¹ by which the annual supply of allowances (cap) is reduced every year. LRF is set at
 - 1.74% for 2013-2020 (equals to a reduction of 38 MtCO₂/year)
 - 2.2% for 2021-2030 (equals to a reduction of 48 MtCO₂/year)
- In total, emissions 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

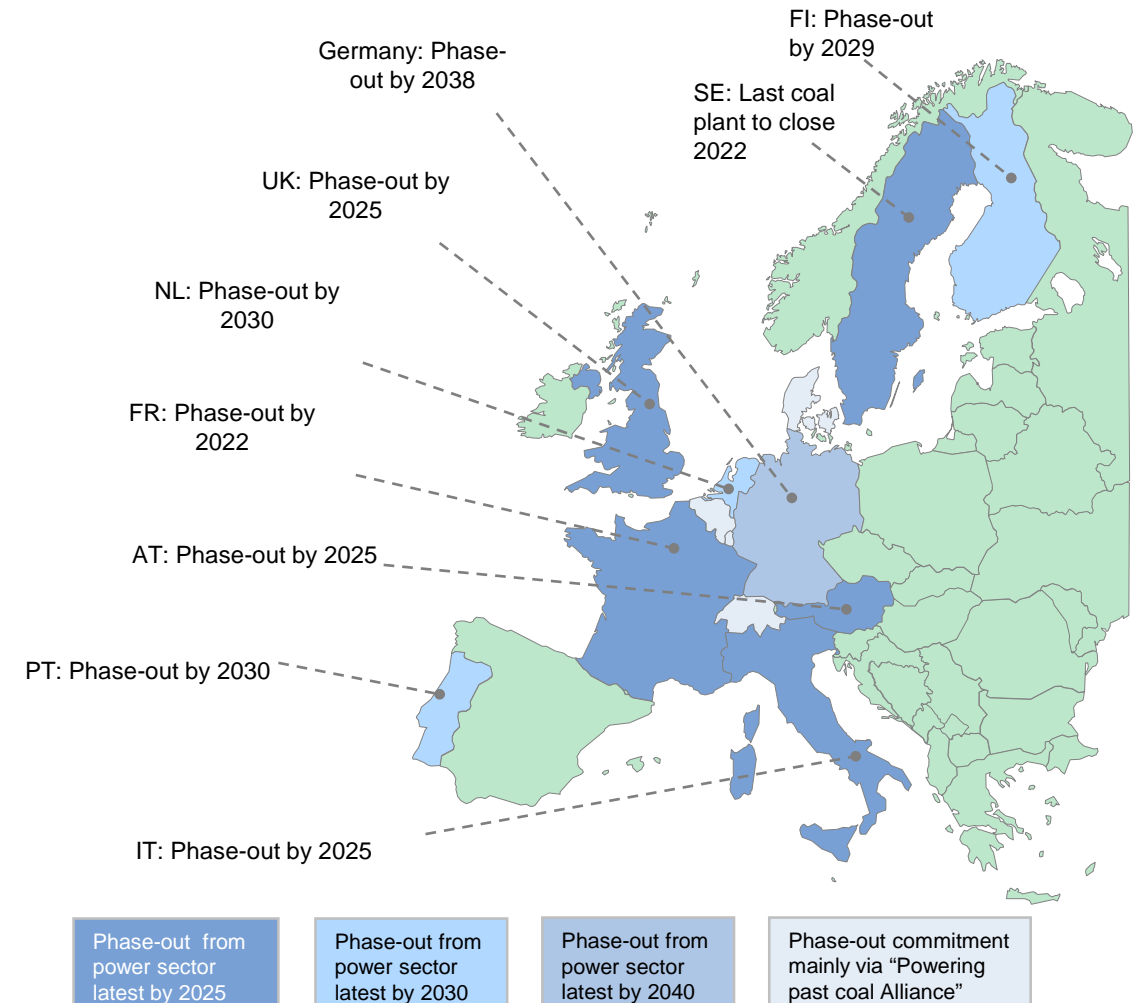
Abatement from coal to gas switching depends on coal and gas prices, together represented by a switching range



- 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-to-gas 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

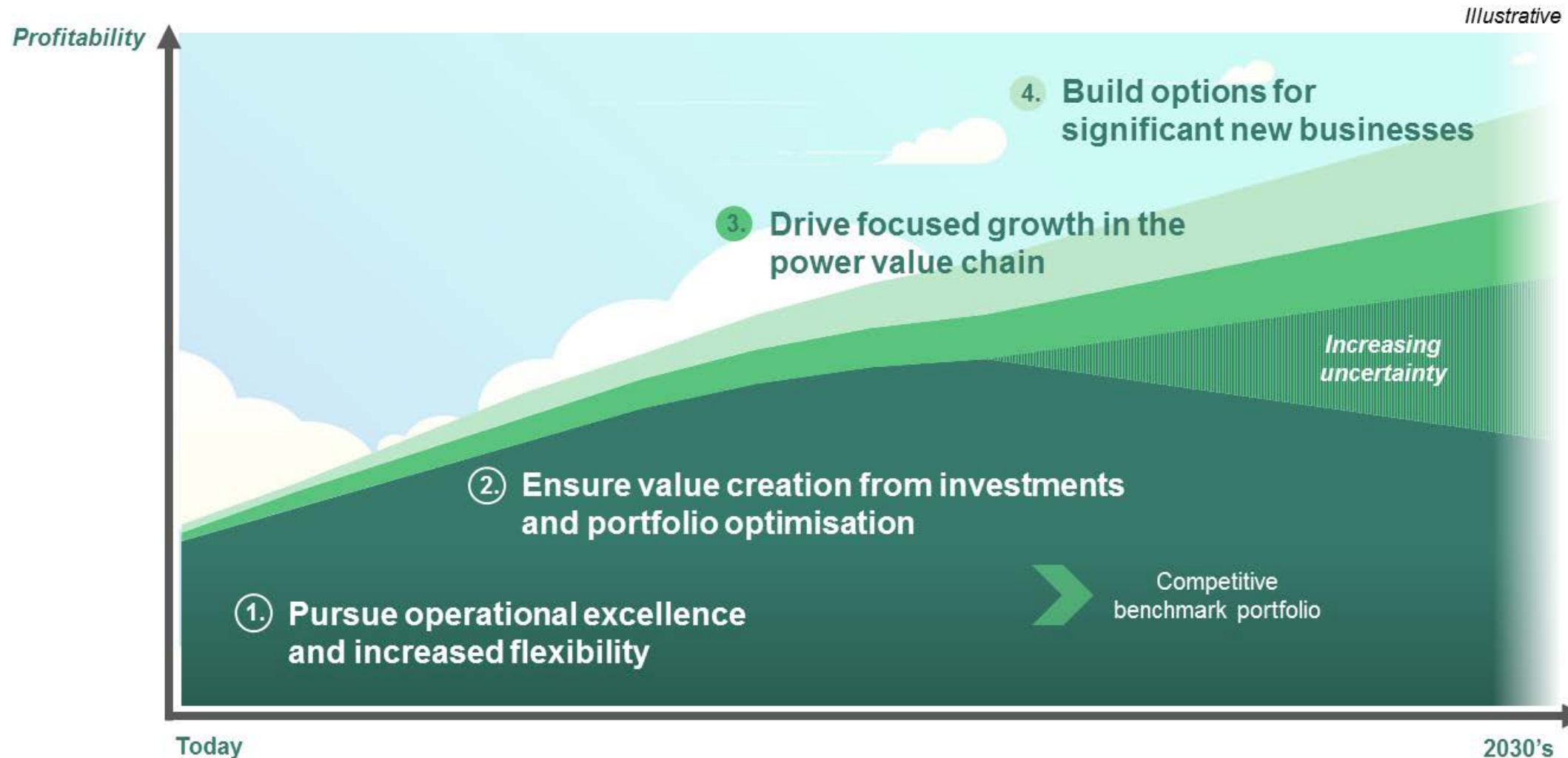
Several Western European countries exiting coal over the next decade

- 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 to power plant operators remains open, 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

Investment in Uniper supports Europe's energy transition and provides a valuable cash flow contribution

Fortum and Uniper strongly complement each other

- Uniper is an international utility with a diversified portfolio and significant hydro power assets
- Fortum and Uniper have the strategic mix of assets and expertise to drive an affordable and secure transition towards a low-carbon Europe

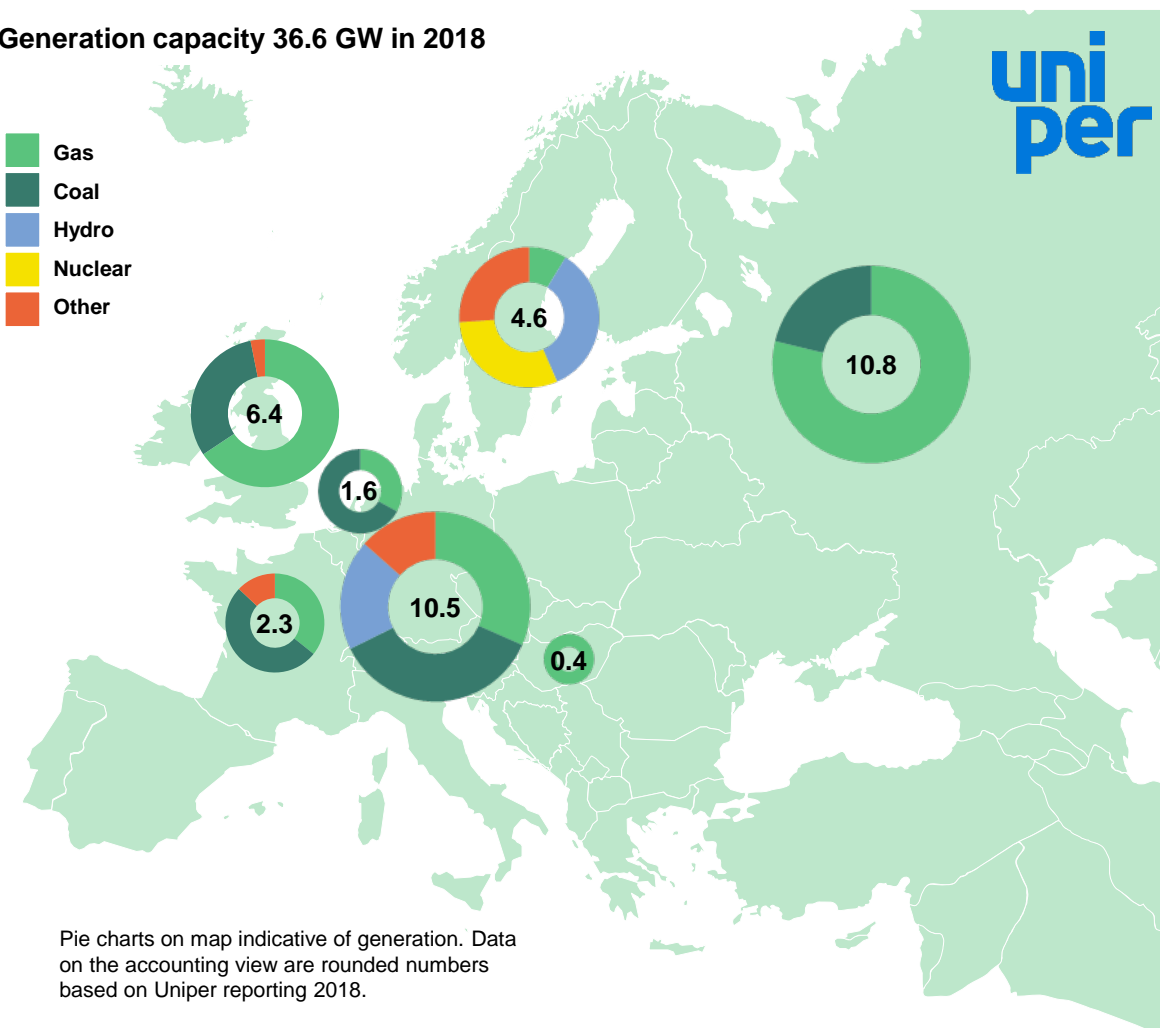
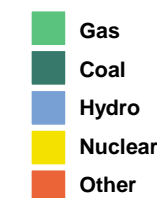
Fortum is the largest shareholder in Uniper

- Fortum's CFO Markus Rauramo is the Vice Chairman of Uniper's Supervisory Board
- Supervisory Board mandates extend until 2022
- Fortum's shareholding at 49.99%, Russian regulatory decision limits shareholding to less than 50%

The Uniper investment creates shareholder value

- Uniper's future dividends contributes to Fortum's cash flow
 - EUR 165 million received for the year 2018
- Fortum's share of Uniper's profits of EUR 448 million for H1 2019

Generation capacity 36.6 GW in 2018



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

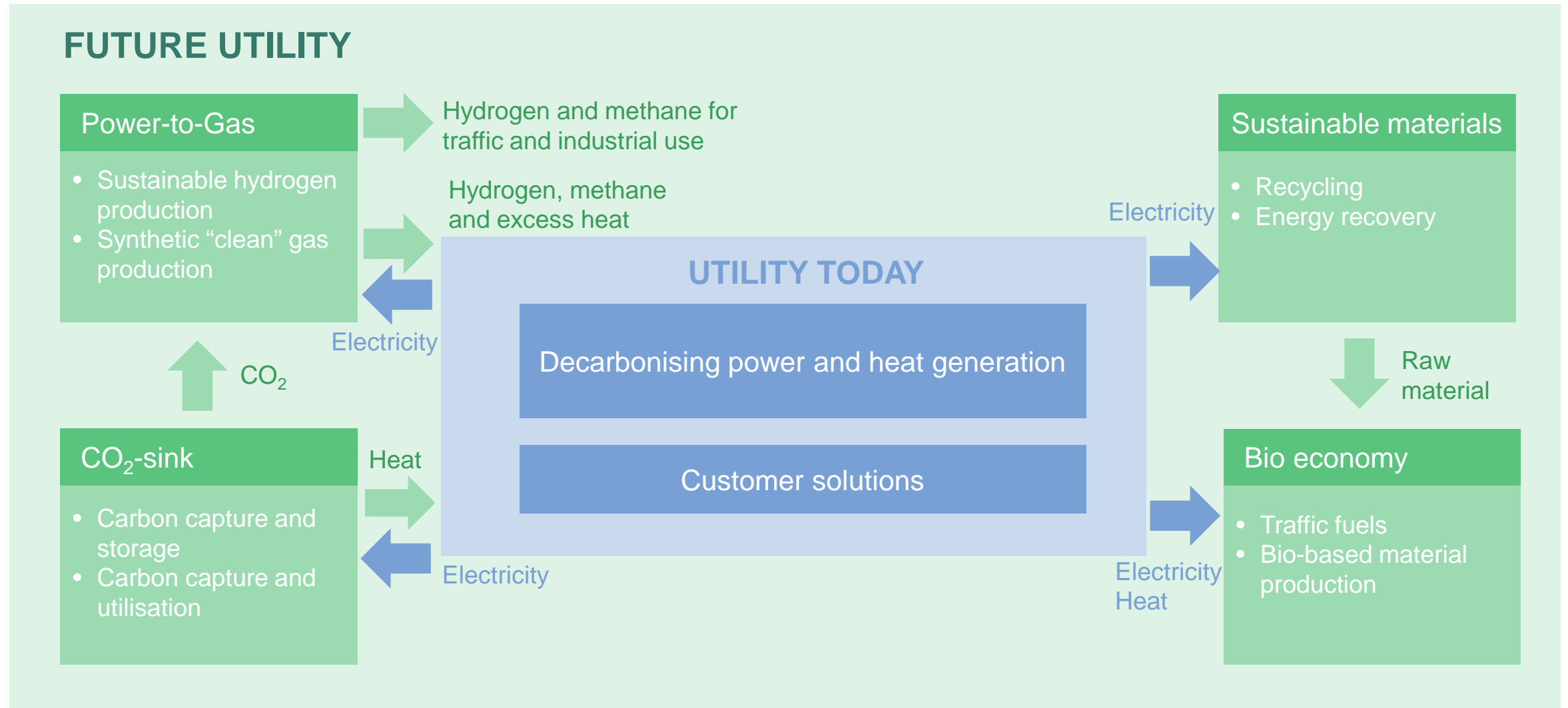
Fortum listed in several sustainability indexes and ratings:



FTSE4Good



Building the utility of the future



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





Interim Report January-June 2019

Fortum Corporation
19 July 2019

Improved results in all business segments and strong cash flow

- Nordic spot power price down, -9% Y/Y
 - Achieved power price at EUR 35.0, up 1.9 EUR/MWh
- Reservoir levels above long-term average
- Comparable EBITDA at EUR 372 million, +32%
- Comparable operating profit at EUR 232 million, +52%
- Share of profits of associates and JVs at EUR 461 (24) million
- EPS at EUR 0.69 (0.24)
 - Items affecting comparability EUR -0.05 (0.11)
 - Uniper contribution EUR 0.45 (-)
- Strong cash flow from operating activities at EUR 740 (361) million
- Net debt/EBITDA at 3.3x (LTM)
- The purchase price allocation of the Uniper investment finalised

Strategy
execution
continues

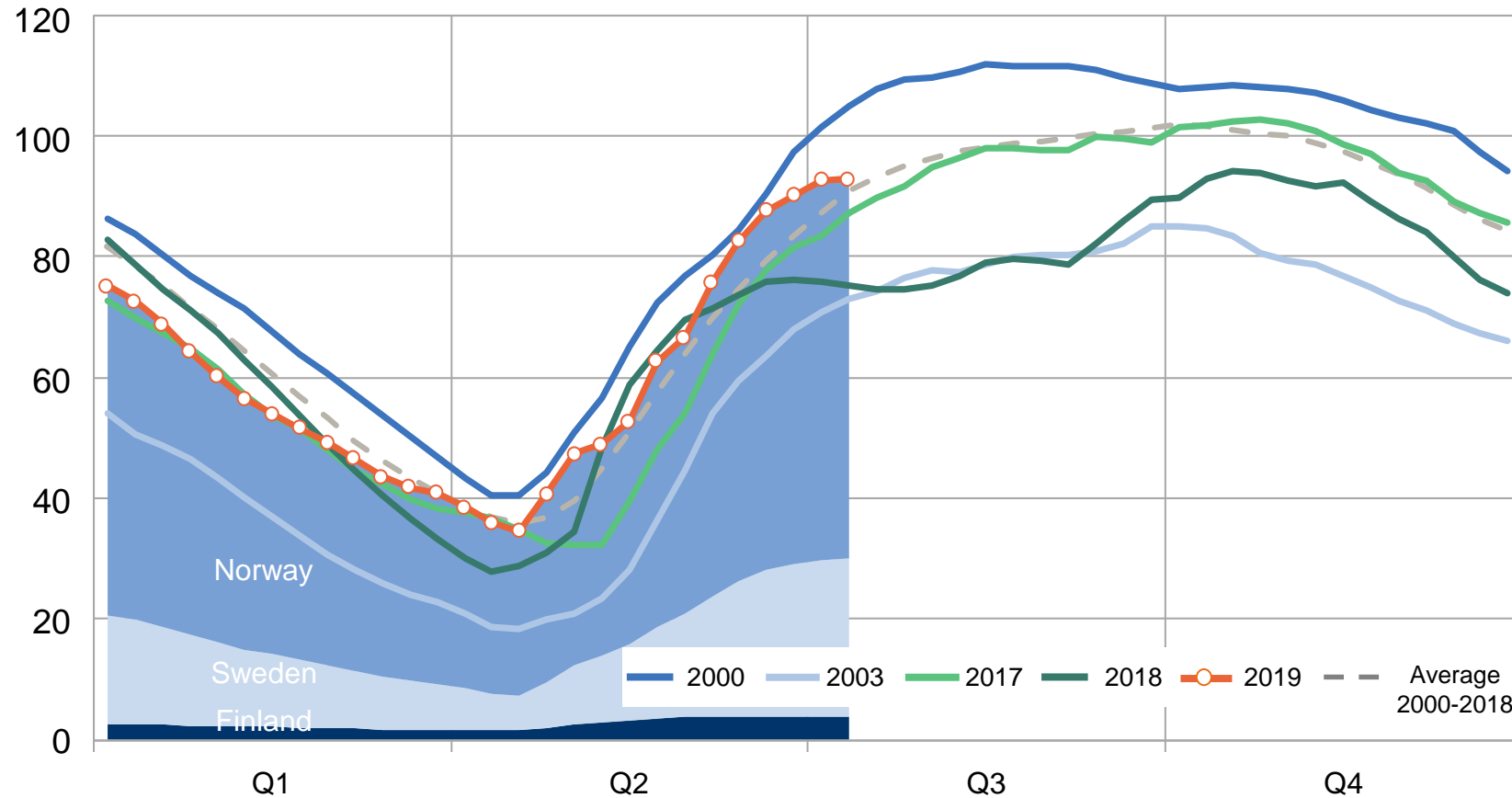
Portfolio
optimisation –
review of heating
business in
Joensuu and
Estonia

Cash flow
measures
delivering – focus
on balance sheet

In June 2019,
Fortum became a
constituent of the
FTSE4Good Index
Series

Nordic water reservoirs above the historical average level

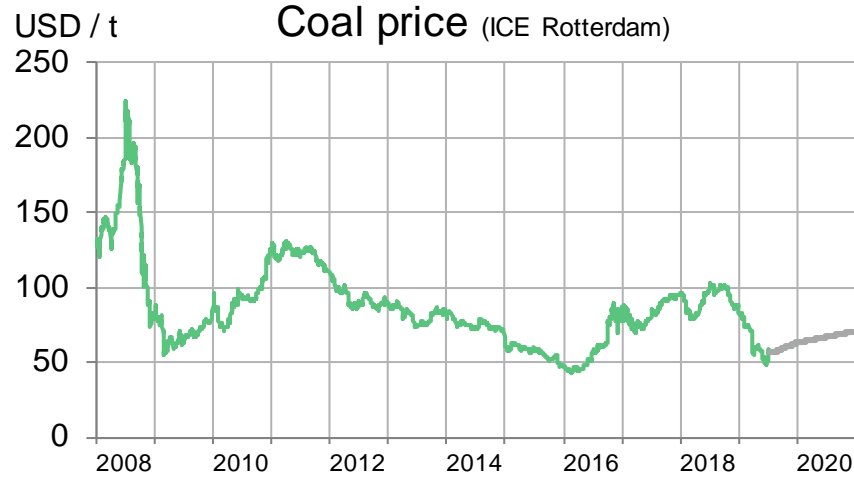
Reservoir content (TWh)



- Heavy rains in May and June resulted in high inflows
- As a consequence, water reservoirs increased above average during the quarter
- Reservoirs currently only slightly above average due to drier weather in early July

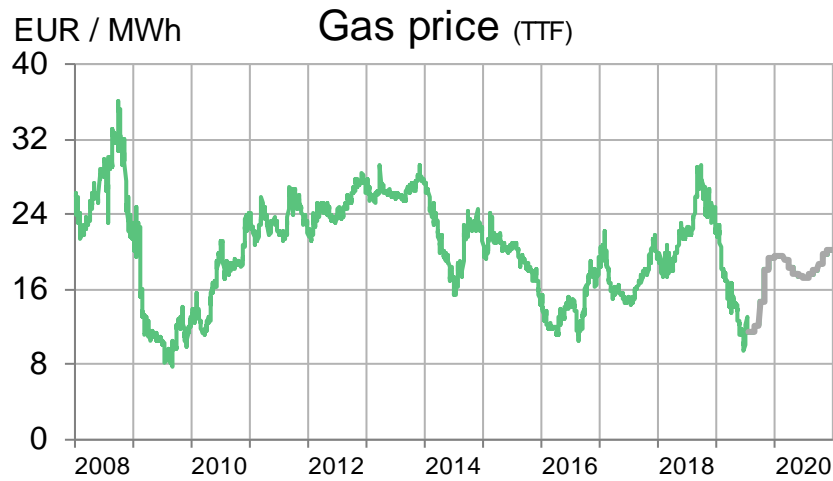
Source: Nord Pool, 2019 by country

Weaker fuel prices and increased coal-to-gas switching in Q2



The coal market loosened during Q2: Chinese demand growth faltered due to strong hydro power production and macroeconomic slowdown while the competitiveness of gas power generation in Europe was record-strong.

- Coal-for-power demand growth in China has essentially paused and industrial production Y/Y growth was at 5%, weakest since 2002. Chinese domestic coal production has also shown signs of rebound.
- Gas price collapse contributed to a 20% Y/Y decrease in coal-for-power demand in EU28 in Q2 2019, raising inventory levels in Europe and putting downward pressure on coal prices.



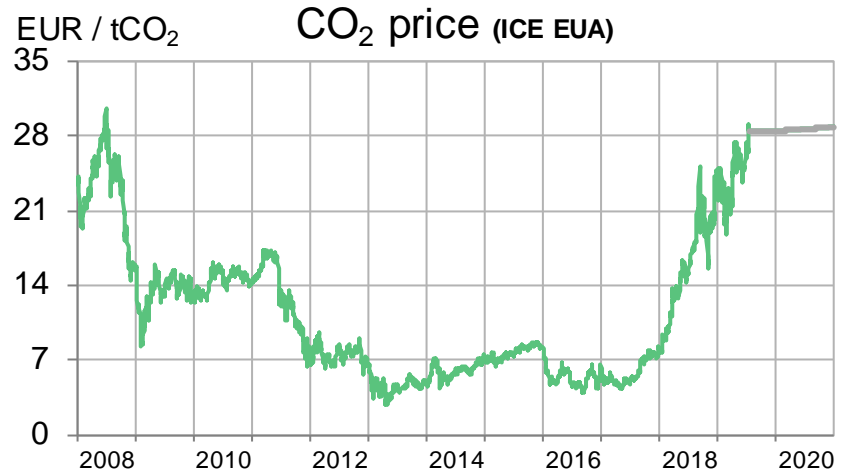
In the European gas market LNG import volumes into Europe continued high, albeit easing slightly towards the end of Q2, but keeping TTF front prices close to 10-year low.

- Increased LNG imports were largely injected into European storages, causing a storage overhang. Northwest European storages were approximately 80% filled by the end of Q2 2019.
- The EU import surge resulted from stalled demand growth in East Asian LNG markets, coupled with strong supply growth in the US, Russia, and Australia.

Source: ICE, Thomson Reuters

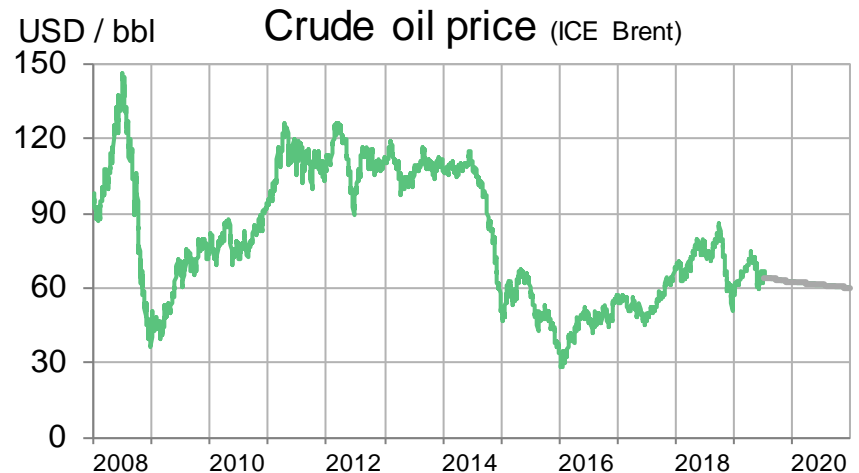
Market prices 16 July 2019; 2019-2020 future quotations

CO₂ price continued strong in Q2



The CO₂ market recovered during Q2 as implied switch levels were raised by weak far-dated coal prices. Moreover, the delay of Brexit deadline to end-October alleviated (not eliminated) the bearish risk of a no-deal Brexit.

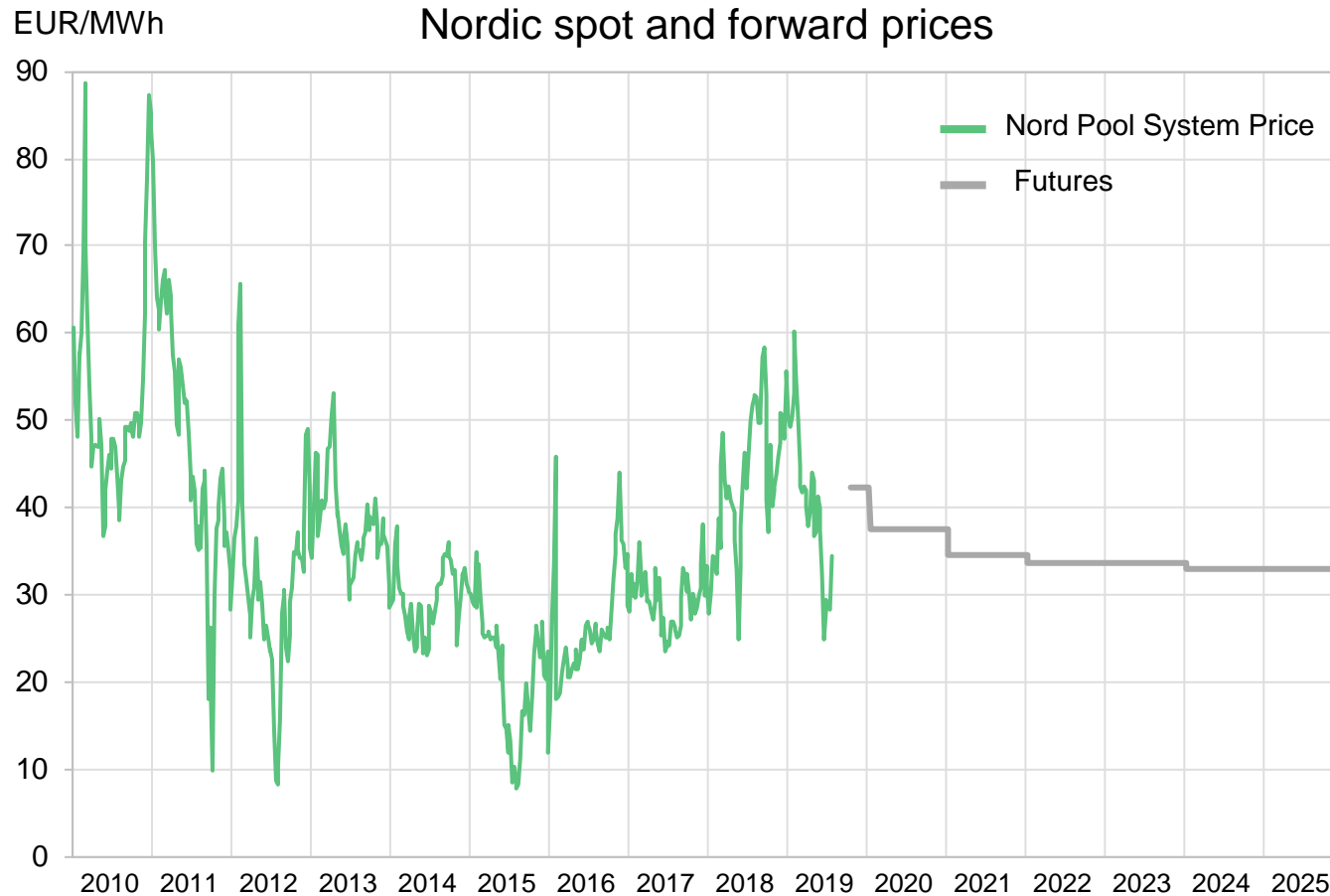
- EUAs have been strong despite plummeting front gas prices. This has led to record-high competitiveness of gas in power generation. Gas also remains relatively strong for the winter and next year in general.
- The EUA market is fundamentally tight due to the impact of the MSR, which began operating in January 2019.



Crude oil was volatile in Q2, initially strong on OPEC supply cuts but later selling on a sentiment of reducing risk due to global growth concerns.

- Oil prices weakened in Q2 as worries over the global economy offset the OPEC supply shortfalls.
- End of Q2 oil prices strengthened again on increased tensions between the US and Iran. (The OPEC+ agreement roll for another 9 months was largely expected by the market.)

Nordic Q2 spot power price declined on improved hydrology



- During Q2, the average Nord Pool system spot price was 35.6 EUR/MWh (39.0)
- The average area price was:
 - 37.4 EUR/MWh (42.0) in Finland
 - 33.0 EUR/MWh (38.5) in Sweden (SE3, Stockholm)
- The decline in Nordic spot prices during the second quarter of 2019 was caused by the strengthening hydrological situation and falling continental prices, mainly driven by lower gas prices.

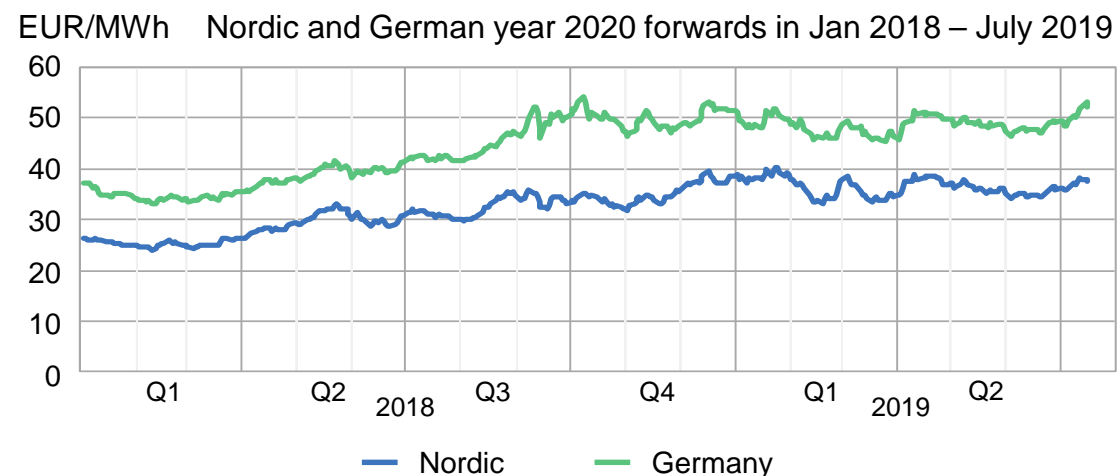
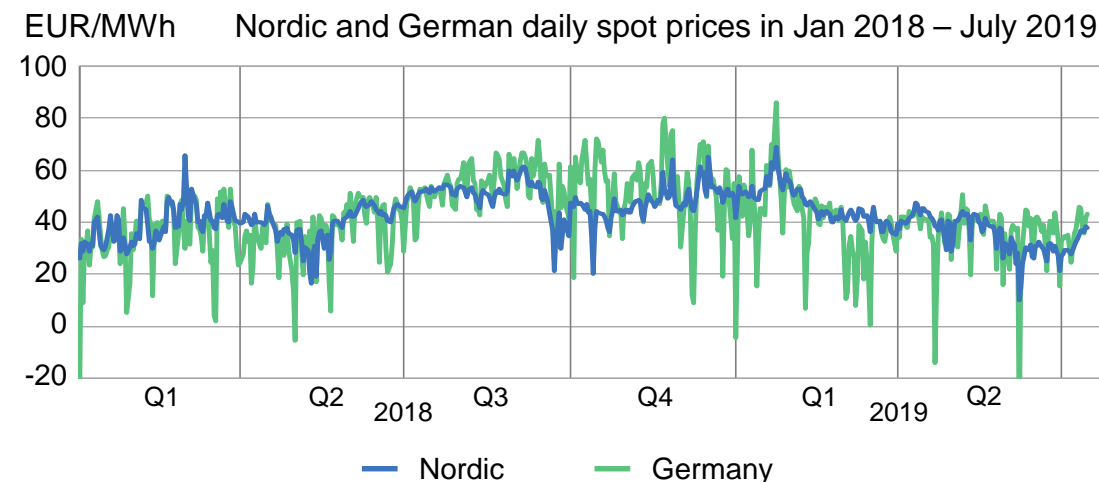
German-Nordic power price spread

SPOT PRICE

- During Q2 2019, the average spread was 0.2 EUR/MWh with the Nordic system average price at 35.6 EUR/MWh and German price at 35.8 EUR/MWh
- Declining gas price, increasing generation from renewable energy sources and stable nuclear generation in Continental Europe contributed to the lower German spot price. In addition, Nordic prices were under pressure due to 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

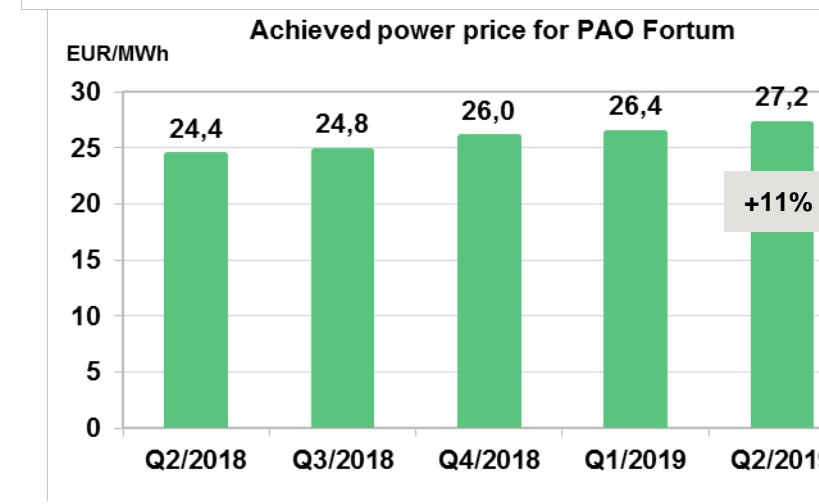
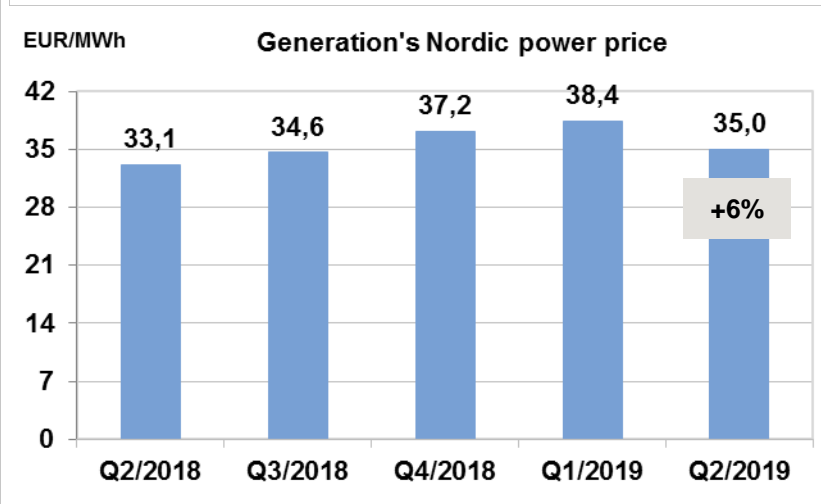
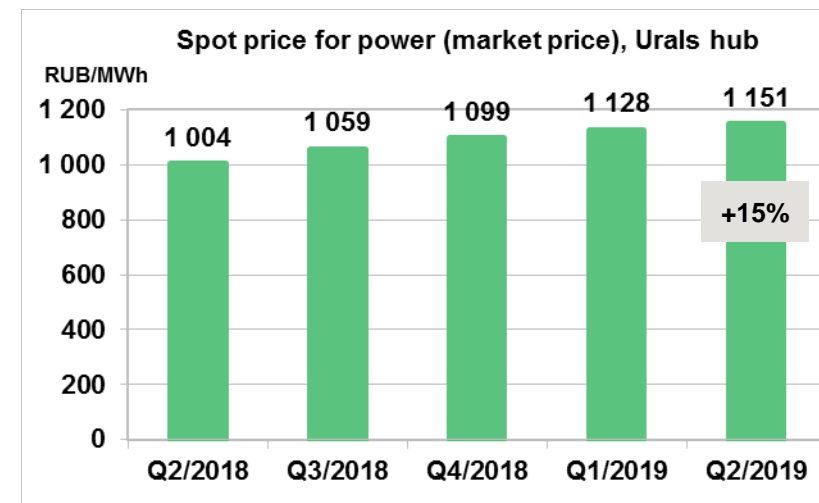
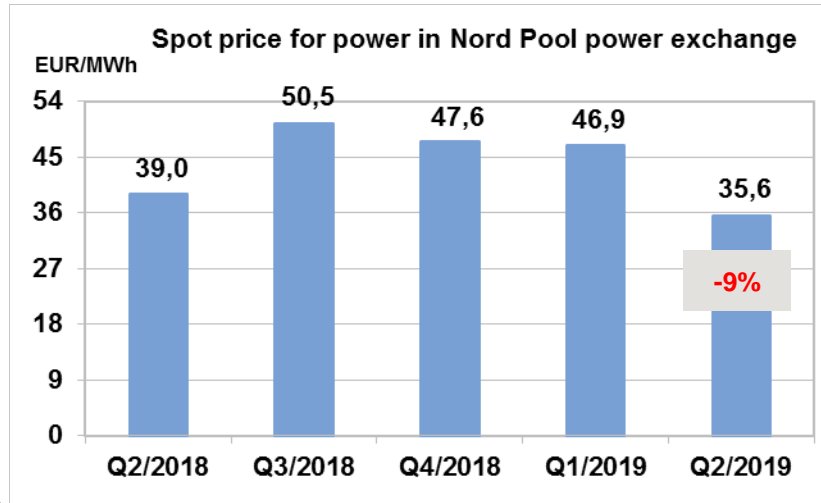
FORWARD PRICE

- During Q2 2019, the spread for 2020 delivery traded in the range 11.0-13.5 EUR/MWh, average at 12.6 EUR/MWh
- The German-Nordic spread is essentially determined by the supply and demand balance in the Nordics and in 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 16 July 2019
Source: Nord Pool, Bloomberg

Fortum's achieved power price +6% in Q2 despite lower Nordic power price – Russian achieved price +11%



Changes refer to year-on-year difference (Q2 2019 versus Q2 2018)

NOTE: Achieved power price (includes capacity payments) in roubles increased by 10%

Generation

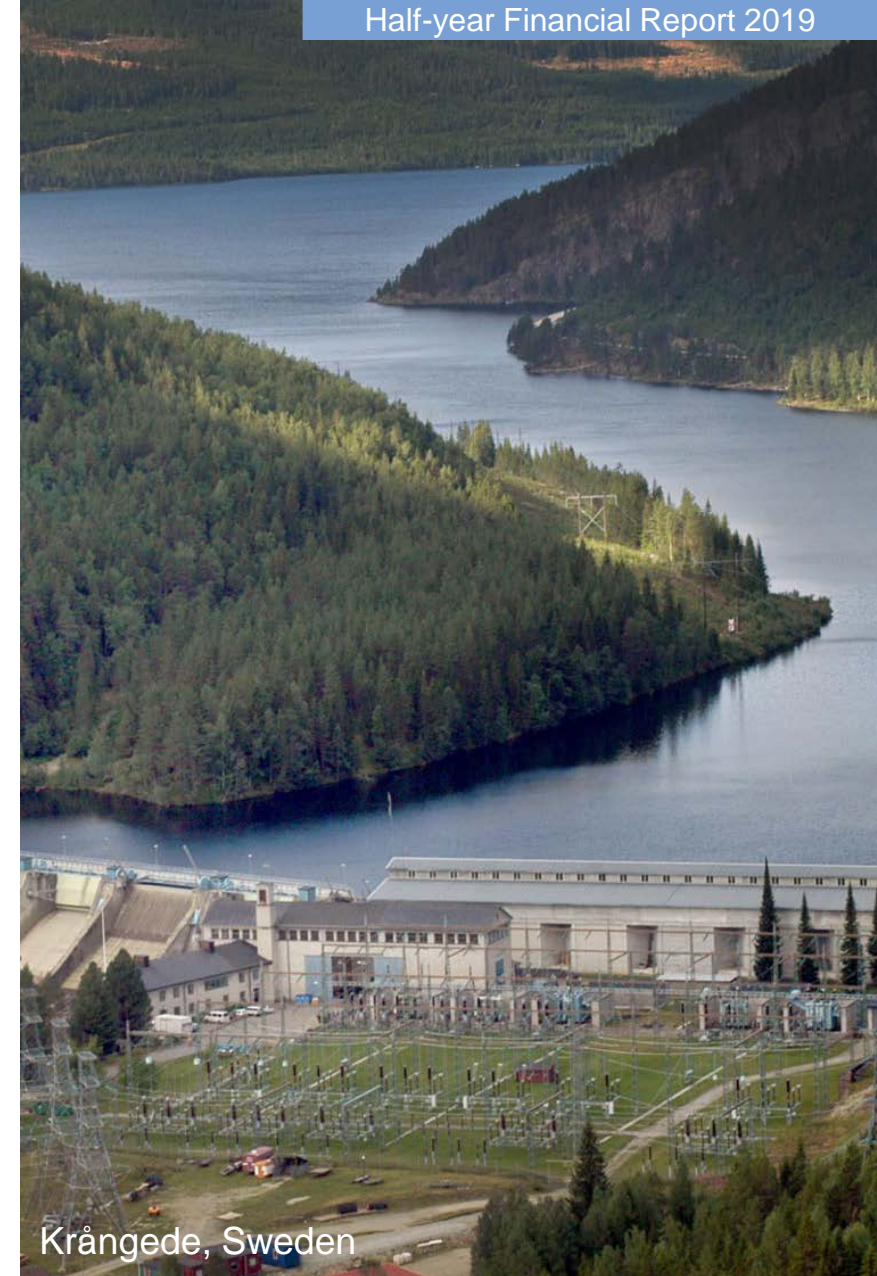
Q2 2019

- Higher achieved power price, +1.9 EUR/MWh, +6%
- Good operational performance
 - Higher hydro and nuclear volumes

H1 2019

- Higher achieved power price, +3.3 EUR/MWh, +10%
- Good operational performance
 - Higher nuclear volumes and successful hydro optimisation

MEUR	Q2 2019	Q2 2018	Q1-Q2 2019	Q1-Q2 2018	2018	LTM
Sales	500	427	1,101	925	1,842	2,018
Comparable EBITDA	225	182	484	435	763	812
Comparable operating profit	191	151	414	370	628	672
Comparable net assets			6,140	5,908	6,485	
Comparable RONA %					10.8	11.8
Gross investments	63	51	101	98	262	265



City Solutions

Q2 2019

- Higher heat sales volumes
- Improved result in recycling and waste business
- Higher fuel and CO₂ costs

H1 2019

- Improved result in recycling and waste business
- Better performance in heat business in Norway
- Higher power price

Hafslund synergies of EUR 5-10 million to be achieved by end of 2020

MEUR	Q2 2019	Q2 2018	Q1-Q2 2019	Q1-Q2 2018	2018	LTM
Sales	228	193	633	574	1,110	1,169
Comparable EBITDA	31	23	168	154	310	324
Comparable operating profit	-15	-21	77	67	135	145
Comparable net assets			3,792	3,771	3,794	
Comparable RONA %					5.5	5.7
Gross investments	136	55	207	84	242	365



Klaipeda, Lithuania

Consumer Solutions

Q2 2019

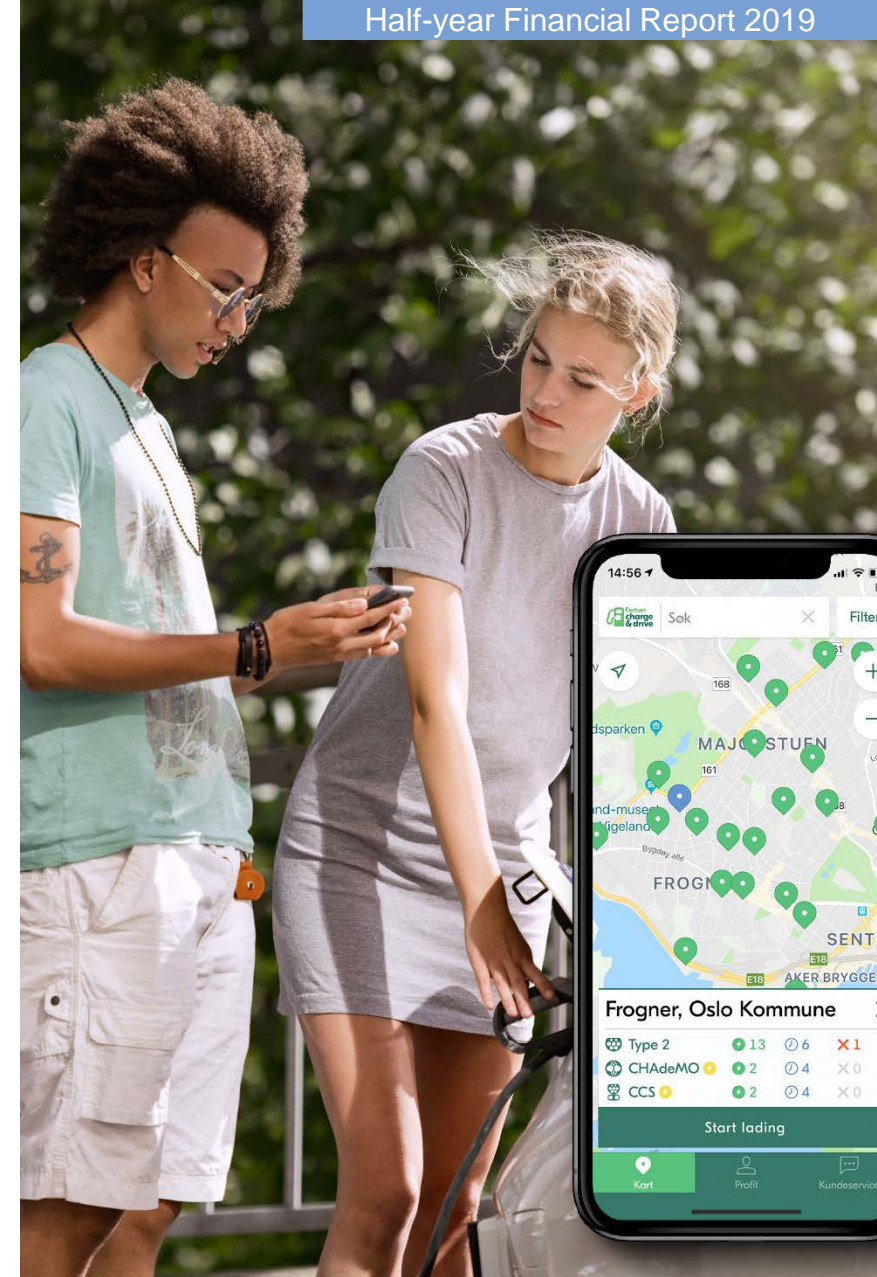
- Improved sales margin
 - Favourable market conditions
 - Improved product margins
- Continued competition with high customer churn in the Nordics

H1 2019

- Higher sales margins
 - Favourable market conditions continued in Q2
- Part of the profitability improvement was temporary

Hafslund synergies of ~EUR 10 million to be achieved by end of 2020

MEUR	Q2 2019	Q2 2018	Q1-Q2 2019	Q1-Q2 2018	2018	LTM
Sales	346	326	1,015	873	1,759	1,901
Comparable EBITDA	34	26	75	57	110	128
Comparable operating profit	19	11	44	29	53	68
Comparable net assets			512	645	648	
Customer base, million			2.43	2.48	2.47	
Gross investments	13	12	27	21	47	53



Russia

Q2 2019

- Clearly lower bad-debt provisions
- Higher power margins
- Higher CSA payments
- FX impact EUR 2 million

H1 2019

- Higher power margins and higher CSA payments
- Lower bad-debt provisions
- Heat distribution business to Yustek JV
- FX impact EUR -6 million

In 2019, no new units will receive higher CSA payments

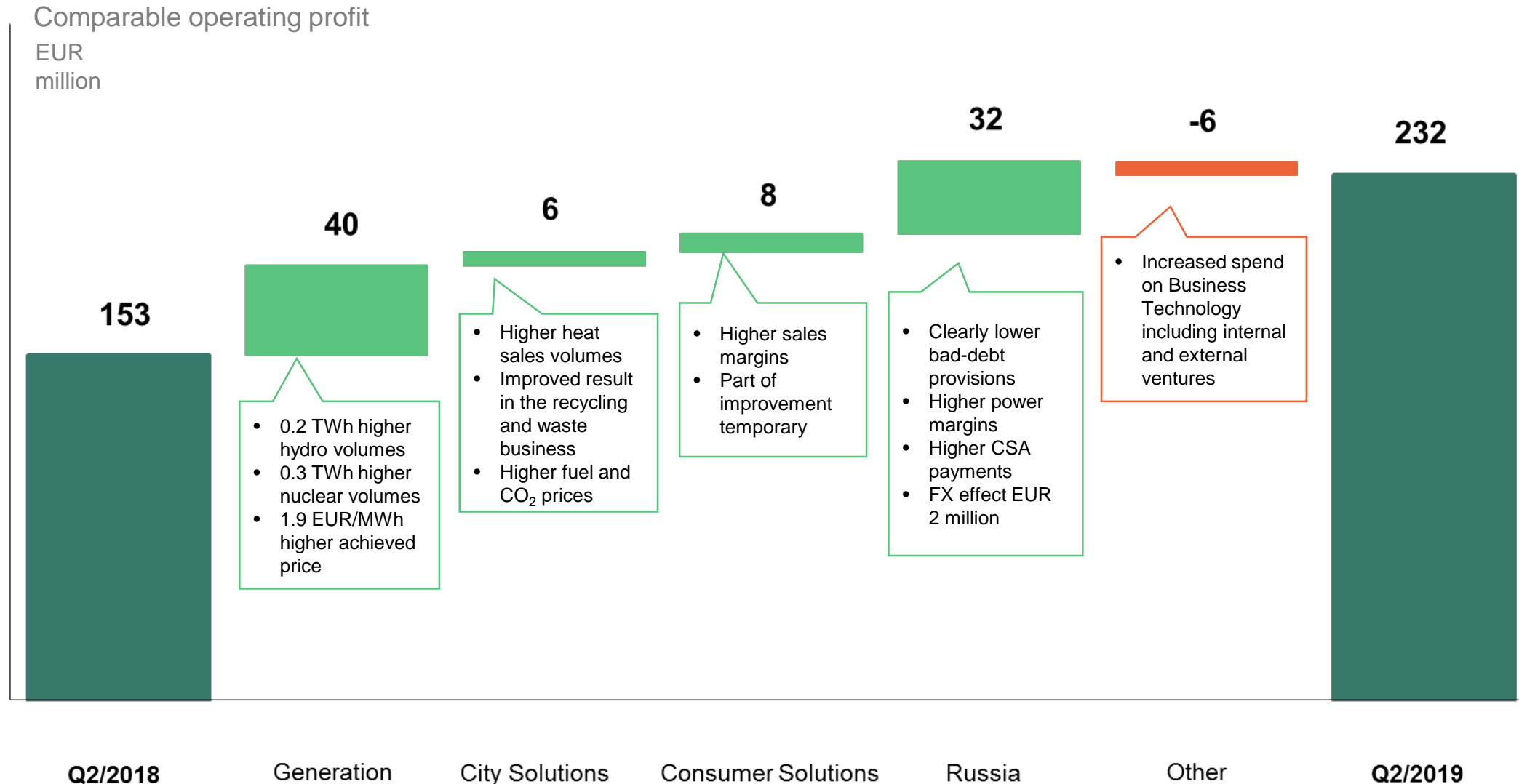
MEUR	Q2 2019	Q2 2018	Q1-Q2 2019	Q1-Q2 2018	2018	LTM
Sales	239	228	537	565	1,069	1,041
Comparable EBITDA	107	73	242	215	417	444
Comparable operating profit	69	37	168	141	271	298
Comparable net assets			3,084	2,986	2,789	
Comparable RONA %					10.3	11.7
Gross investments	14	22	19	40	117	96

CSA=Capacity Supply Agreements

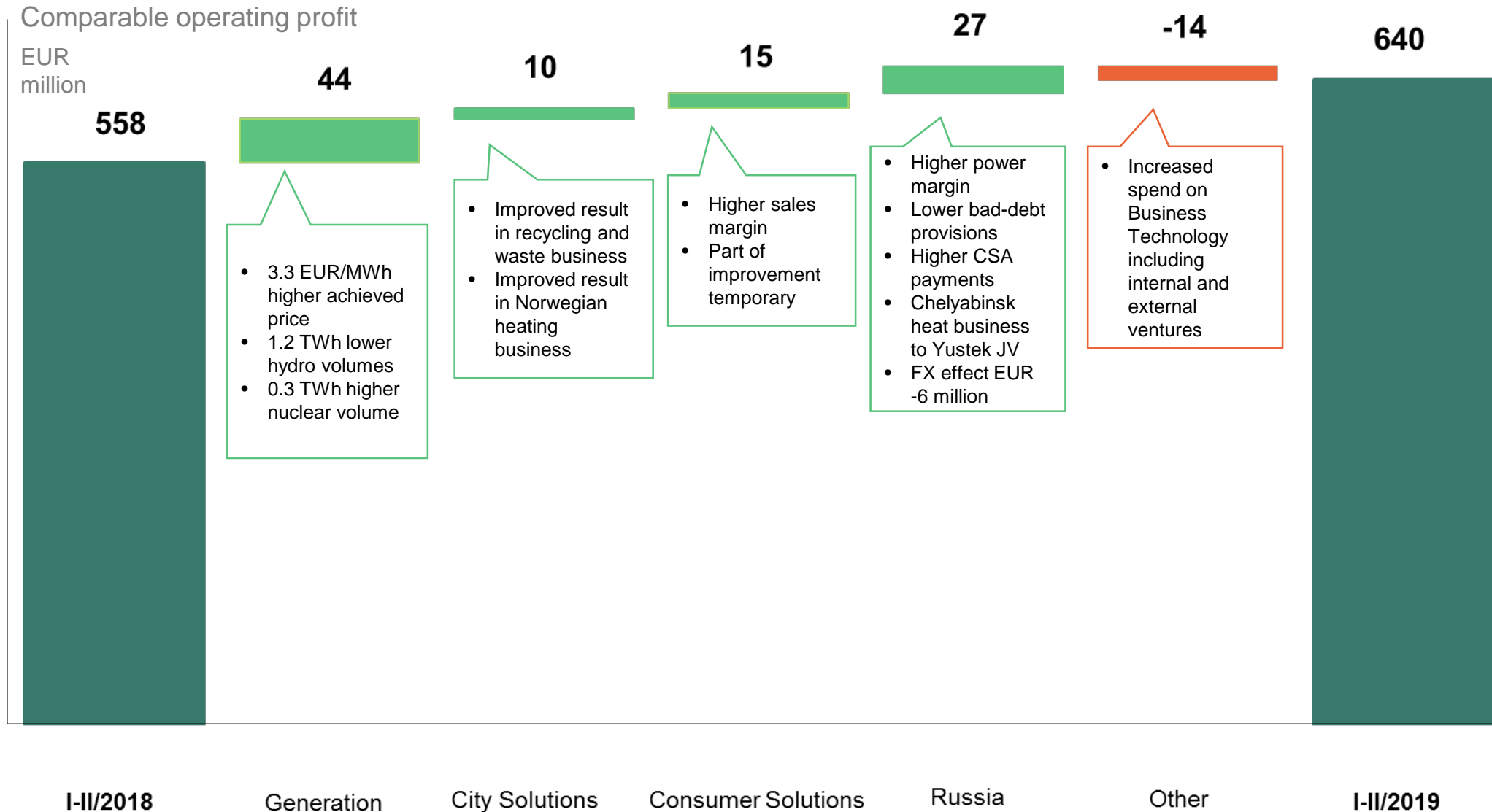


Chelyabinsk, Russia

Q2 2019 – Strong performance in Generation and Russia



H1 2019 – Profit increased in all business segments



Uniper purchase price allocation finalised

- The total acquisition cost EUR 3,968 million includes direct costs relating to the acquisition
- 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, if booked by Uniper, will thereby be reversed to Fortum's share of profits of associates and joint ventures
- Fair value adjustment of EUR 613 million was made for the acquired assets and liabilities
 - Fair value adjustment will be reversed over 20 years, EUR 30 million per year
 - If Uniper reports negative impacts related to certain assets, Fortum will assess potential need to use this fair value adjustment to reverse these negative impacts

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



Key financials

MEUR	Q2 2019	Q2 2018	Q1-Q2 2019	Q1-Q2 2018	2018	LTM
Sales	1,144	1,087	2,834	2,672	5,242	5,404
Comparable EBITDA	372	282	918	820	1,523	1,621
Comparable operating profit	232	153	640	558	987	1,069
Operating profit	184	256	542	738	1,138	942
Share of profits of associates and joint ventures	461	24	572	70	38	540
Profit before income taxes	652	241	1,076	734	1,040	1,382
Earnings per share, EUR	0.69	0.24	1.07	0.68	0.95	1.34
Net cash from operating activities	740	361	1,491	634	804	1,661

- Comparable operating profit mainly driven by Generation and Russia
- Share of profits from associates of EUR 461 million
 - Uniper EUR 399 million:
 - EUR 49 million underlying result
 - EUR 334 million non-operating result
 - EUR 15 million reversal of fair value adjustment
- EPS Q2 2019
 - Items affecting comparability -0.05 (0.11)
 - Uniper impact 0.45 (-)
- Strong cash flow supported by
 - EUR 229 million of dividends received, of which Uniper EUR 165 million
 - Change in settlements for futures

Income statement

MEUR	Q2 2019	Q2 2018	Q1-Q2 2019	Q1-Q2 2018	2018	LTM
Sales	1,144	1,087	2,834	2,672	5,242	5,404
Other income	23	18	44	42	130	132
Materials and services	-526	-555	-1,443	-1,380	-2,795	-2,858
Employee benefits	-123	-121	-245	-235	-459	-469
Depreciations and amortisation	-141	-130	-278	-262	-536	-552
Other expenses	-146	-145	-273	-278	-594	-589
Comparable operating profit	232	153	640	558	987	1,069
Items affecting comparability	-48	103	-98	180	151	-127
Operating profit	184	256	542	738	1,138	942
Share of profits/loss of associates and joint ventures	461	24	572	70	38	540
Finance costs - net	7	-39	-38	-74	-136	-100
Profit before income tax	652	241	1,076	734	1,040	1,382
Income tax expense	-45	-25	-109	-119	-181	-171
Profit for the period	607	215	967	615	858	1,210

- Nuclear fund adjustment due to regular nuclear technical update, impact of
 - Items affecting comparability EUR -54 million
 - Net financials EUR 40 million
- Share of profits from associates, EUR 461 million
 - Uniper EUR 399 million

Cash flow statement

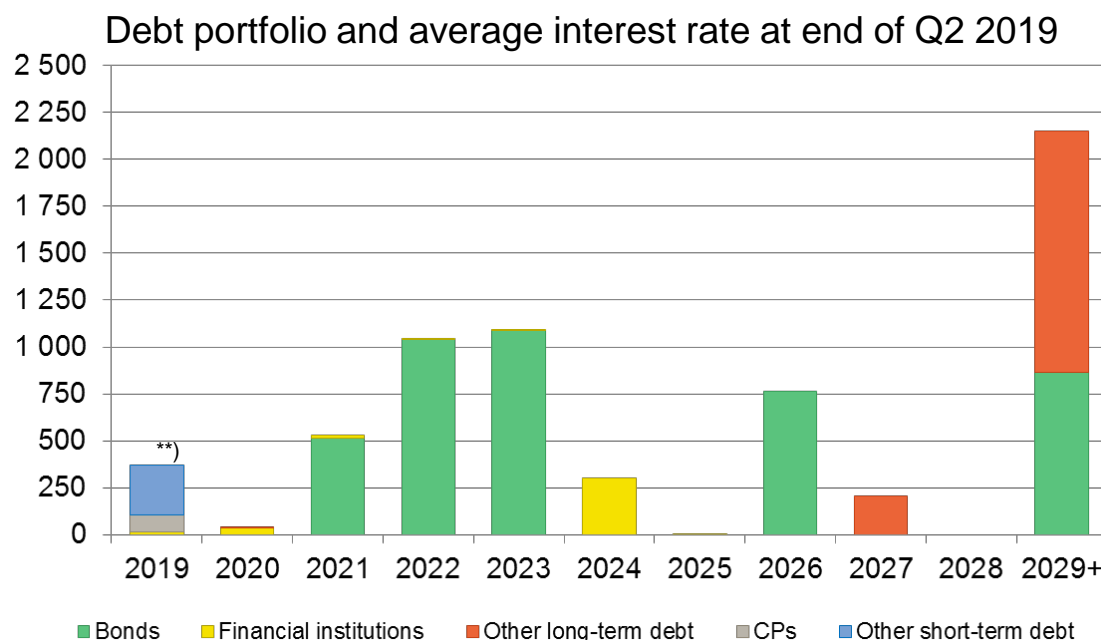
MEUR	Q2 2019	Q2 2018	Q1-Q2 2019	Q1-Q2 2018	2018	LTM
Comparable EBITDA	372	282	918	820	1,523	1,621
Realised FX gains/losses	15	91	10	133	231	108
Paid net financial costs, income taxes and other	-109	-92	-168	-199	-341	-311
Dividends received	229	53	229	53	61	237
Change in working capital	233	27	502	-174	-670	6
<i>of which change of settlements for futures</i>	<i>24</i>	<i>-199</i>	<i>316</i>	<i>-290</i>	<i>-524</i>	<i>82</i>
Net cash from operating activities	740	361	1,491	634	804	1,661
Capital expenditures	-219	-118	-369	-252	-579	-696
Acquisitions of shares	-4	-3,732	-16	-3,750	-4,088	-354
Divestments of shares and capital returns	24	170	32	170	259	121
Change in cash collaterals and restricted cash	12	-113	322	-176	-36	462
Other investing activities	-26	47	-15	49	46	-18
Cash flow from investing activities	-213	-3,747	-46	-3,959	-4,398	-485
Cash flow before financing activities	527	-3,386	1,445	-3,326	-3,594	1,177
Paid dividends to the owners of the parent	-977	-977	-977	-977	-977	-977
Paid dividends to non-controlling interests	-23	-3	-23	-3	-5	-25

- Very strong cash flow strengthened by dividends received, change in settlements for futures and working capital
- Dividends received of EUR 229 million
 - Uniper EUR 165 million
- Fortum dividend of EUR 977 million paid

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

	LTM	2018	TARGET
Comparable EBITDA, MEUR	1,621	1,523	
Interest-bearing net debt, MEUR	5,422	5,509	
Comparable net debt/EBITDA ratio ^{*)}	3.3x	3.6x	Around 2.5x
Return on capital employed (ROCE), %	8.4	6.7	At least 10%

- Liquid funds of EUR 1.3 billion
- Committed credit lines of EUR 1.8 billion
- Total loans and borrowings of EUR 6,623 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 769 million (2018: 686) swapped to RUB, average interest cost including cost for hedging 8.5% (2018: 8.3%)
 - Other short-term debt includes new non-cash collaterals and settlement



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

^{**) 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

For the remainder of 2019: ~80% hedged at EUR 33 per MWh

For 2020: ~60% hedged at EUR 31 per MWh (Q1: 55% at EUR 31)

2019 Estimated annual capital expenditure, including maintenance and excluding acquisitions

EUR 600-650 million

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)

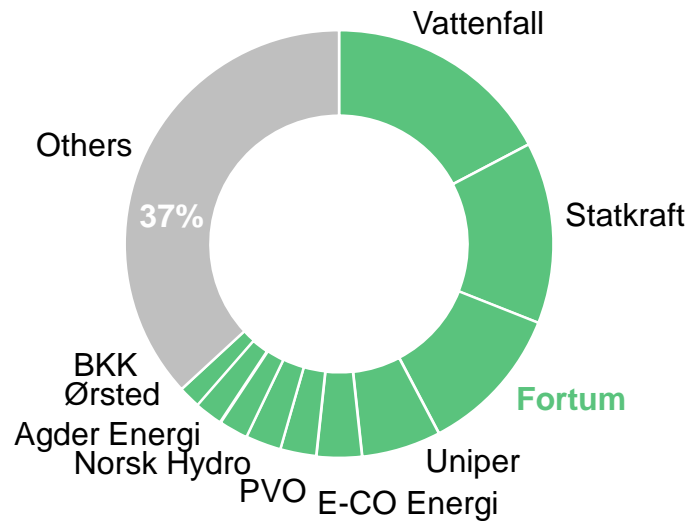
Loviisa, Finland

Still a highly fragmented Nordic power market

Fortum has the largest electricity customer base in the Nordics

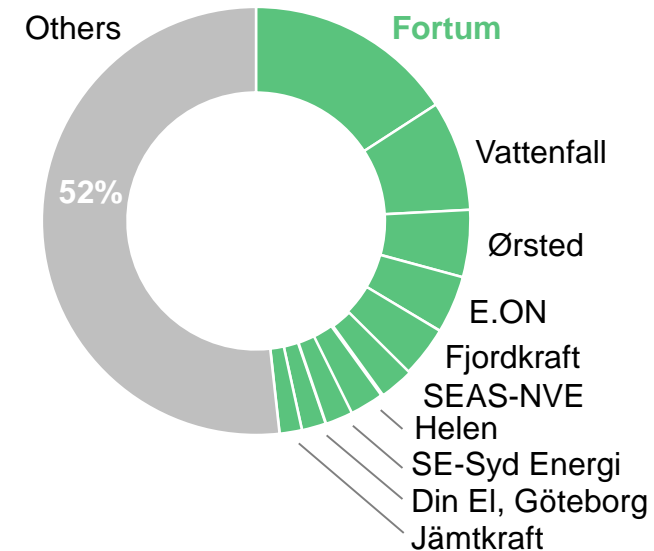
Power generation in 2017

402 TWh
>350 companies



Electricity retail

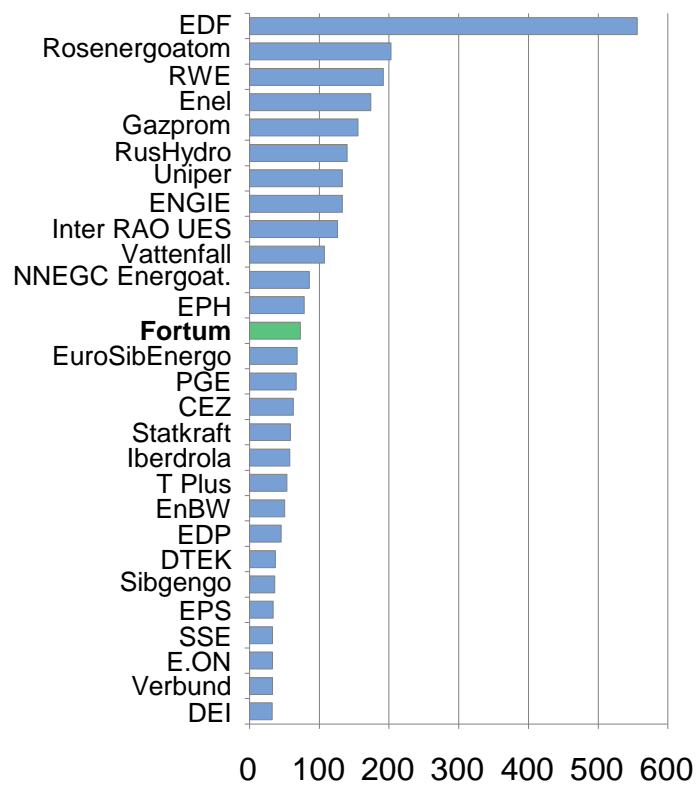
15 million customers
~350 companies



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

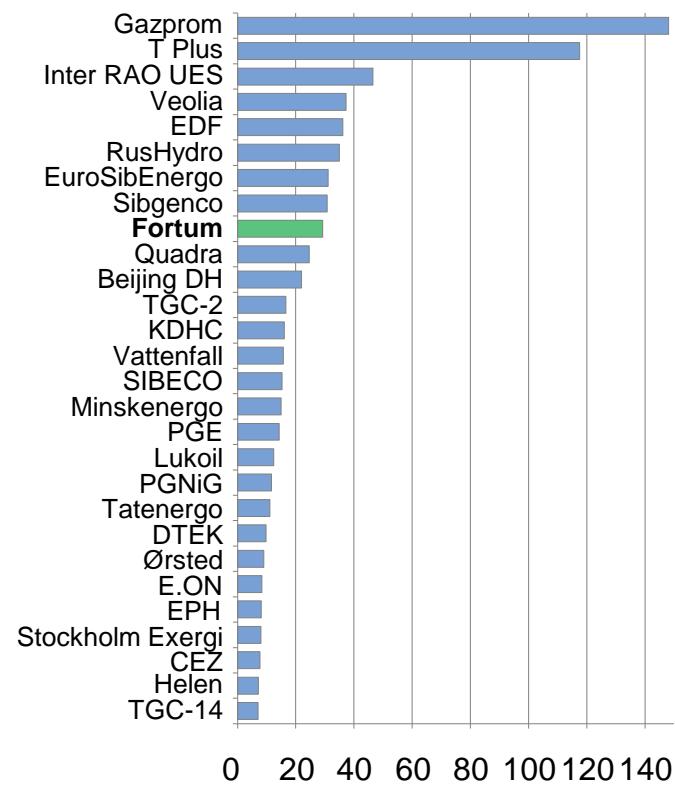
Power generation

Largest producers in Europe and Russia, 2017
TWh



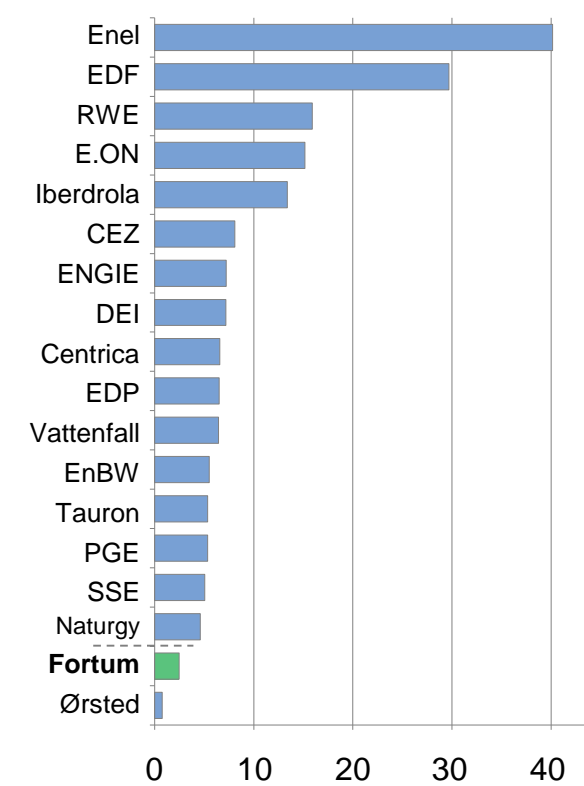
Heat production

Largest global producers, 2017
TWh

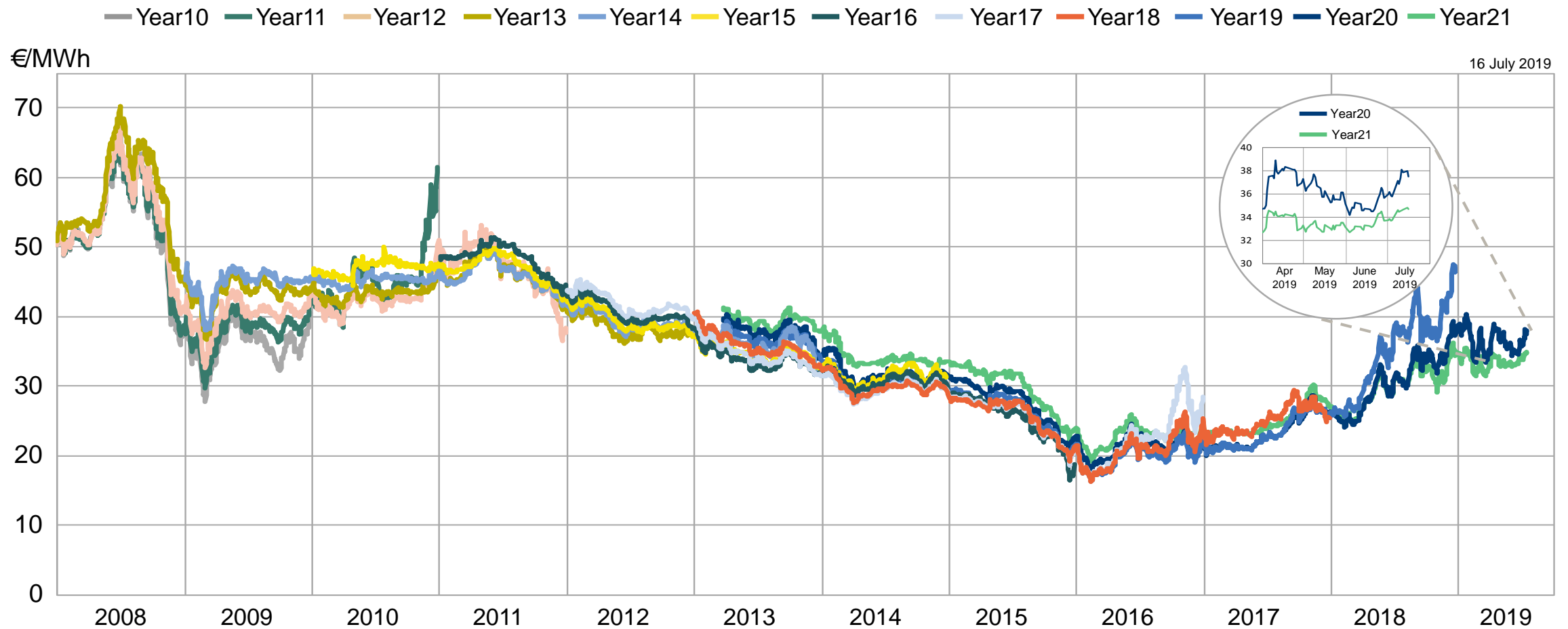


Customers

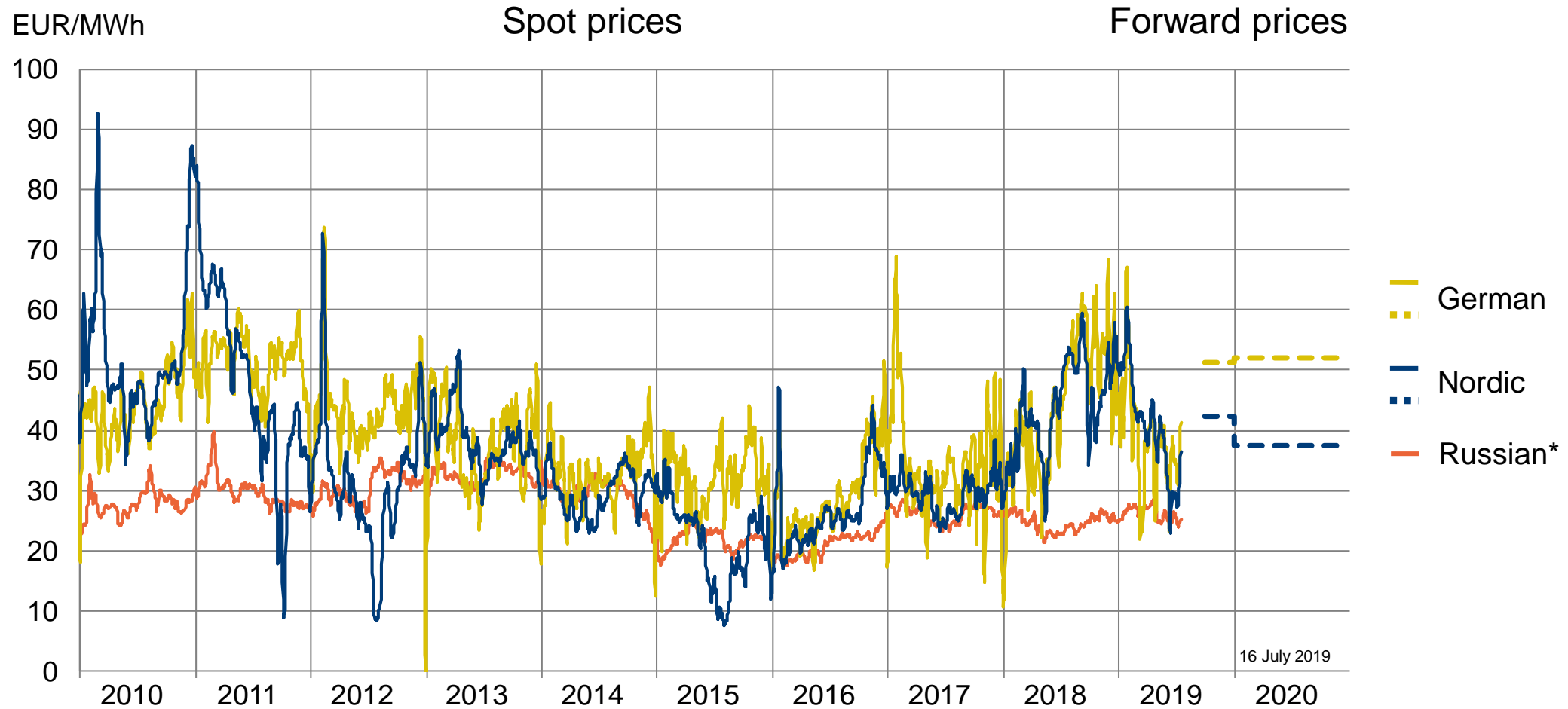
Electricity customers in Europe, 2017
Millions



Nordic year forwards



Wholesale power prices

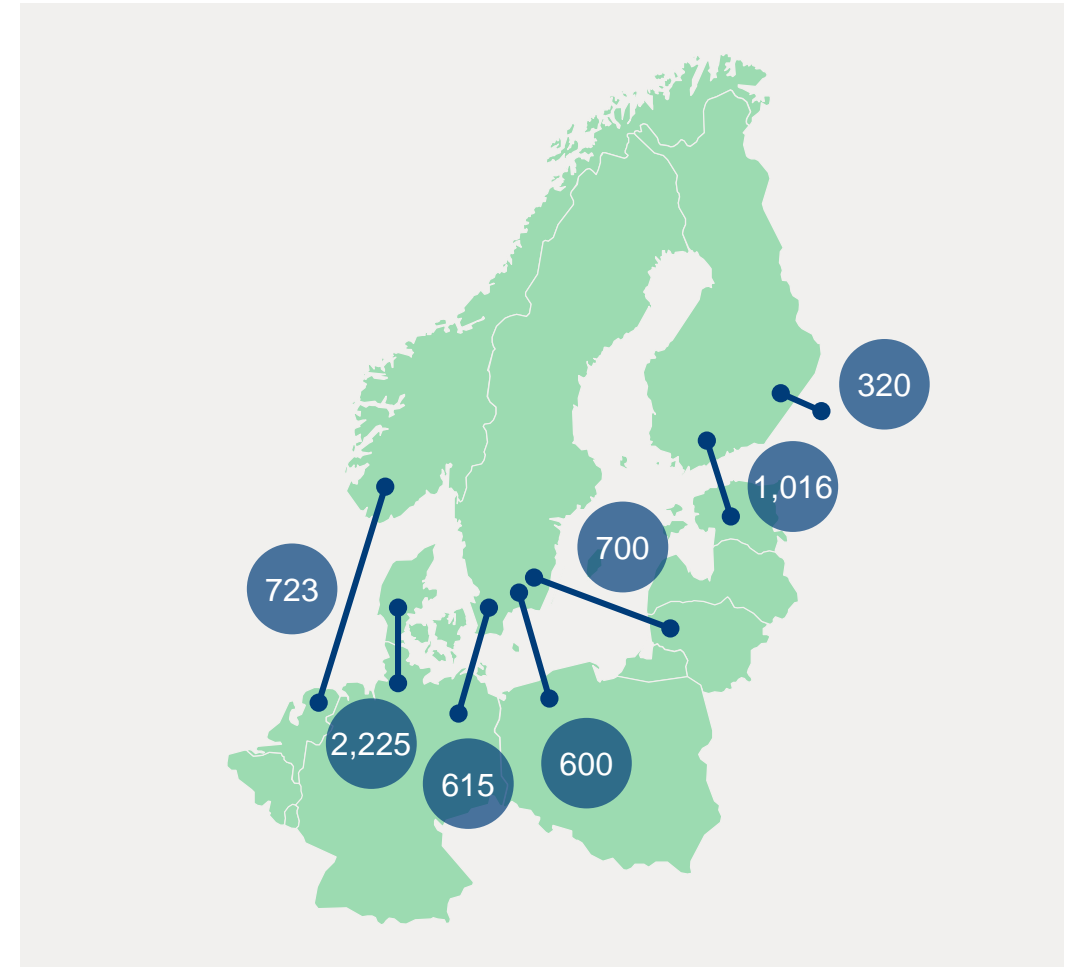


* Including weighted average capacity price

Current transmission capacity from the Nordic area is >6,000 MW

COUNTRIES	TRANSMISSION CAPACITY MW	
	From Nordics	To Nordics
Denmark - Germany	2,225	2,100
Sweden - Germany	615	615
Sweden - Poland	600	600
Sweden - Lithuania	700	700
Norway - Netherlands	723	723
Finland - Estonia	1,016	1,016
Finland - Russia	320	1,300
Total	6,199	7,054

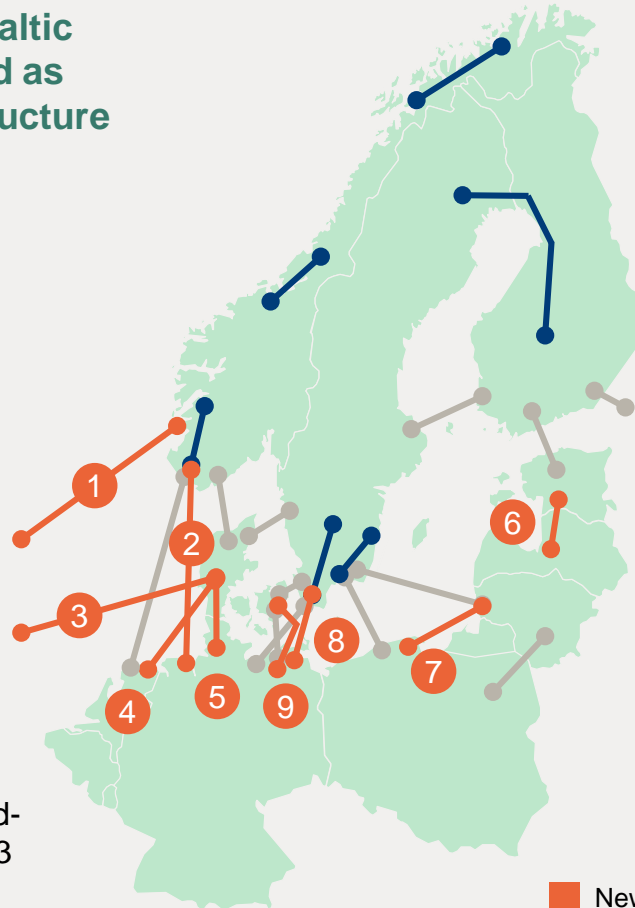
- Theoretical maximum in transmission capacity ~40 TWh per annum, but restrictions especially between DK & DE
- Net export from the Nordic area to Continental Europe and Baltics during the year 2018 was 10 TWh
- Net export during the relatively wet year 2017 was 15 TWh
- Approximately 25 TWh of net export is now reachable



Nordics, Baltics, the Continental and the UK markets are integrating – interconnection capacity to double 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 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
- 2 1,400 MW NordLink as first direct NO-DE link is due to start commercial operation in March 2021
- 3 1,400 MW DK-UK Viking Link has got its final permits and is to be built by end-2023
- 4 700 MW COBRACable from DK to NL is due to be ready during Q3/2019
- 5 Jutland – DE capacity will grow by 860 MW by end-2020, with further 1,000 MW increase by end-2023

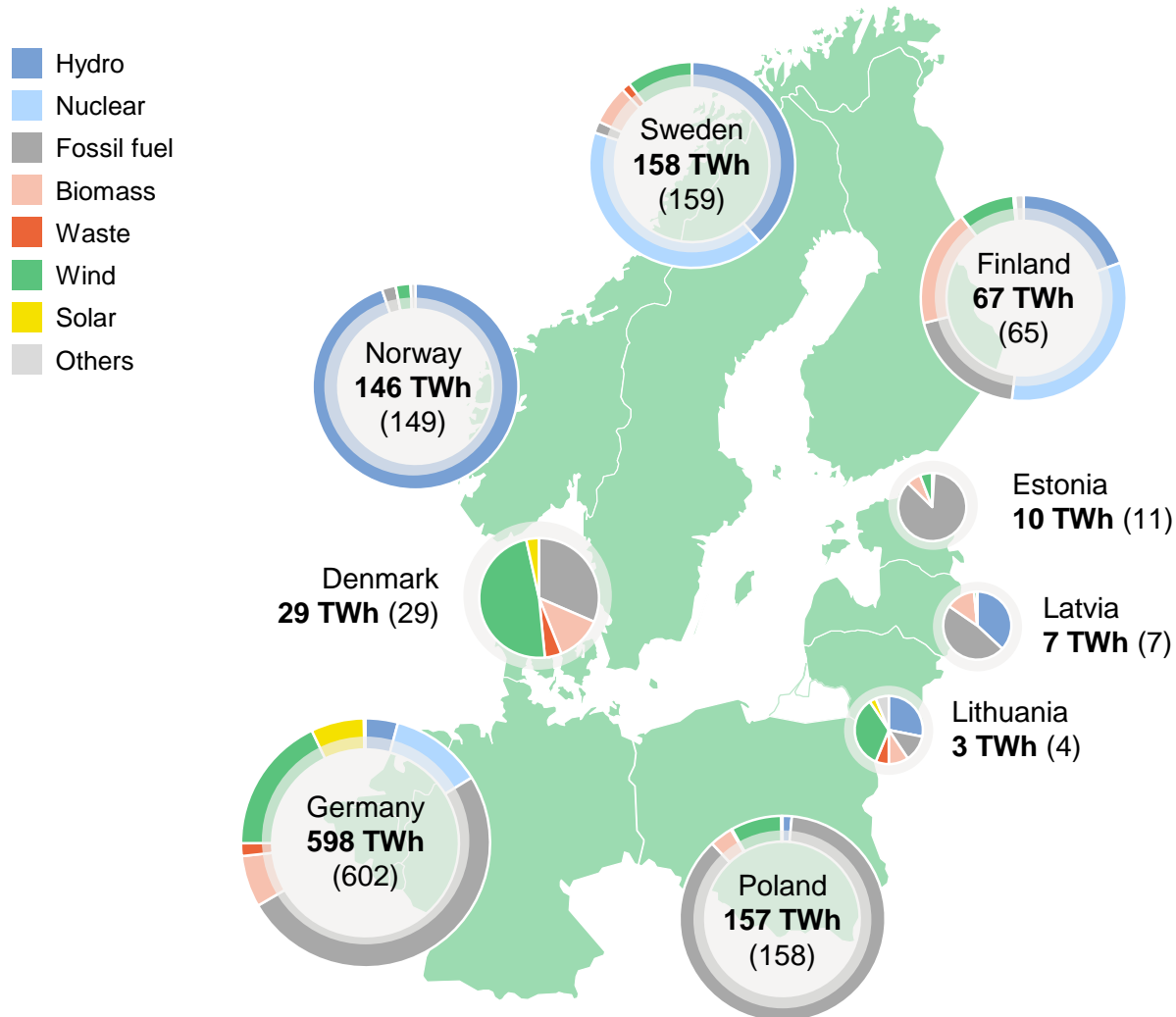


New interconnections will double the Nordic export capacity to over 12,000 MW by end-2023

- 6 New internal Nordic grid investments provide for increased available capacity for export to the Continent and Baltics
- 6 EU's Connecting Europe Facility co-financing 3rd EE-LV transmission line, due to be ready in 2020
- 7 Baltic synchronisation roadmap in June 2018 prioritised a DC sea cable as the required additional PL-LT interconnection by 2025
- 8 Svenska Kraftnät and 50Hertz signed 1/2017 a cooperation agreement on building the 700 MW Hansa PowerBridge DC link between Sweden and Germany by 2025/26
- 9 New 400 MW Zealand – DE connection via Kriegers Flak offshore wind area ready in Q3/2019

■ New interconnectors
 ■ New Nordic lines
 ■ Existing interconnectors

Power Generation in the Baltic Rim in 2018 (2017)

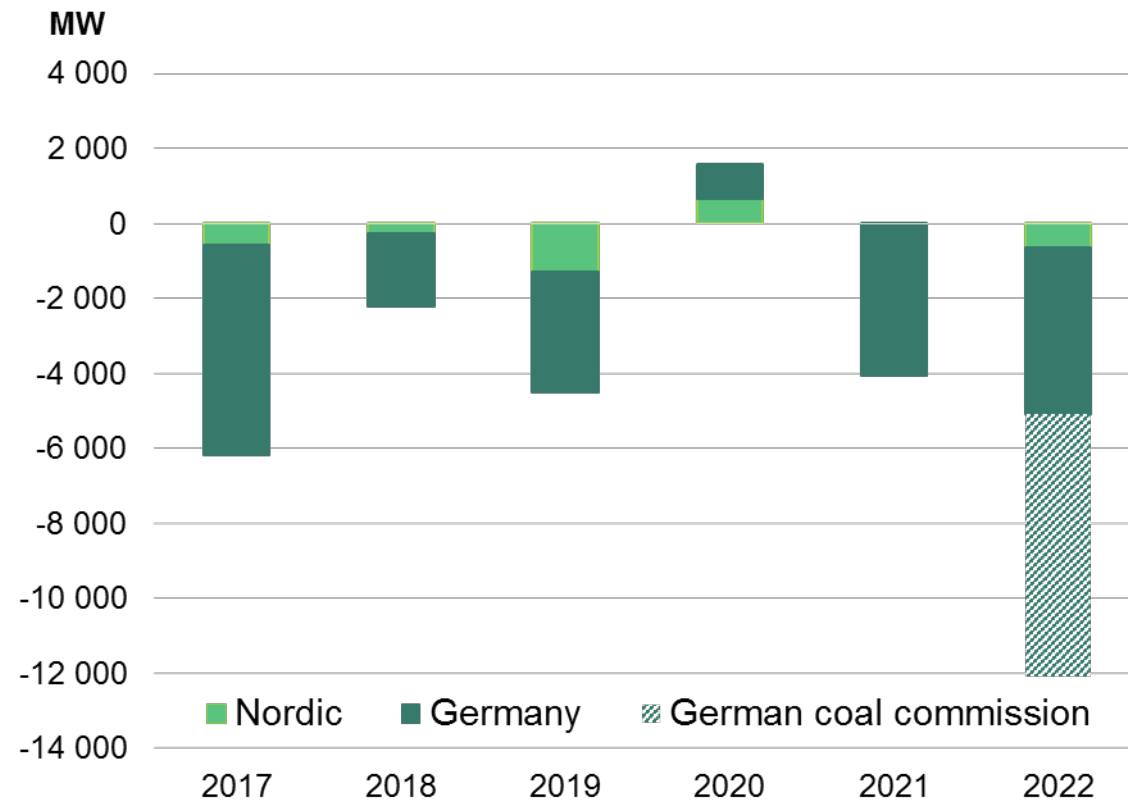


	NORDICS		BALTICS	
2018	TWh	%	TWh	%
Hydro	*212	53	3	17
Nuclear	88	22	-	-
Fossil fuel	28	7	13	62
Biomass	26	6	2	9
Waste	3	1	0	1
Wind	40	10	2	9
Solar	1	0	0	1
Others	2	1	0	1
Total generation	400	100	20	100
	Net export 2 TWh		Net import 9 TWh	

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

Northern European conventional capacity decreasing

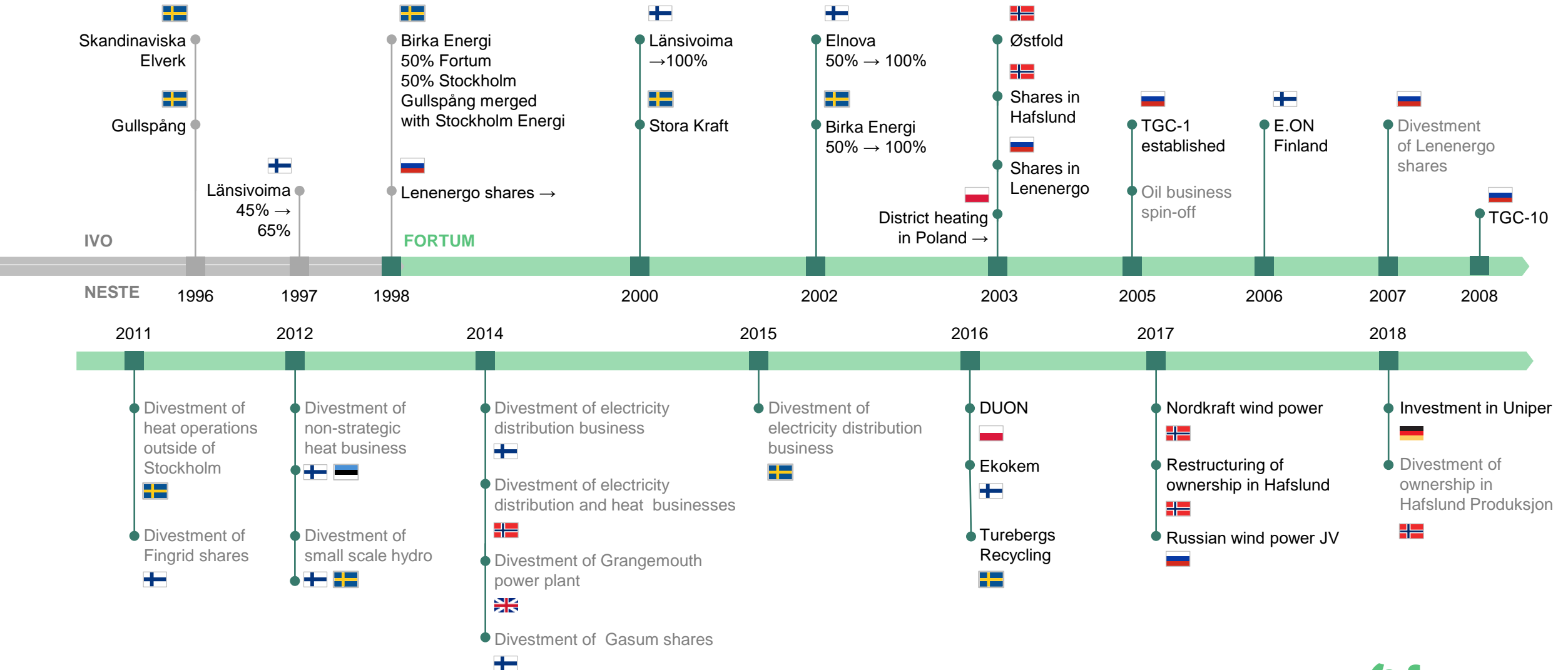
Estimated annual net changes in nuclear and thermal capacity



Estimated capacity changes based on publically announced information from various stakeholders

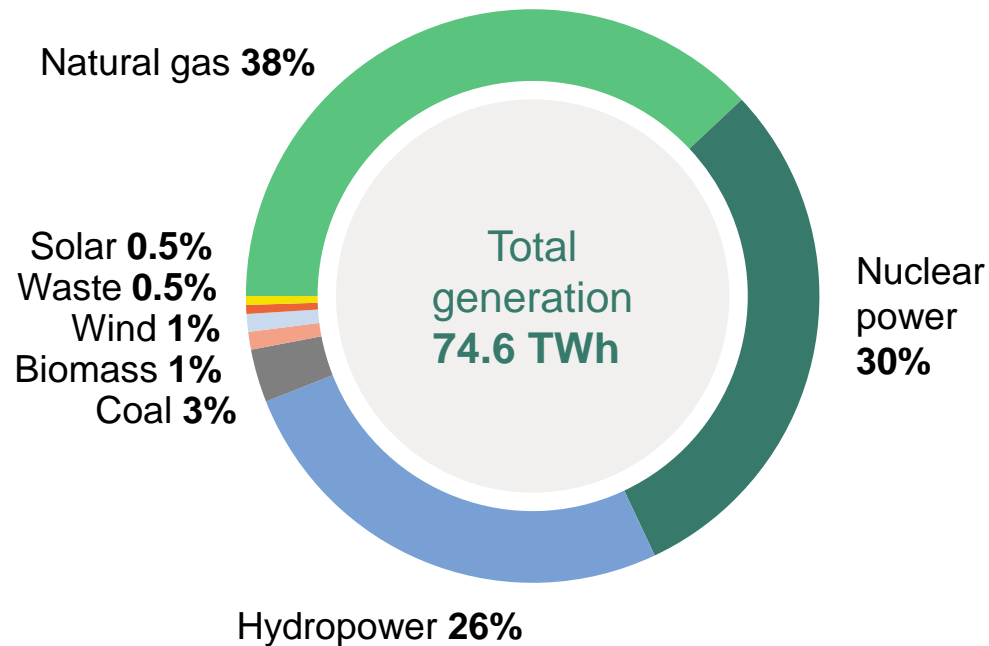
DATE	CAPACITY	AREA	UNIT/ TRANSMISSION	COMMENT
1.10.2018	- 1100 MW	DE	Lignite reserve	Niederaußem E & F and Jämschwalde F moved to lignite reserve
31.12.2018	- 473 MW	DE	Coal	Lünen 6&7, decommissioning
31.3.2019	- 937 MW	DE	Coal	Gersteinwerk, Kiel-Ostufer, decommissioning
during 2019	- 619 MW	EE	Oil shale	Closure of four older units in Estonia
1.9.2019	+ 700 MW	DK1-NL	Transmission	Cobra cable: trial operation expected to begin in Q3-19
1.10.2019	- 800 MW	DE	Lignite reserve	Jämschwalde E, Neurath C
1.10.2019	+ 0-400 MW	DK2-DE	Kriegers Flak	Offshore connection between DK2 and DE used for both grid connection of offshore wind farms and interconnection.
31.12.2019	- 1470 MW	DE	Phillipsburg 2	Nuclear unit, decommissioning
31.12.2019	- 850 MW	SE3	Ringhals 2	Decommissioning
1.1.2020	+ 1600 MW	FI	Olkiluoto 3	Start of regular electricity production expected in January 2020.
31.3.2020	- 100 MW	DK	Amagerværket 3	250 MW coal replaced by 150 MW biomass
during 2020	+ 1100 MW	DE	Datteln 4	Uniper's coal condensing unit; targeted commissioning mid-2020.
31.12.2020	- 856 MW	SE3	Ringhals 1	Decommissioning
31.12.2021	- 4060 MW	DE	Nuclear	Decommissioning Brokdorf, Grohnde, Gundremmingen C
31.12.2022	- 4040 MW	DE	Nuclear	Decommissioning Isar 2, Emsland, Neckarwestheim 2
By end of 2022	- 7000 MW	DE	Coal commission	German Coal Commission proposes 7 GW additional reduction of lignite/hard coal

Fortum's evolution and historical strategic route

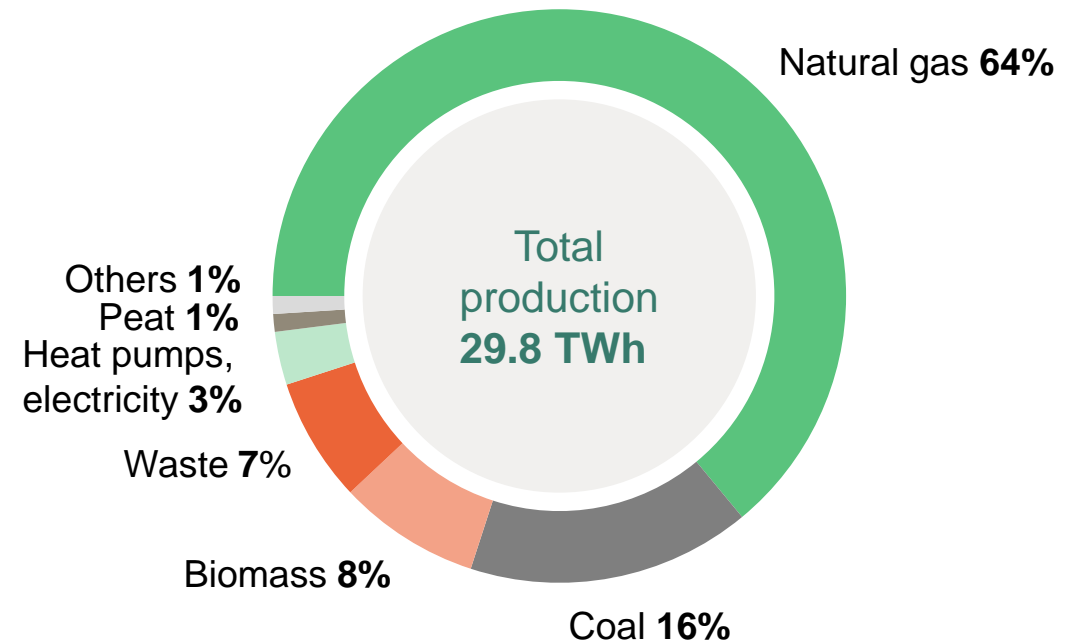


Fortum's power and heat production by source

Fortum's power generation in 2018



Fortum's heat production in 2018

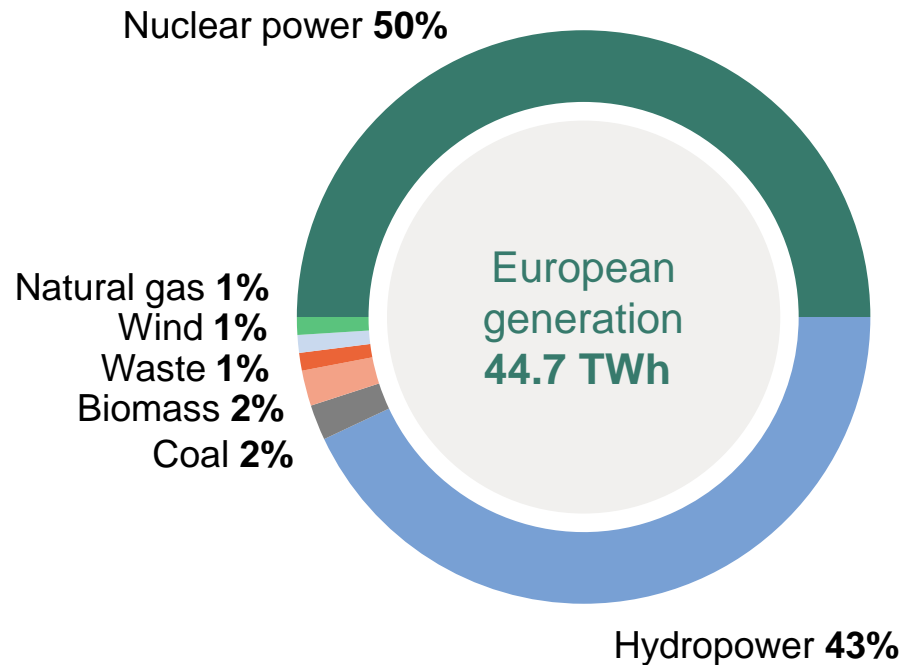


Note: Fortum's power generation capacity 13,724 MW and heat production capacity 15,009 MW

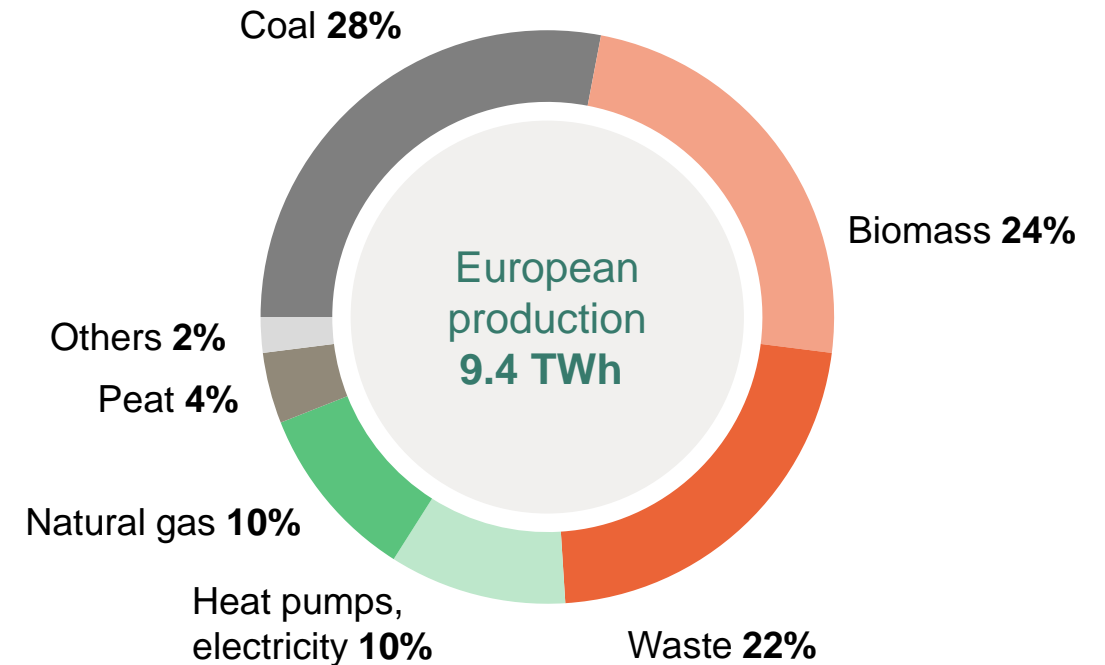


Fortum's European power and heat production by source

Fortum's European power generation in 2018



Fortum's heat European production in 2018



Note: Fortum's European power generation capacity 8,811 MW and heat production capacity 4,780 MW

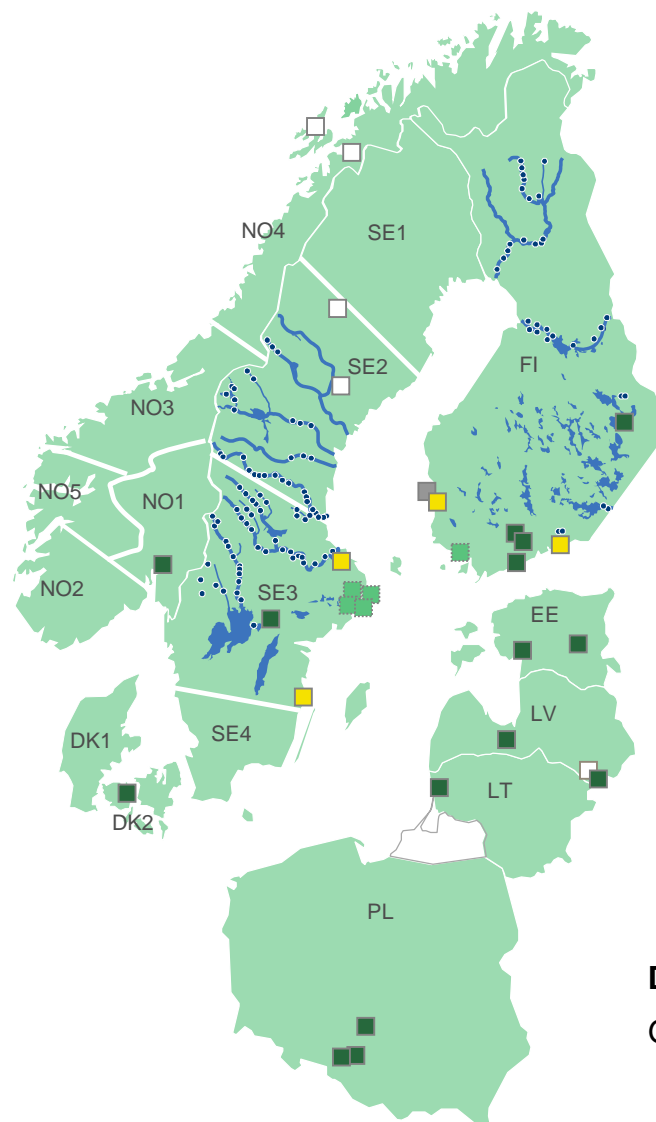
Fortum's Nordic, Baltic and Polish generation capacity

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

NORWAY MW

Price areas	
NO4, Wind	82
NO1, CHP	20
Generation capacity	102

SWEDEN MW

Price areas	
SE2, Hydro	1,550
SE2, Wind	75
SE3, Hydro	1,574
SE3, Nuclear	1,334
SE3, CHP	9
Generation capacity	4,542

DENMARK, DK2 MW

Generation capacity, CHP	16
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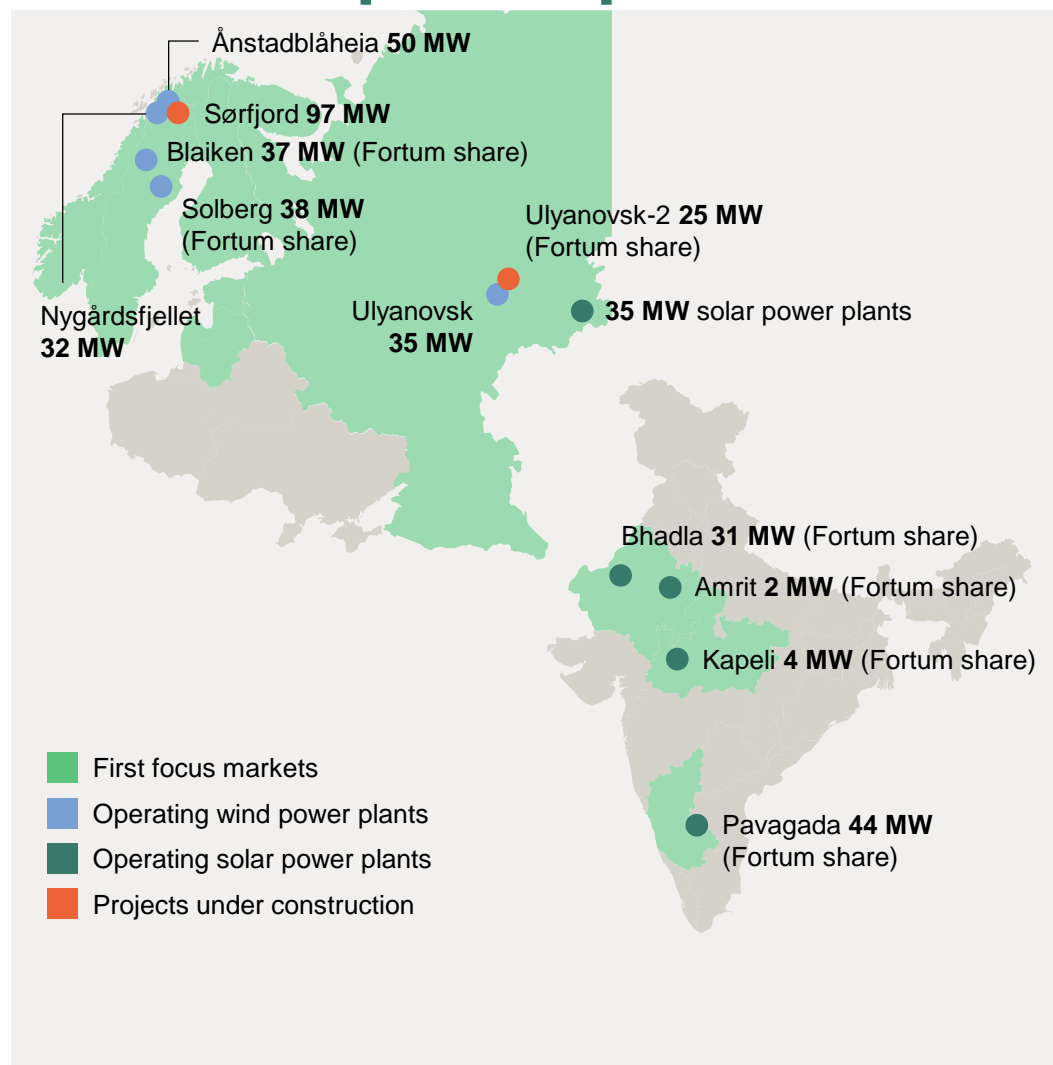
FINLAND MW

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

BALTICS AND POLAND MW





Generation capacity, CHP	
in Estonia	49
in Latvia	34
in Lithuania	20
in Poland	186
in Latvia, Wind	2

Fortum is growing towards gigawatt scale target in solar and wind power production



PORTFOLIO	TECHNOLOGY	STATUS	CAPACITY MW	FORTUM SHARE, MW	SUPPLY STARTS/ STARTED
FINLAND			90	90	
Kalax	Wind	Under development	90	90	
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
SWEDEN			323	75	
Blaiken	Wind	Operational	248	37 (15%)	2017*
Solberg	Wind	Operational	76	38 (50%)	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
Rusnano JV	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	Under construction	250	250	Q3 2019
Rajasthan	Solar	Under construction	250	250	Q4 2020
TOTAL			3,287	2,023	
		Under development	1,679	943	
		Under construction	897	747	
		Operational	711	333	

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

*Out of operation; on decommissioning phase

RESPONSIBILITIES

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

*) Out of operation; on decommissioning phase

Finnish units world class in availability

Overview of production and consumption:

www.fortum.com/investors - energy related links



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	Gas, coal	256		CHP/Condensing	256
		Chelyabinsk CHP-1	Gas, coal	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
				2,093 MW	2,086 MW		4,179 MW

Tobolsk power plant was sold in Q1/2016

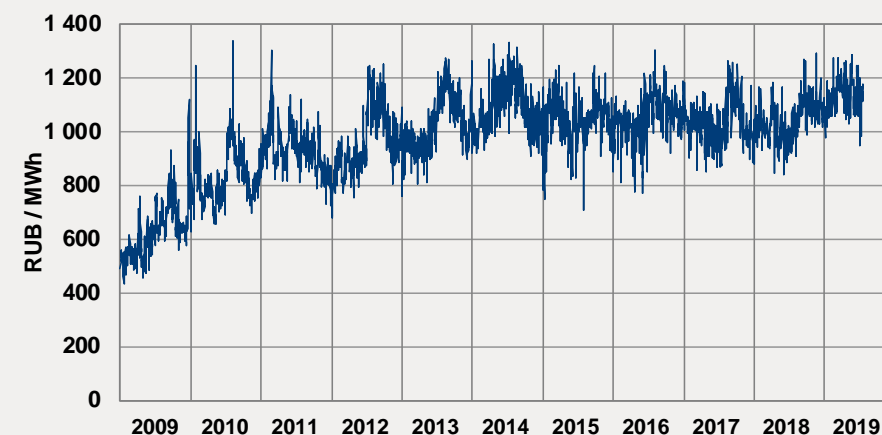
Day ahead wholesale market prices in Russia

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

	II/19	II/18	I-II/19	I-II/18	2018	LTM
Electricity spot price (market price), Urals hub, RUB/MWh	1,151	1,004	1,140	1,008	1,043	1,109
Average regulated gas price, Urals region, RUB 1000 m ³	3,883	3,755	3,883	3,755	3,801	3,883
Average capacity price for CCS, tRUB/MW/month	142	137	152	147	148	150
Average capacity price for CSA, tRUB/MW/month	996	957	1,097	1,054	1,075	1,096
Average capacity price, tRUB/MW/month	563	539	621	600	609	620
Achieved power price for Fortum in Russia, RUB/MWh	1,976	1,803	1,990	1,840	1,888	1,964
Achieved power price for Fortum in Russia, EUR/MWh	27.2	24.4	26.8	25.7	25.6	26.1

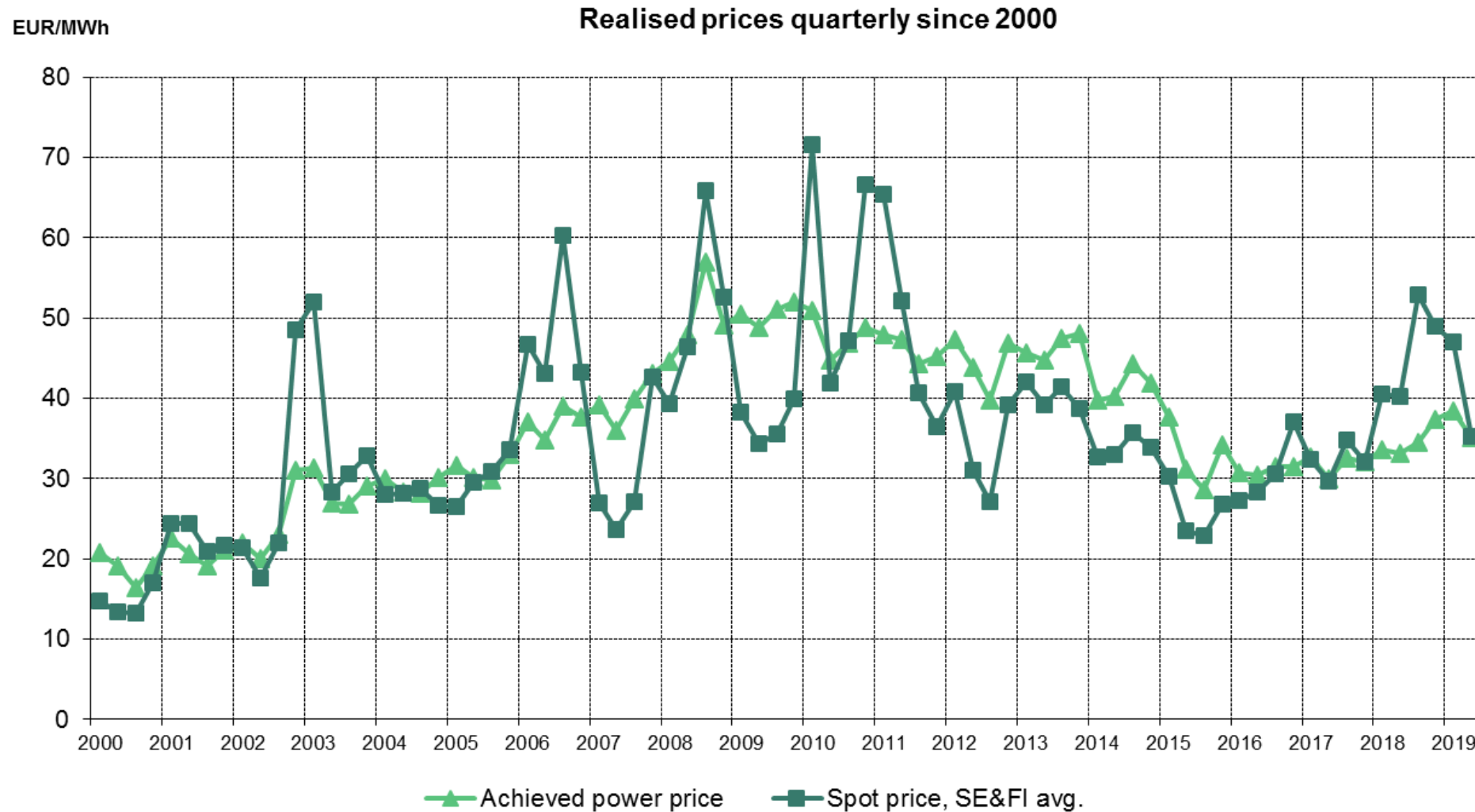
Day ahead power market prices for Urals

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

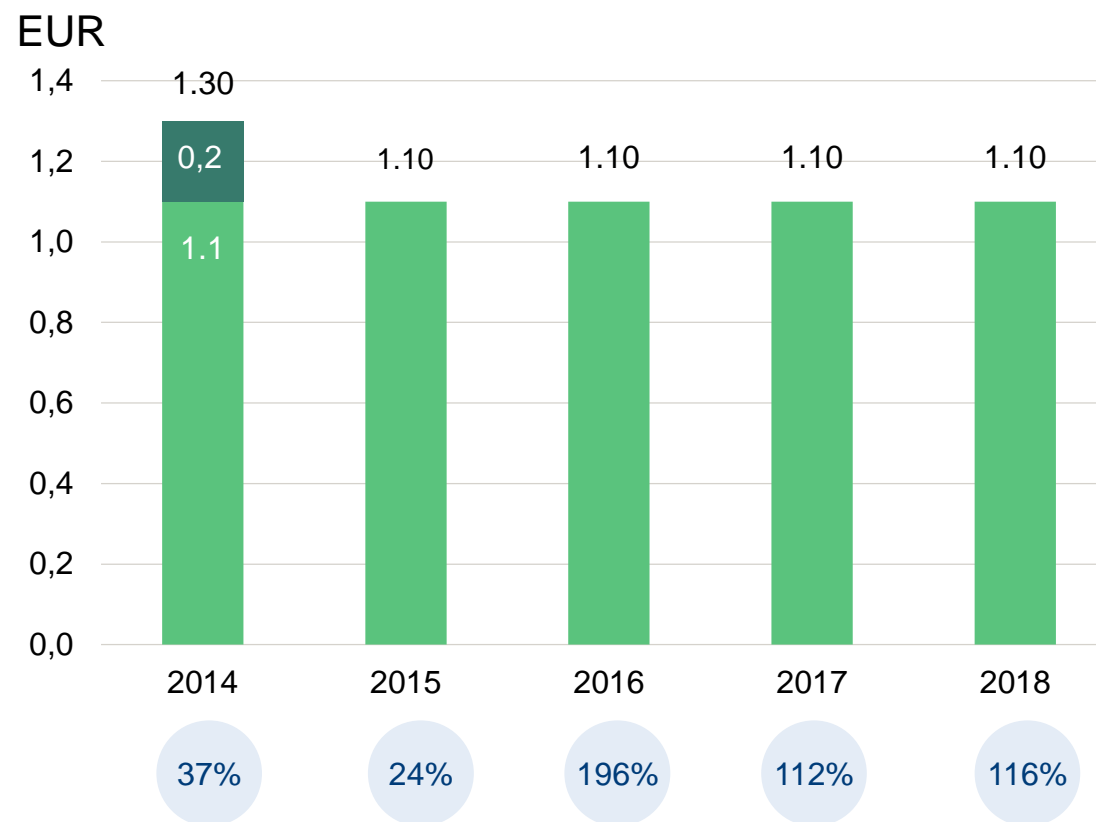
Fortum's target is to pay a stable, sustainable, and over time increasing dividend of 50-80% of earnings per share excluding one-off items

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

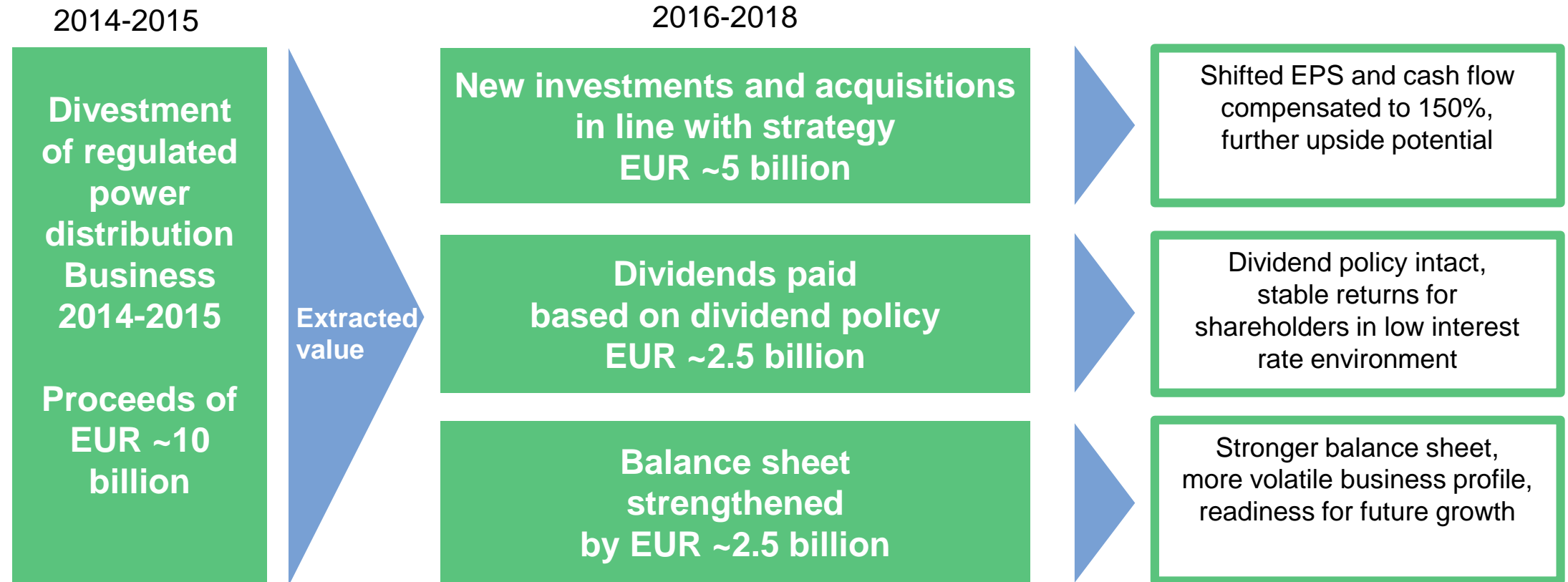
- The dividend policy ensures that shareholders receive a fair remuneration for their entrusted capital, supported by the company's long-term strategy that aims at increasing earnings per share and thereby the dividend.
- When proposing the dividend, the Board of Directors looks at a range of factors, 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



Successful strategy execution in shifting the business from regulated towards merchant based – extraction of significant value and cash flow



Rational:

- No synergies/upside
- Non-core business
- Balance sheet constraints and high capex requirements lowering cash flow
- Low interest environment with decreasing allowed returns

Funds released for future allocation while at the same time keeping dividend intact and prepare for future growth according to strategy



Next events:

Q3/2019 results on 24 October 2019

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