

A photograph of two riders on white horses galloping along a sandy beach. The riders are wearing helmets and casual riding attire. In the background, the ocean waves are breaking, and a line of wind turbines is visible on the horizon under a blue sky with scattered clouds. Tall grasses are in the foreground.

# Vattenfall H1 and Q2 Results 2020

21 July 2020

Magnus Hall, CEO  
Anna Borg, CFO



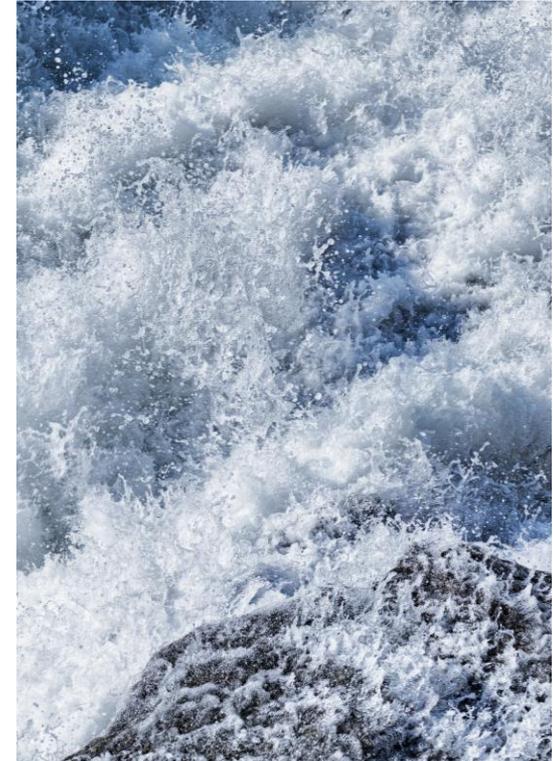
**VATTENFALL**

# Vattenfall H1 Results 2020

## Opening remarks

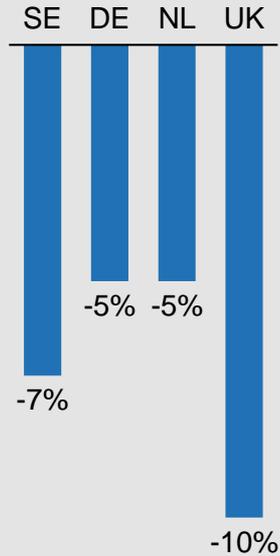
- Large impairment losses (mainly coal-fired generation) in a challenging market
  - Extreme volatility for electricity prices in the Nordics
  - Solid performance in operations, supply and service following Covid-19 outbreak
- Underlying EBIT relatively stable for the half-year - decrease by SEK 0.3 bn to SEK 13.0 bn
    - Negative impact from lower electricity prices
    - Lower nuclear generation (Ringshals 1 and 3 temp. shutdowns, closure of Ringshals 2)
    - Strong contribution from sales in Germany and the Netherlands
    - Lower operating costs in Distribution, following Storm Alfrida in 2019
    - Lower contribution from Heat (lower margins, Hemweg 8 closed, Hamburg divestment)
- Profit for the period decreased to SEK -1.6 bn, mainly as a result of impairments in the operating segments Heat (coal-fired plant Moorburg, SEK 9.1 bn) and Wind (Swedish and Danish onshore assets, SEK 1.5 bn)
- Vattenfall's President and CEO Magnus Hall has decided to leave Vattenfall. The Board of Directors will initiate the recruitment process for a successor

Post Q2



# Continued challenging market situation

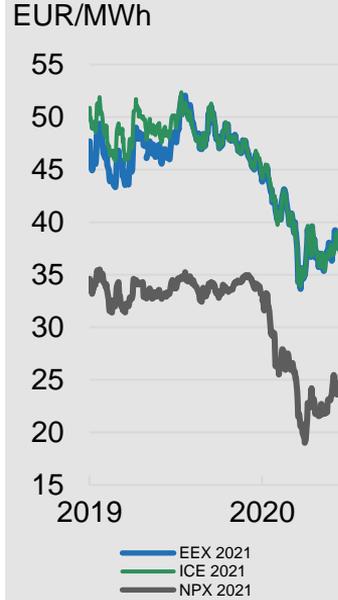
Demand in core markets in H1  
5-10% below normal level<sup>1</sup>



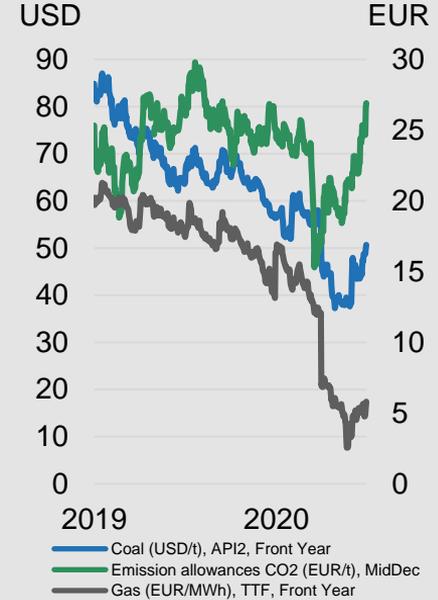
Hydrological balance above normal and low electricity spot prices in the Nordics



Electricity futures down over 30% in Nordics and 20% in Continental vs 2019 level



Steep decline in commodity prices



<sup>1</sup> Source: Wattsight. YTD deviation vs. level in a year with average demand.

# Vattenfall H1 Results 2020

## Overview

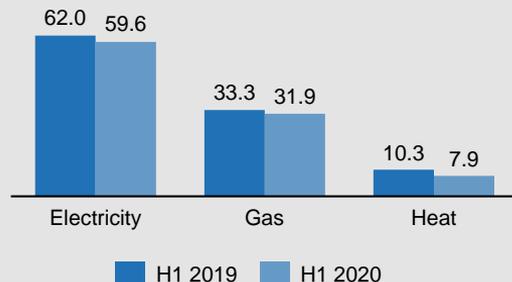
### Result development

SEK bn	H1 2020	H1 2019	Δ
Net Sales	79.4	84.2	-6%
EBITDA	25.2	20.1	+25%
Underlying operating profit (EBIT)	13.0	13.3	-2%
EBIT	5.3	11.0	-52%
Profit for the period	-1.6	7.7	-121%

### Financial targets

	H1 2020	H1 2019
Return on capital employed <sup>1</sup> (≥8%)	6.1	7.1
FFO/adjusted net debt <sup>1</sup> (22-27%)	25.5	19.2

### Customer sales (TWh)



### Electricity production (TWh)



<sup>1</sup> Last 12-month values

# Customers & Solutions

Strong sales development in Germany and continuing expansion in charging solutions for electric vehicles

## Highlights

SEK million	H1 2020	H1 2019
Net Sales	44,514	46,088
Underlying operating profit	1,407	507

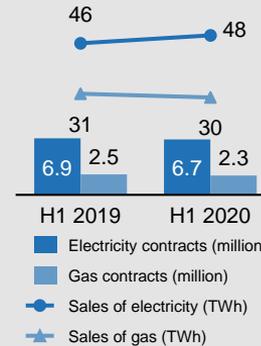
- Decrease in net sales following lower prices in the Nordics and the Netherlands as well as lower volumes on the same markets due to warmer weather and somewhat lower demand following Covid-19
- Underlying operating profit increased mainly driven by strong contribution from sales in Germany and the Netherlands. Also lower depreciation in the Netherlands
- Fewer customer contracts following iSupply divestment, whilst increase in sold TWh is driven by the French B2B market
- New partnerships within e-mobility and flexible charging solutions in the Netherlands and Sweden
- Vattenfall ranks high on sustainability according to Sustainable Brand Index

## Key data

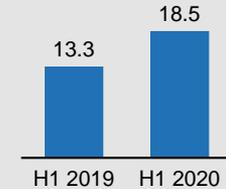
Net Promoter Score<sup>1</sup> (NPS)  
relative to peers



Retail sales development



Charging points for electric vehicles (thousand)



<sup>1</sup> The target is a positive NPS in absolute terms and +2 compared to Vattenfall's peer competitors to be achieved by 2020.

# Power Generation

Nuclear power contributing to network stability

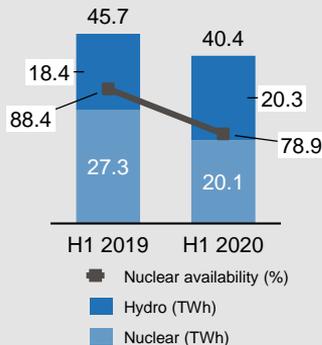
## Highlights

SEK million	H1 2020	H1 2019
Net Sales	44,411	53,096
Underlying operating profit	6,882	8,419

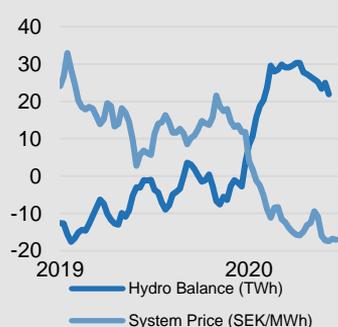
- Net sales decreased mainly due to lower prices in the Nordics, lower sales volumes and lower nuclear production
- Underlying operating profit decreased due to lower achieved prices in the Nordics as well as lower nuclear production, partly offset by higher realised trading result
- Agreement with Svenska Kraftnät (TSO) to restart production at Ringhals 1 earlier for improved network stability
- Government decision on the Swedish national plan to achieve modern environmental standards for hydro power

## Key data

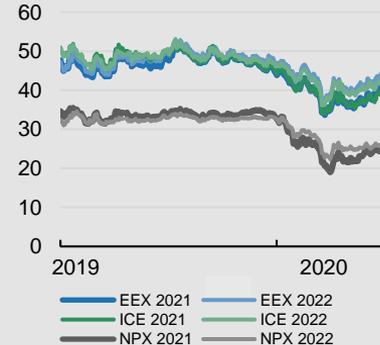
Production and availability



Nordic hydro balance and system price



Electricity futures prices (EUR/MWh)



# Wind

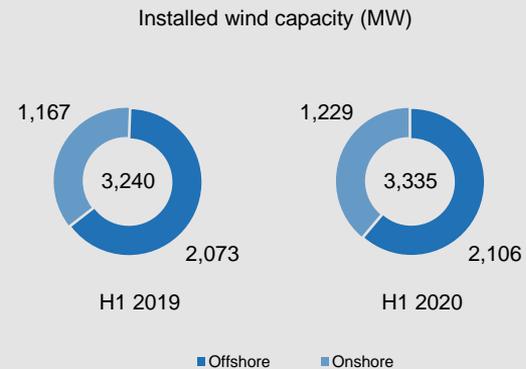
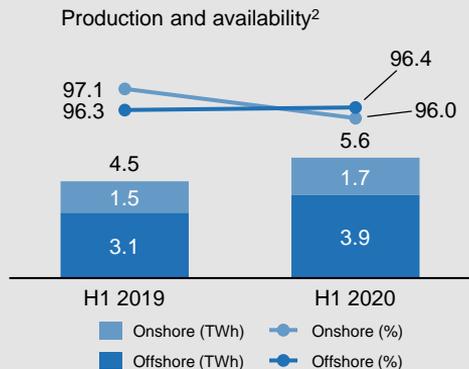
Important steps for continued growth in renewables

## Highlights

SEK million	H1 2020	H1 2019
Net Sales	6,951	6,418
Underlying operating profit	2,002	1,851

- Net sales and underlying operating profit increased as a result of additional capacity<sup>1</sup> and stronger winds in the beginning of the year. Partly countered by lower electricity prices
- Earnings in the second quarter were negatively impacted by lower wind speeds, lower electricity prices and availability
- Final investment decision for offshore windfarm Hollandse Kust Zuid 1-4 (1.5 GW) in the Netherlands
- Final investment decision and agreement of sale upon completion for the onshore windfarm South Kyle (240 MW) in Scotland
- Completion and sale of solar farm Coevorden (7 MW) in the Netherlands

## Key data



<sup>1</sup> New capacity mainly from Horns Rev 3 (407 MW)

<sup>2</sup> Revenue based availability

# Heat

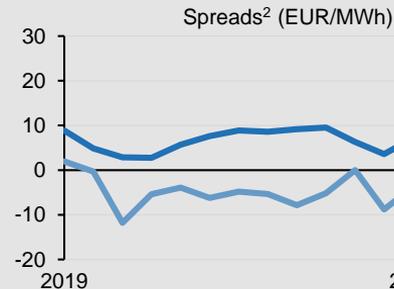
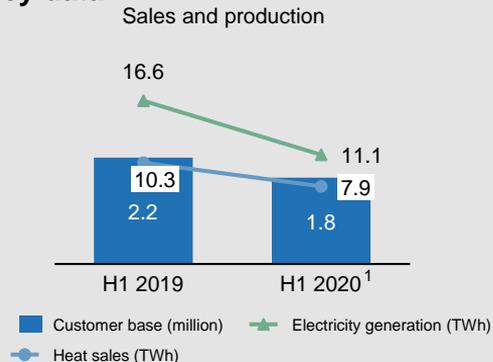
## Significant write-down of the coal-fired power plant Moorburg

### Highlights

SEK million	H1 2020	H1 2019
Net Sales	11,456	17,566
Underlying operating profit	589	1,087

- Net sales and underlying operating profit decreased mainly due to sale of district heating operations in Hamburg and the closure of Hemweg 8 (impact net sales SEK 3.0 bn, underlying operating profit SEK 0.6 bn)
- Unfavourable clean dark spreads and clean spark spreads contributed to lower electricity production
- The value of German coal-fired power plant Moorburg written down by SEK 9.1 bn
- Marzahn gas-fired heat and power plant (260 MW electricity/230 MW heat) inaugurated in Berlin. Expected to reduce CO<sub>2</sub> emissions by 240,000 tonnes annually
- Agreement to design, build and operate a new low carbon district heating network in London, covering 6,700 homes and approximately 280,000 square metres of commercial properties

### Key data



<sup>1</sup> Impacted by the sale of district heating operations in Hamburg

<sup>2</sup> CSS NL with 52% efficiency, CDS DE with 38% efficiency

# Distribution

## Lower network tariffs in Sweden and measures to counteract network capacity shortage

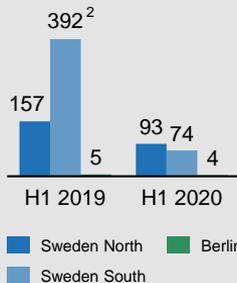
### Highlights

SEK million	H1 2020	H1 2019
Net Sales	10,928	11,546
Underlying operating profit	2,917	2,264

- Net sales decreased as higher revenues from the Swedish regional network was offset by lower volumes in local networks as well as a lower contribution from Germany
- The underlying operating profit increased due to lower operating expenses, which were elevated last year due to Storm Alfrida
- Investments increased by 29% compared to the same period last year
- The Energy Markets Inspectorate (Ei) increased the allowed WACC by 19bps to 2.35%. Outcome from legal processes still pending
- Research project with the aim of developing a flexibility market in the greater Stockholm-area initiated

### Key data

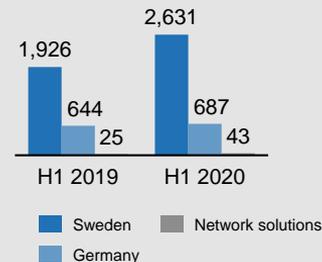
Service level (SAIDI, min)<sup>1</sup>



Customers and volumes



Investments (SEK million)



<sup>1</sup> All outages longer than 1 second in medium and low voltage networks are included  
City grid in Berlin results in lower SAIDI. Vattenfall's Swedish grid covers both urban areas and large rural areas.

<sup>2</sup> SAIDI in H1 2019 for Sweden South was driven by the storm "Alfrida"

# Financials

Anna Borg, CFO



VATTENFALL

# Vattenfall H1 Results 2020

## Financial highlights

### Key data

SEK bn	H1 2020	H1 2019
Net Sales	79.4	84.2
EBITDA	25.2	20.1
Underlying operating profit (EBIT)	13.0	13.3
EBIT	5.3	11.0
Profit for the period	-1.6	7.7
Funds from Operations (FFO)	16.7	15.8
Cash flow operating activities	7.4	-1.9
Net debt	71.6	72.5
Adjusted net debt	140.3	137.2
Adjusted net debt/EBITDA <sup>1</sup> (times)	3.0	3.7
<b>Financial targets</b>		
ROCE <sup>1</sup> (≥8%)	6.1	7.1
FFO/adjusted net debt <sup>1</sup> (22-27%)	25.5	19.2

<sup>1</sup> Last 12-month values

### Key developments

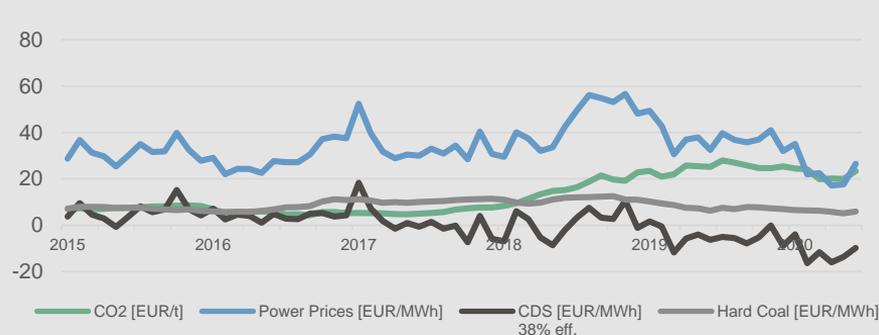
- Net sales decreased by SEK 4.8 bn to SEK 79.4 bn due to lower spot prices and lower volumes in the Nordics and the Netherlands, district heating Hamburg divestment and closure of Hemweg 8
- Underlying EBIT decreased by SEK 0.3 bn mainly due to lower achieved prices in the Nordics, lower nuclear generation and lower contribution from Heat. Offset by strong sales in Germany and the Netherlands and lower costs in Distribution (following Storm Alfrida in 2019)
- Profit for the period decreased to SEK -1.6 bn, mainly as a result of write-downs in the operating segments Heat (SEK 9.1 bn) and Wind (SEK 1.5 bn)
- ROCE was 6.1% mainly due to impairments
- FFO/Adjusted net debt increased to 25.5%, mainly as a result of higher FFO due to higher EBITDA. Main drivers were positive effects from hedging activities and lower costs in operating segment Distribution



# Impairments

Challenging market conditions for coal-fired condensing and older merchant renewable assets

Germany: Monthly average power prices, co2 price and CDS



Historic SYS and elcert price



## Moorburg (SEK 9.1 bn)

- Challenging market conditions amplified by COVID-19
- German Coal Exit law finalized in June 2020, reducing the opportunities for future hard coal condensing operations
- Coal Exit law also provides framework for future options of the Moorburg plant (biomass/gas/green H<sub>2</sub>) which we continue to develop

## Wind SE (SEK 1.2 bn), Wind DK (SEK 0.4 bn)

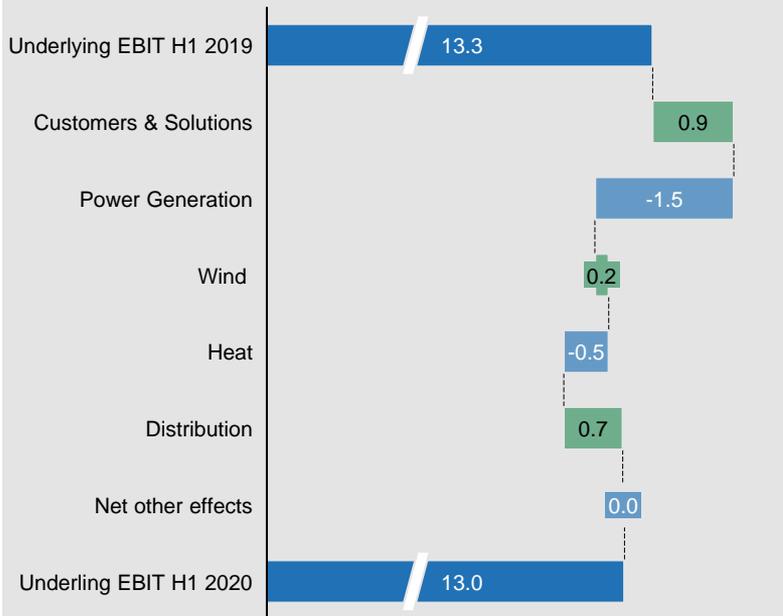
- Development in electricity and green certificate prices results in lower valuation of merchant exposed Wind assets in the Nordics
- Assets built during early part of the last decade with higher levelized energy costs (LEC)
- Technological advancements and LEC improvements during the last half-decade make current projects more competitive on merchant basis

# Development of underlying EBIT H1 2020

Increase from C&S and Distribution offset by lower earnings in Power Generation and Heat

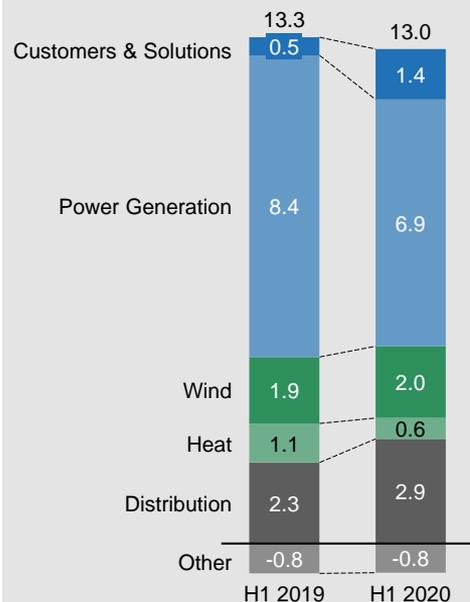
## Change in H1 2020 vs. H1 2019

SEK bn



## Breakdown per operating segment

SEK bn

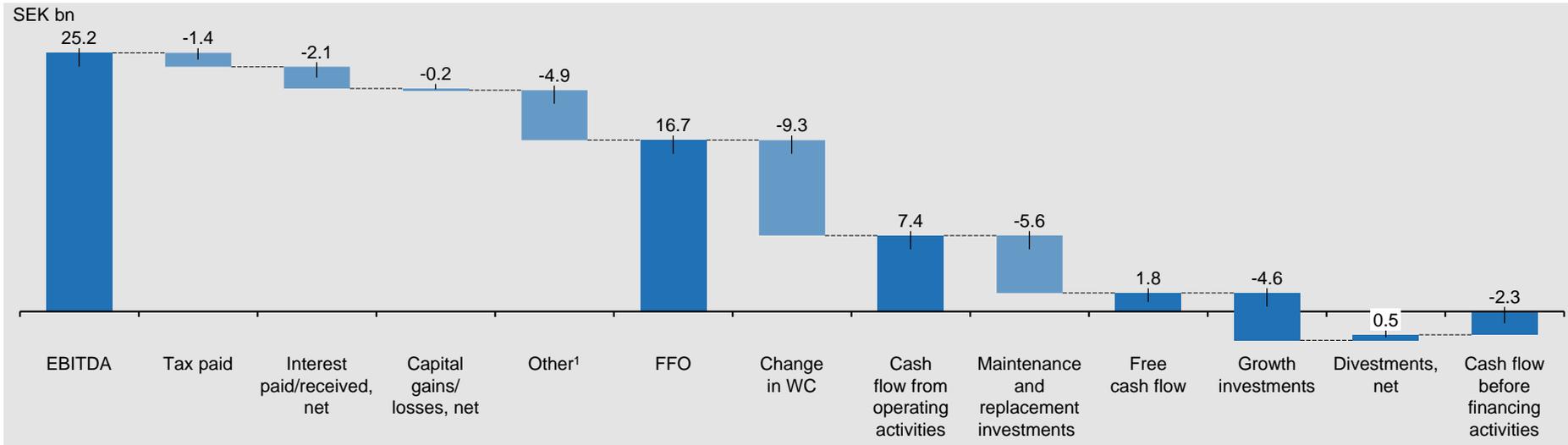


## Highlights

- Customers & Solutions: strong contribution from sales in Germany and the Netherlands. Lower depreciation in the Netherlands
- Power Generation: lower achieved prices and lower nuclear generation, partly countered by higher realised earnings from trading
- Wind: additional capacity (Horns Rev 3) countered by lower availability and lower achieved prices
- Heat: effects from sale of district heating operations in Hamburg and the closure of Hemweg 8. Unfavorable clean dark and clean spark spreads also contributed to lower electricity production.
- Distribution: lower operating costs following the Storm Alfrida in Q1 2019

# Cash flow development H1 2020

Negative working capital development mainly related to CO<sub>2</sub> emission allowances



## Main effects

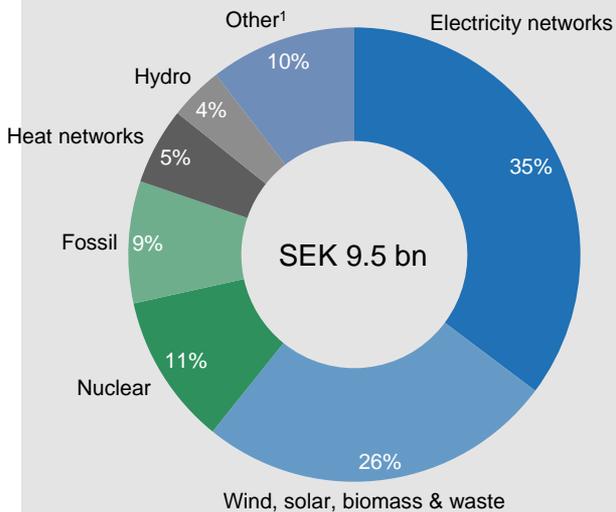
- Change in working capital mainly driven by changes related to CO<sub>2</sub> emission allowances (SEK -4.5 bn), net change in margin calls for commodity hedging activities (SEK -1.0 bn), seasonality in net change in operating receivables and liabilities in the Customers & Solutions and Heat operating segments (SEK -0.9 bn) and increased inventory (SEK -0.9 bn)
- Growth investments mainly related to wind power

<sup>1</sup> "Other" includes non-cash items included in EBITDA, mainly changes in fair value of commodity derivatives in H1 2020

# Capital expenditures

Majority of investments directed to renewables and networks

Investments per category, H1 2020



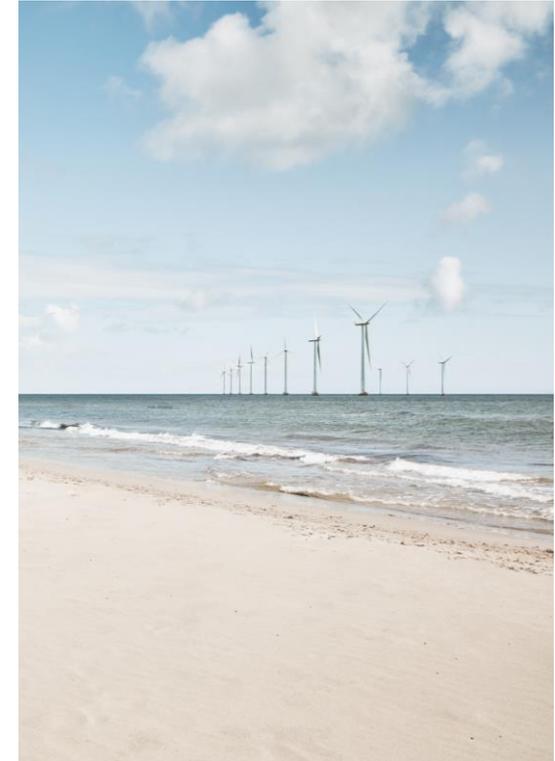
Detailed overview of investments, H1 & Q2 2020

SEK bn	H1 2020	H1 2019	Δ	Q2 2020	Q2 2019	Δ
Hydro	0.4	0.4	2%	0.2	0.2	+8%
Nuclear	1.0	1.2	-14%	0.6	0.6	-11%
Fossil	0.8	1.1	-25%	0.5	0.8	-34%
Wind, solar, biomass & waste	2.4	4.1	-41%	1.8	2.6	-29%
Electricity networks	3.4	2.6	+27%	1.9	1.6	+16%
Heat networks	0.5	0.5	+8%	0.4	0.3	+18%
Other¹	1.0	1.7	-41%	0.4	0.5	-15%
<b>Total</b>	<b>9.5</b>	<b>11.6</b>	<b>-18%</b>	<b>5.8</b>	<b>6.6</b>	<b>-12%</b>

¹ Investments mainly related to Carpe Futurum

# Overview of key figures H1 and Q2 2020

Amounts in SEK bn unless indicated otherwise	H1 2020	H1 2019	Q2 2020	Q2 2019
Net sales	79.4	84.2	31.3	34.7
EBITDA	25.2	20.1	8.3	7.5
EBIT	5.3	11.0	-7.0	2.9
Underlying operating profit (EBIT)	13.0	13.3	2.8	3.6
Profit for the period	-1.6	7.7	-8.5	1.3
Electricity generation (TWh)	57.1	66.8	24.1	30.9
Sales of electricity (TWh)	82.1	87.8	36.7	42.4
- of which, customer sales (TWh)	59.6	62.0	26.8	29.7
Sales of heat (TWh)	7.9	10.3	2.5	3.1
Sales of gas (TWh)	31.9	33.3	9.3	9.0
Return on capital employed <sup>1</sup> (≥8%)	6.1	7.1	6.1	7.1
FFO/adjusted net debt <sup>1</sup> (22-27%)	25.5	19.2	25.5	19.2



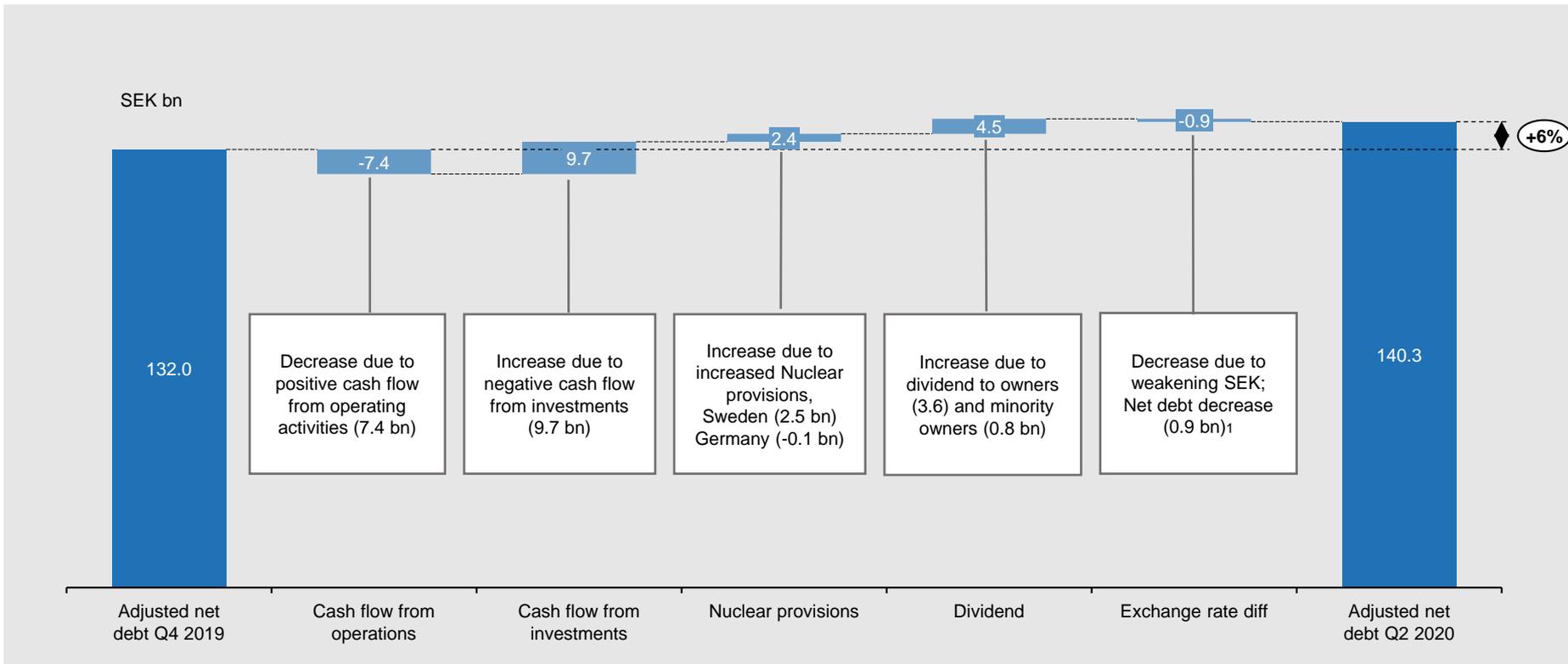
<sup>1</sup> Last 12-month values

# Appendix



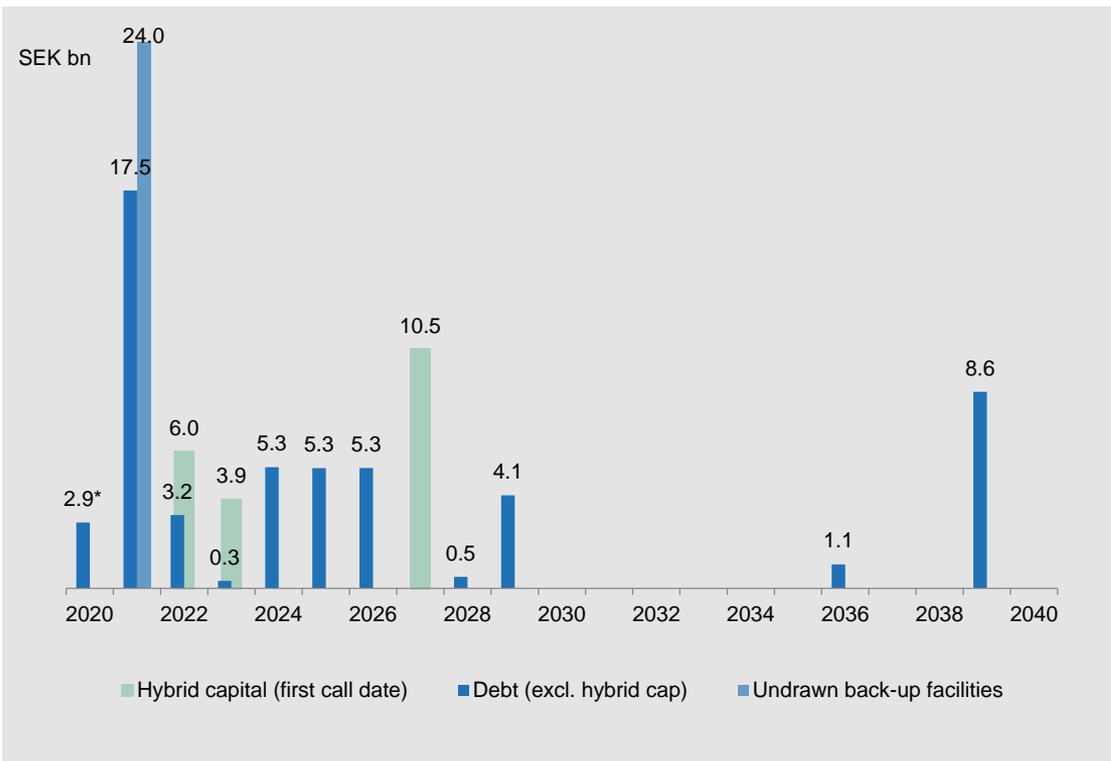
# Development of adjusted net debt YTD 2020

Adjusted net debt increase mainly due negative cashflow after investments, dividends and nuclear provisions.



<sup>1</sup> SEK weakened against EUR (from 10.45 to 10.49); translation of EUR denominated net debt into SEK leads to increase in Adjusted net debt

# Debt maturity profile<sup>1</sup>



\* Short term debt are excluded (Repo, ECP and SCP) (20,0) <sup>1</sup> Commercial paper (ECP) Loans from associated companies, minority owners, margin calls received (CSA) and valuation at fair value are excluded and currency derivatives for hedging debt in foreign currency are included

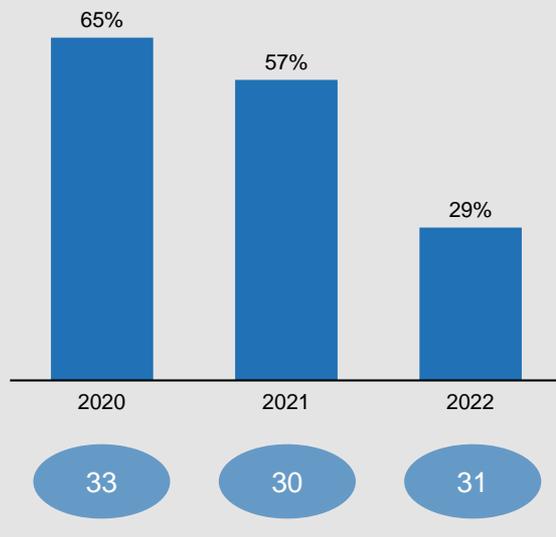
	30 Jun. 2020	31 Dec. 2019
Duration (years)	4.3	4.7
Average time to maturity (years)	5.5	6.8
Average interest rate (%)	3.4	4.0
Net debt (SEK bn)	71.6	64.3
Available group liquidity (MSEK)	38.4	29.3
Undrawn committed credit facilities (MSEK)	24.0	21.4

Cumulative maturities excl. undrawn back-up facilities			
	2020-2022	2023-2025	From 2026
Debt incl. hybrid capital	29.6	20.1	24.8
<i>% of total</i>	40%	27%	33%

# Price hedging

Vattenfall continuously hedges its future electricity generation through sales in the forward and futures markets. Spot prices therefore have only a limited impact on Vattenfall's earnings in the near term

Estimated Nordic<sup>1</sup> hedge ratio (%) and indicative prices



Achieved prices<sup>2</sup> - Nordic portfolio

YTD 2020	YTD 2019	Q2 2020	Q2 2019	FY 2019
28	32	30	28	32

Sensitivity analysis – Continental<sup>3</sup> portfolio

Market quoted	+/- 10% price impact on future profit before tax, MSEK <sup>4</sup>			Observed yearly volatility
	2021	2022	2023	
Electricity	+/- 951	+/- 1,261	+/- 1,436	17% - 23%
Coal	-/+ 77	-/+ 93	-/+ 122	16% - 19%
Gas	-/+ 332	-/+ 587	-/+ 690	17% - 23%
CO <sub>2</sub>	-/+ 278	-/+ 358	-/+ 412	44% - 46%

<sup>1</sup> Nordic: SE, DK, NO, FI

<sup>2</sup> Achieved prices from the spot market and hedges. Includes Nordic (SE, DK, FI) hydro, nuclear and wind power generation



<sup>3</sup> Continental: DE, NL, UK.

<sup>4</sup> The denotation +/- entails that a higher price affects operating profit favorably, and +/- vice versa

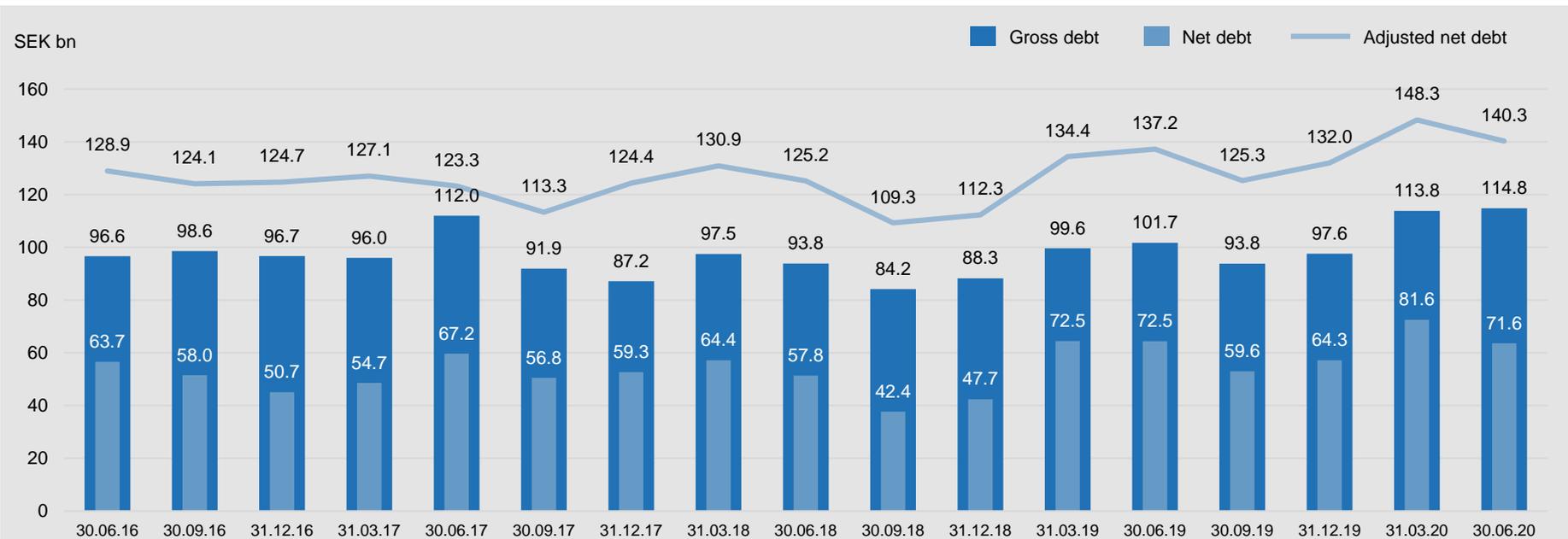
# Liquidity position

<b>Group liquidity</b>	<b>SEK bn</b>	<b>Committed credit facilities</b>	<b>Facility size, EUR bn</b>	<b>SEK bn</b>
Cash and cash equivalents	19.8	RCF (maturity Dec 2021)	2.0	21.0
Short term investments	22.8	RCF (maturity Jul 2021)		3.0
<b>Reported cash, cash equivalents &amp; short term investments</b>	<b>42.6</b>	<b>Total undrawn</b>		<b>24.0</b>
		<b>Debt maturities<sup>2</sup></b>		<b>SEK bn</b>
Unavailable liquidity <sup>1</sup>	-4.3	Within 90 days		0.4
<b>Available liquidity</b>	<b>38.4</b>	Within 180 days		2.9

<sup>1</sup> German nuclear "Solidarvereinbarung" 1.0 SEK bn, Margin calls paid (CSA) 2.4 SEK bn, Insurance "Provisions for claims outstanding" 0.8 SEK bn

<sup>2</sup> Excluding loans from minority owners and associated companies

# Debt development

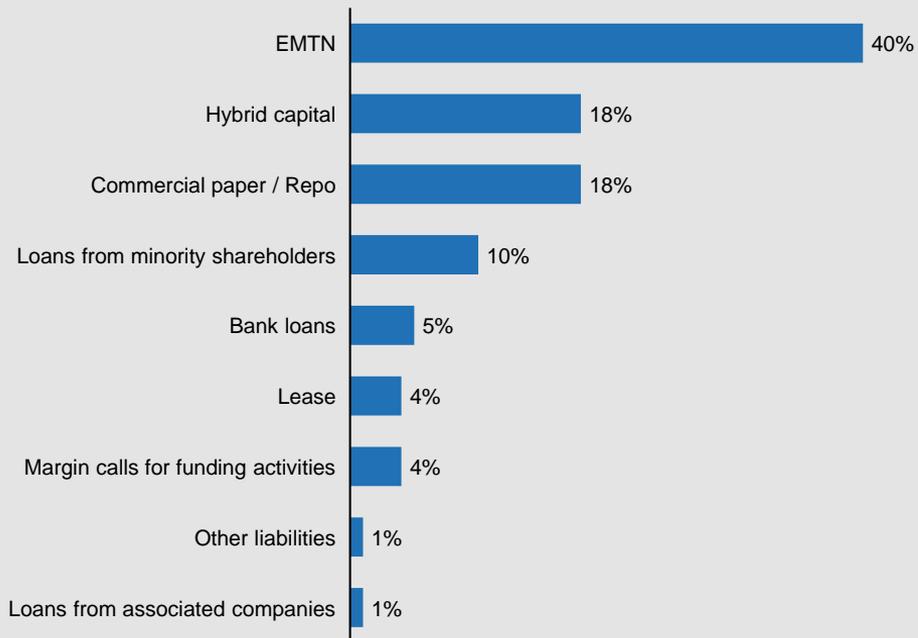


Net debt increased by SEK 7.3 bn compared with the level at 31 December 2019. Adjusted net debt increased to SEK 140.3 bn, SEK 8.3 bn higher compared with the level at 31 December 2019. For the calculation of adjusted net debt, see slide 23.

# Breakdown of gross debt

Total debt: SEK 114.8 bn (EUR 10.9 bn)

External market debt: SEK 103.1 bn (EUR 9.8 bn)



Debt issuing programmes	Size (EUR bn)	Utilization (EUR bn)
EUR 10bn Euro MTN	10.0	7.8
EUR 4bn Euro CP	4.0	1.7
Total	14.0	9.5

- All public debt is issued by Vattenfall AB
- The main part of debt portfolio has no currency exposure that has an impact on the income statement. Debt in foreign currency is either swapped to SEK or booked as hedge against net foreign investments.
- No structural subordination

<sup>1</sup> EMTN= Euro Medium Term Notes

# Reported and adjusted net debt

Reported net debt (SEK bn)	30 Jun. 2020	31 Dec. 2019	Adjusted net debt (SEK bn)	30 Jun. 2020	31 Dec. 2019
Hybrid capital	-20.2	-20.2	Total interest-bearing liabilities	<b>-114.8</b>	<b>-97.6</b>
Bond issues and liabilities to credit institutions	-51.9	-38.8	50% of Hybrid capital	10.1	10.1
Commercial papers and Repos	-20.2	-17.2	Present value of pension obligations	-43.2	-44.0
Liabilities to associated companies	-0.7	-0.7	Wind & other environmental provisions	-8.8	-8.6
Liabilities to minority shareholders	-11.0	-10.6	Provisions for nuclear power (net)	-37.9	-35.5
Lease liabilities	-4.4	-4.6	Margin calls received for funding activities	4.8	3.7
Other liabilities, incl. margin calls for funding activities	-6.3	-5.2	Liabilities to minority owners due to consortium agreements	11.0	10.6
<b>Total interest-bearing liabilities</b>	<b>-114.8</b>	<b>-97.6</b>	<b>= Adjusted gross debt</b>	<b>-178.7</b>	<b>-161.3</b>
Reported cash, cash equivalents & short-term investments	42.6	33.2	Reported cash, cash equivalents & short-term investments	42.6	33.2
Loans to minority owners of foreign subsidiaries	0.5	0.2	Unavailable liquidity	-4.3	-3.9
<b>Net debt</b>	<b>-71.6</b>	<b>-64.3</b>	<b>= Adjusted cash, cash equivalents &amp; short-term investments</b>	<b>38.4</b>	<b>29.3</b>
			<b>= Adjusted net debt</b>	<b>-140.3</b>	<b>-132.0</b>

# Nuclear provisions

Reactor	Net capacity (MW)	Start (year)	Vattenfall share (%)	Vattenfall provisions, SEK bn (IFRS accounting)	Vattenfall provisions, SEK bn (pro rata)	Sw nuclear waste fund SEK bn (Vattenfall pro rata share)
Ringhals 1	879	1976	70.4			
Ringhals 2	809	1975	70.4			
Ringhals 3	1,070	1981	70.4			
Ringhals 4	942	1983	70.4	<b>Total Ringhals: 35.5</b>	<b>Total Ringhals: 35.5<sup>1</sup></b>	
Forsmark 1	984	1980	66.0			
Forsmark 2	1,120	1981	66.0			
Forsmark 3	1,170	1985	66.0	<b>Total Forsmark: 31.3</b>	<b>Total Forsmark: 20.6</b>	
<b>Total Sweden</b>	<b>6,974</b>	<b>-</b>		<b>69.6<sup>2</sup></b>	<b>57.4<sup>2</sup></b>	<b>38.9<sup>3</sup></b>
Brunsbüttel	771	1977	66.7	12.0	8.0	
Brokdorf	1,410	1986	20.0	0	3.5	
Krümmel	1,346	1984	50.0	7.6	7.6	
Stade <sup>4</sup>	640	1972	33.3	0	0.9	
<b>Total Germany</b>	<b>4,167</b>	<b>-</b>	<b>-</b>	<b>19.6</b>	<b>20.0</b>	
<b>Total SE &amp; DE</b>	<b>11,141</b>			<b>89.2</b>	<b>77.4</b>	

<sup>1</sup> Vattenfall is 100% liability of Ringhals decommissioning, while owning only 70.4%

<sup>2</sup> Total provisions in Sweden (IFRS accounting) include provisions of SEK 0.5 bn (pro rata SEK 0.3 bn considering share in Studsviksfonden) related to Ågesta, and SEK 2.3 bn (pro rata SEK 1.0 bn considering share in Studsviksfonden) related to SVAFO

<sup>3</sup> Vattenfall's share of the Nuclear Waste Fund. IFRS consolidated value is SEK 46.2 bn.

<sup>4</sup> Stade is being dismantled

# Impairment history 2009 – 2020

SEK bn		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
The Netherlands	Thermal assets		4.3 <sup>1</sup>	0.4 <sup>2</sup>	8.6 <sup>2</sup>	14.7	2.6		2.8			0.7		34.1
	Trading					6.5 <sup>1</sup>	10.0 <sup>1</sup>		0.7					17.2
	Other	1.2	1.2			1.5 <sup>2</sup>	1.9				0.1	0.2		6.1
Germany	Thermal assets			0.3		4.3	5.7	19.2	26.1			0.1	9.1	64.8
	Nuclear assets			10.5										10.5
	Transmission		5.1											5.1
	Other					0.1	1.1	0.3	2.3	0.4			1.2	5.4
The Nordic Countries	Renewable assets						1.4		0.1			0.2	1.5	3.2
	Thermal assets	4.1				3.0		0.1						7.2
	Nuclear assets							17.0	0.4					17.4
	Other								0.3					0.3
UK	Renewable assets						1.1	0.2				0.1		1.4
	Other											0.1		0.1
Not allocated		0.2	0.5	0.1										0.8
Impairment Liberia					1.3									1.3
Impairments; shares in Enea S.A. Poland					2.4									2.4
Impairments; shares in Brokdorf and Stade									1.1					1.1
<b>Impairments</b>		<b>5.5</b>	<b>11.1</b>	<b>11.3</b>	<b>12.3</b>	<b>30.1</b>	<b>23.8</b>	<b>36.8</b>	<b>33.8</b>	<b>0.4</b>	<b>0.1</b>	<b>1.5</b>	<b>11.8</b>	<b>178.5</b>
Reversed impairment losses		-1.3	-1.3	-0.4	0.0	0.0	0.0	-0.5	-0.9	0.0	0.0	0.0	0.0	-4.4
<b>Impairments (net)</b>		<b>4.2</b>	<b>9.8</b>	<b>10.9</b>	<b>12.3</b>	<b>30.1</b>	<b>23.8</b>	<b>36.3</b>	<b>32.9</b>	<b>0.4</b>	<b>0.1</b>	<b>1.5</b>	<b>10.6</b>	<b>174.1</b>

<sup>1</sup> Impairment of goodwill

<sup>2</sup> Impairment of assets and goodwill

# Wind & Solar - Installed capacity (MW<sup>1</sup>) Q2 2020

	Solar	Onshore	Offshore	Total
United Kingdom	5	391	687	1.083
Denmark	0	237	565	802
The Netherlands	29	348	108	485
Sweden	0	234	110	345
Germany	3	19	636	658
<b>Total (MW)</b>	<b>37</b>	<b>1.229</b>	<b>2.106</b>	<b>3.372</b>



## United Kingdom – ROC scheme

■ Thanet	300
■ Ormonde (51%)	150
■ Aberdeen	97
■ Kentish Flats	90
■ Kentish Flats Extension	50
■ Pen Y Cymoedd	228
■ Ray	54
■ Edinbane	41
■ Clashindarroch	37
■ Swinford	22
■ Parc Cynog	4
■ PV@Cynog	5
■ Pendine	5

**Installed capacity (MW) 1.083**

## Sweden – certificate scheme

■ Lillgrund	110
■ Stor-Rotliden	78
■ Högabjär-Kärsås (50%)	38
■ Höge Våg (50%)	37
■ Hjuleberg (50%)	36
■ Juktan (50%)	29
■ Östra Herrestad	16

**Installed capacity (MW) 345**

## Denmark – FIT scheme

■ Horns Rev 1 (60%)	158
■ Horns Rev 3	407
■ Klim (98%)	67
■ Nørrekær Enge 1 (99%)	30
■ Rejsby Hede	23
■ Hagesholm	23
■ Nørre Økse Sø	17
■ Tjæreborg Enge	17
■ Hollandsbjerg	17
■ Bajlum (89%)	15
■ DræbyFed	9
■ Ryå	8
■ Ejsing (97%)	7
■ Lyngmose	5

**Installed capacity (MW) 802**

## Germany – EEG scheme

■ DanTysk (51%)	288
■ Sandbank (51%)	288
■ alpha ventus (26%)	60
■ Jänschwalde	12
■ Westküste (20%)	7
■ Decentral Solar installations	3

**Installed capacity (MW) 658**

## The Netherlands – MEP/SDE(+)

■ NoordzeeWind (50%)	108
■ Princess Alexia	122
■ Wieringermeer	108
■ Slufterdam	29
■ Eemmeerdiik	17
■ Irene Vorrink	17
■ Hoofdplaatpolder (70%)	10
■ Reyndersweg (50%)	9
■ Echteld	8
■ Coevorden	7
■ De Bjirmen	6
■ Oom Kees (12%)	6
■ Oudendijk	5
■ Mariapolder	5
■ Hiddum Houw	4
■ Eemshaven	6
■ Velsen	2
■ Enkhuizen	2
■ Hemweg	2
■ Decentral Solar installations	12

**Installed capacity (MW) 485**

<sup>1</sup> Capacity in operation: total capacity of the wind farms that Vattenfall has an ownership in. Minor shares included as 100%

# Main renewables projects in our 5 core countries

Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
DK	Kriegers Flak	605	FIT	X	50.000hrs	100	2021	Under construction
NL	Hollandse Kust Zuid 1-4	1 520	-	X	-	100	2022/2023	FID taken and main contracts signed
UK	Norfolk projects	3 600	CfD		15 yrs	100	2027-2029	Vanguard positive consent achieved 1st July; Boreas DCO Examination extended until Oct-20
DK	Vesterhav	344	FIT	X	50.000hrs	100	2024	Geotechnical Site Investigation Offshore finalized. Environmental Impact Assessment reports are up for public hearing.
DK	Thanet Extension	~340	CfD		15 yrs	100	2024	Consent refused by BEIS, feasibility study for a smaller wind park initiated
NL	Wieringermeer	185	SDE+	X	15 yrs	100	2019/2020	All WTG erected, first revenues
NL	Wieringermeer ext.	118	SDE+	X	15 yrs	100	2020	Commissioning ongoing
NL	Moerdijk	27	SDE+	X	15 yrs	100	2021	Under construction
NL	Haringvliet	22	SDE+	X	15 yrs	100	2020	Under construction
NL	Nieuwe Hemweg	19	SDE+	X	15 yrs	100	2021	Under construction
UK	South Kyle	240	-	N/A	-	100	2022/2023	Under construction
NL	Jaap Rodenburg	38	SDE+	X	15 yrs	100	2021	Under construction
SE	Blakliden + Fäbodberget	353	Certs	N/A	-	30	2022	Under construction
NL	Haringvliet	38	SDE+	X	15 yrs	100	2020	Under construction
NL	Haringvliet	12	FCR*			100	2020	Under construction
<b>Total &gt;7 GW</b>								

	Offshore
	Onshore
	Solar
	Batteries

FCR - Frequency Response Regulation