

A group of children are running across a grassy hill, their hair blowing in the wind. In the background, a city with various buildings and a red-tiled roof is visible under a hazy sky. The children are running from left to right, and a black dog is also running with them.

Vattenfall Q1 Results 2019

25 April 2019

Magnus Hall, CEO
Anna Borg, CFO



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Vattenfall Q1 Results 2019

Opening remarks

- Good contribution from fossil-free energy sources (nuclear, hydro, wind), but earnings weighed down by the extreme storm “Alfrida” in Sweden
- Underlying EBIT increased by SEK 0.3 bn to SEK 9.7 bn - positive price effects and strong trading results counterbalanced by costs for the storm
- Profit for the period increased by SEK 2.3 bn to SEK 6.4 bn - mainly owing to changed market value of assets in the Swedish Nuclear Waste Fund
- Renewable growth adding volumes and profitability, 176 MW commissioned in Q1, and participating in large tenders in the Netherlands and France
- Increased sourcing costs for sales business. Strong customer growth in Germany
- Not awarded renewed concession rights for electricity grid in Berlin. Vattenfall has filed a complaint to the Senate of Berlin
- Decision for early phase-out of a coal-fired generation plant in the Netherlands
- Acquisition of Dutch sales company DELTA Energie



Vattenfall Q1 Results 2019

Overview

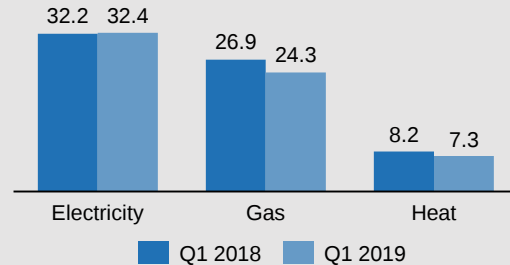
Result development

SEK bn	Q1 2019	Q1 2018	Δ
Net Sales	49.6	43.9	+13%
EBITDA	12.6	10.9	+15%
Underlying operating profit (EBIT)	9.7	9.4	+3%
EBIT	8.2	7.0	+17%
Profit for the period	6.4	4.2	+54%

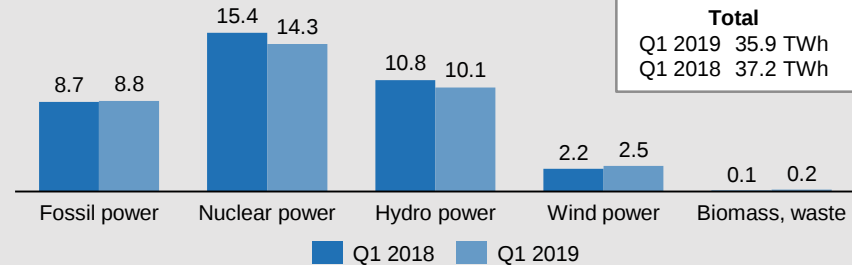
Financial targets

	Q1 2019	Q1 2018
Return on capital employed ¹ (≥8%)	7.1	7.8
FFO/adjusted net debt ¹ (22-27%)	18.1	20.7

Customer sales (TWh)



Electricity production (TWh)



¹ Last 12-month values

Customers & Solutions

Higher purchasing costs impacting margins in an upward market

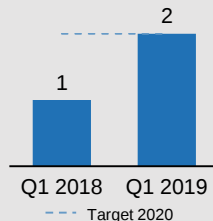
Highlights

SEK million	Q1 2019	Q1 2018
Net Sales	26,687	24,430
Underlying operating profit	397	1,009

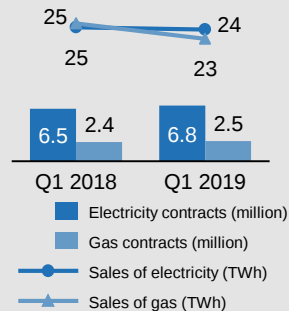
- Increase in net sales supported by positive price effects, particularly in the Nordics. An increased customer base in Germany also contributed positively
- Decrease in underlying operating profit mainly due to higher purchasing costs for electricity. Will be compensated by price increases
- Focused and intensifying work on cost-savings in all markets
- Acquisition of the Dutch electricity and gas sales company DELTA Energie B.V.
- Expansion of the e-mobility charging network InCharge to Norway
- Continued competitive pressure in the UK, although slight recovery in customer base

Key data

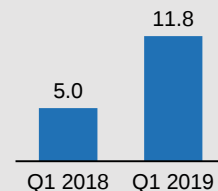
Net Promoter Score¹ (NPS)
relative to peers



Retail sales development



Charging points for electric vehicles (thousand)



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

Power Generation

Higher prices and a strong trading result contributed positively

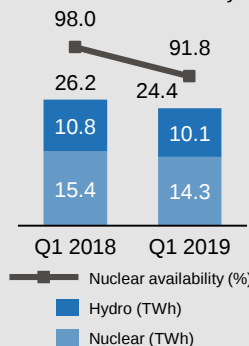
Highlights

SEK million	Q1 2019	Q1 2018
Net Sales	34,479	26,886
Underlying operating profit	5,438	3,817

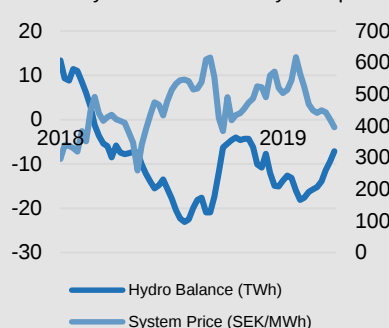
- Net sales increased due to higher electricity prices, higher sales of electricity and gas, as well as positive currency effects
- Underlying operating profit increased mainly due to higher prices achieved in the Nordic countries and higher realised earnings contribution from the trading operations
- Lower production partially due to lower production at Ringhals 2 where a generator is being replaced
- Acquisition of Senfal, a Dutch energy services company

Key data

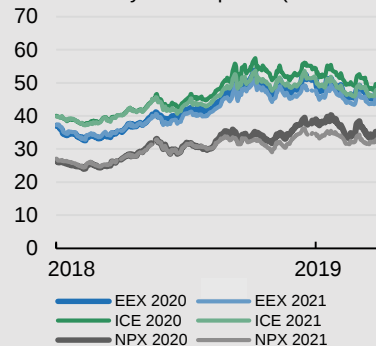
Production and availability



Nordic hydro balance and system price



Electricity futures prices (EUR/MWh)



Wind

Continued strong earnings development and expansion within wind and solar power

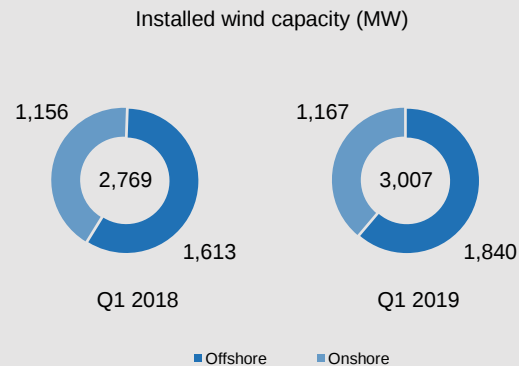
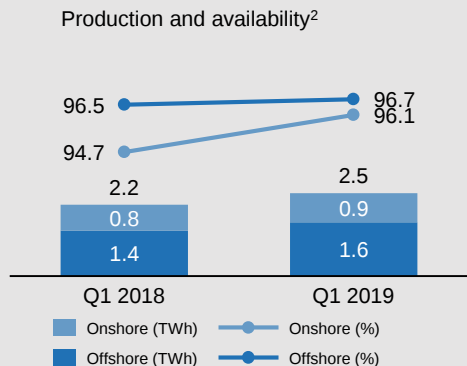
Highlights

SEK million	Q1 2019	Q1 2018
Net Sales	3,657	2,963
Underlying operating profit	1,486	1,041

- Net sales and underlying operating profit increased as a result of additional capacity¹ and positive price effects
- Submission of two offshore wind bids, Hollandse Kust Zuid 3 & 4 (750 MW) in the Netherlands and Dunkirk (400-600 MW) in France
- Inauguration of the onshore wind farm Slufterdam in the Netherlands (29 MW) and partial commissioning of the offshore wind farm Horns Rev 3 in Denmark (141 MW of 407 MW)
- Inauguration of Vattenfall's largest solar farm to date, located in Eemshaven in the Netherlands (5.7 MW)

¹ In addition to Slufterdam and partial commissioning of Horns Rev 3, Vattenfall's latest capacity additions include Aberdeen Bay (97 MW)
² Change of definition to revenue based availability in 2019. Preliminary availability numbers for Q1 2019

Key data



Heat

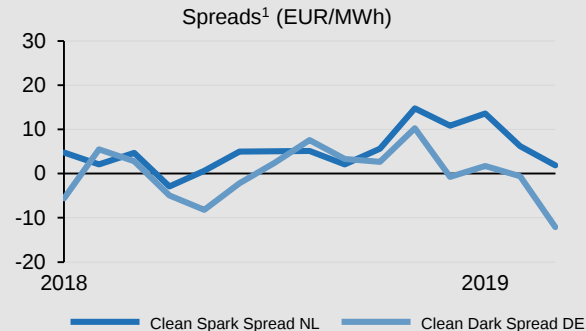
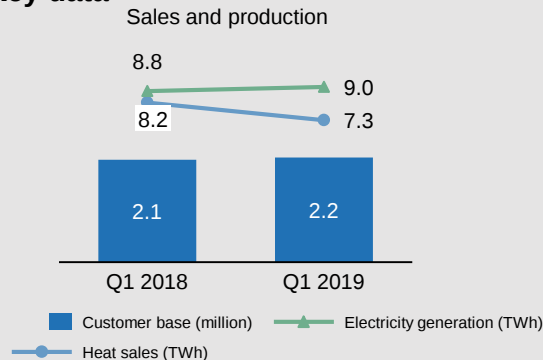
Continued efforts for reduced CO₂ emissions

Highlights

SEK million	Q1 2019	Q1 2018
Net Sales	10,537	9,654
Underlying operating profit	1,530	1,557

- Net sales increased mainly as a result of higher electricity prices and availability for condensing fleet
- Underlying operating profit unchanged as a result of higher fuel costs and higher operating expenses
- Hemweg 8 in the Netherlands to close down by the end of 2019, five years earlier than recently planned
- Investment in a district heating project in Amsterdam as part of a cooperation with the waste processing company AEB Amsterdam
- Coal commission recommends 2038 as final year for coal-fired power generation in Germany

Key data



¹ CSS NL with 50% efficiency, CDS DE with 38% efficiency

Distribution

Earnings were negatively impacted by the storm Alfrida and lower volumes

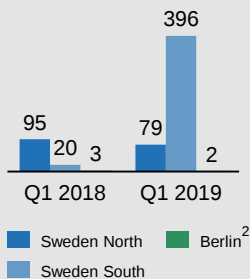
Highlights

SEK million	Q1 2019	Q1 2018
Net Sales	6,132	6,274
Underlying operating profit	1,267	2,286

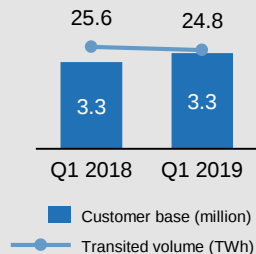
- Net sales decreased, mainly explained by a lower distributed volume due to warmer weather
- Underlying operating profit decreased as a result of lower net sales and costs for the storm “Alfrida” which by the end of the quarter amounted to ~SEK 850 mn (~50% outage compensation and ~50% repair costs)
- Positive verdict on carrying forward uncollected revenues in Sweden 2012-2015. A government bill might change the situation
- Concession for the electricity grid in Berlin awarded to Berlin Energie. Vattenfall has filed a complaint to the Senate of Berlin
- Vattenfall Networks awarded its first three contracts in the UK

Key data

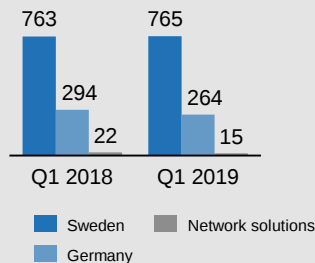
Service level (SAIDI, min)¹



Customers and volumes



Investments (SEK mn)



¹ City grid in Berlin results in lower SAIDI. Vattenfall's Swedish grid covers both urban areas and large rural areas. In Q1, 367 minutes for Sweden South related to the storm “Alfrida”

² All outages longer than 1 second in medium and low voltage networks are included

Financials

Anna Borg, CFO



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Vattenfall Q1 Results 2019

Financial highlights

Key data

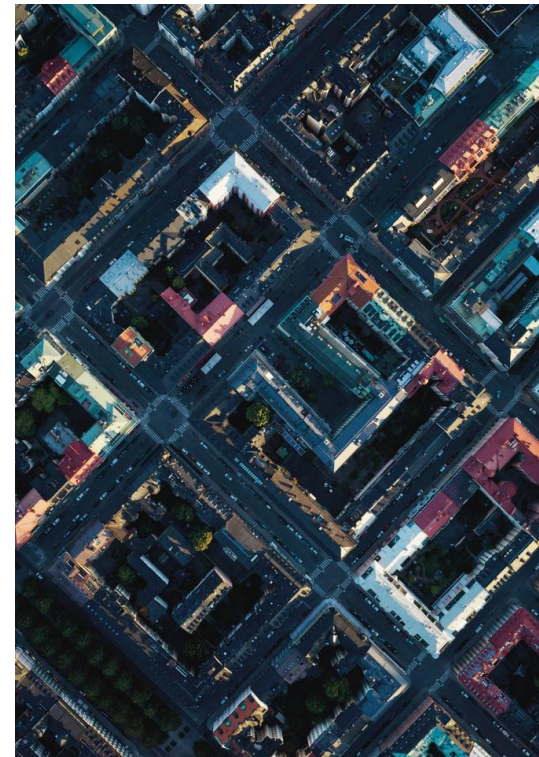
SEK bn	Q1 2019	Q1 2018
Net Sales	49.6	43.9
EBITDA	12.6	10.9
Underlying operating profit (EBIT)	9.7	9.4
EBIT	8.2	7.0
Profit for the period	6.4	4.2
Funds from Operations (FFO)	9.8	8.8
Cash flow operating activities	-11.0	1.3
Net debt	72.5	64.4
Adjusted net debt	134.4	130.9
Adjusted net debt/EBITDA ¹ (times)	3.7	3.7

Financial targets

ROCE ¹ (≥8%)	7.1	7.8
FFO/adjusted net debt ¹ (22-27%)	18.1	20.7

Key developments

- Net sales increased by SEK 5.7 bn to SEK 49.6 bn mainly attributable to higher spot prices and increased sales in the Nordics, Germany and the Netherlands
- Underlying EBIT increased by SEK 0.3 bn mainly due to positive price effects in generation units and a growing wind portfolio that was offset by lower production in nuclear, hydro and heat. Costs related to the storm "Alfrida" in Sweden also had a negative impact
- Profit for the period increased by SEK 2.3 bn to SEK 6.4 bn due to larger negative one-off items in Q1 2018 and higher fair value of the Swedish Nuclear Waste Fund in Q1 2019
- ROCE at 7.1% mainly as a result of an increase in capital employed and a lower underlying operating profit last twelve months
- FFO/Adjusted net debt decreased to 18.1%, mainly as a result of a decrease in FFO (primarily Heat, Customers & Solutions and Distribution last twelve months) combined with increased Adjusted Net Debt impacted primarily by IFRS 16 "Leases"



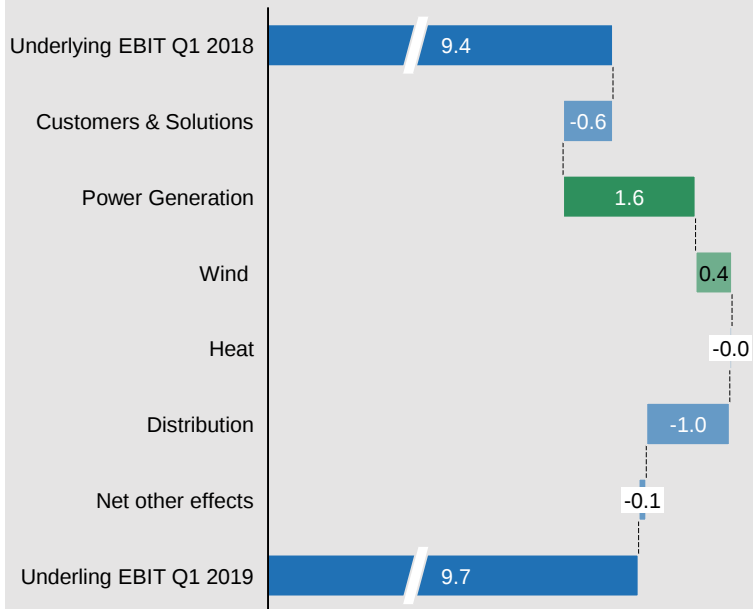
¹ Last 12-month values

Development of underlying EBIT Q1 2019

Higher achieved prices in the Nordics and higher realised contribution from the trading operations. Increased costs related to the storm “Alfrida” in Sweden

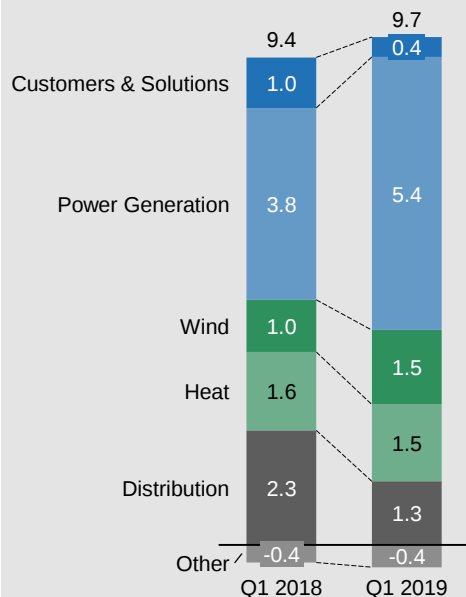
Change in Q1 2019 vs. Q1 2018

SEK bn



Breakdown per operating segment

SEK bn

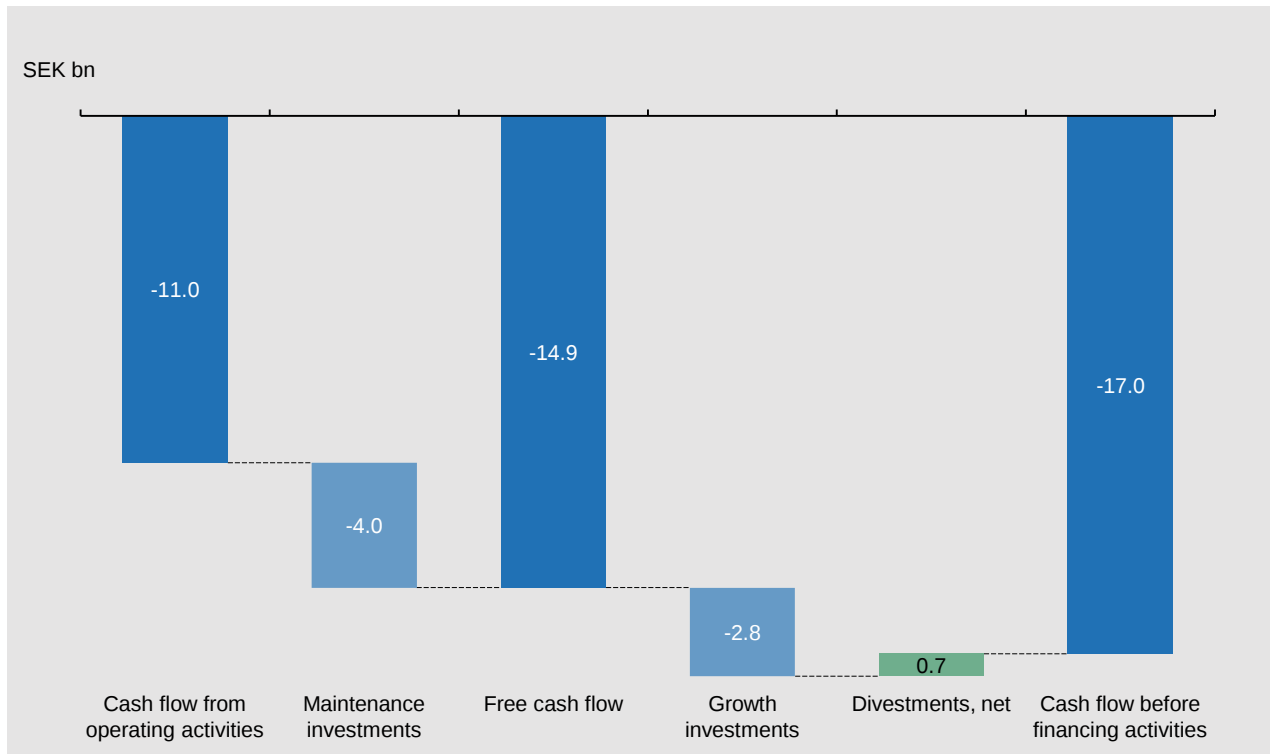


Highlights

- Customers & Solutions: higher costs for electricity purchases will be compensated by tariff increases
- Power Generation: higher Nordic spot prices and higher realised earnings contribution from the trading operations
- Wind: additional capacity and positive price effects
- Heat: lower contribution from district heating, mainly due to warmer weather in Sweden. Condensing is performing better than last year, mainly due to higher prices and higher availability
- Distribution: higher operating expenses due to the storm Alfrida in Sweden, of which half is disruption compensation and half is repair costs

Cash flow development Q1 2019

Operating cash flow negatively impacted by cash flow from changes in working capital



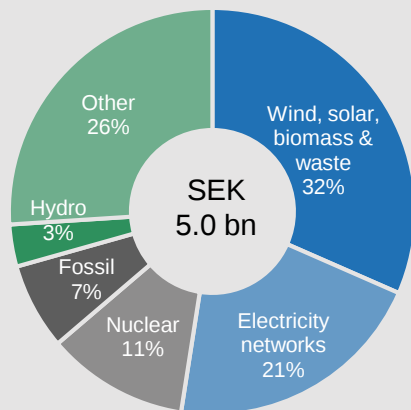
Highlights

- Cash flow from operating activities at SEK -11.0 bn. FFO increased by SEK 1.0 bn. Negative impact from change in working capital by SEK -20.8 bn, mainly attributable to changes in margin calls (SEK -11.8 bn), cash development of net receivables/liabilities in Customers & Solutions and Heat following seasonality pattern (SEK -6.6 bn) and changes related to CO₂ emission allowances (SEK -3.8 bn)
- Growth investments mainly in wind

Capital expenditures

Majority of investments directed to renewables and networks

Investments per category, Q1 2019



Detailed overview of investments, Q1 2019

SEK bn	Q1 2019	Q1 2018	Δ	FY 2018
Hydro	0.2	0.2	-2%	1.1
Nuclear	0.6	0.5	+21%	2.4
Fossil ¹	0.3	0.6	-47%	3.6
Wind, solar, biomass & waste	1.6	0.8	109%	8.2
Electricity networks	1.0	1.1	-3%	6.4
Other ²	1.3	0.0		2.8
Total	5.0	3.1		24.5

¹ Investments mainly related to coal to gas transition; Marzahn gas-fired CHP, Reuter heat-only boiler, Lichterfelde gas-fired CHP (updated to a more efficient and environmental compatible combined cycle gas turbine)

² Investments mainly related to the acquisition of shares (Delta Energie) and other equipment

Overview of key figures Q1 2019

Amounts in SEK bn unless indicated otherwise	Q1 2019	Q1 2018	FY 2018	Last 12 months
Net sales	49.6	43.9	154.5	160.2
EBITDA	12.6	10.9	34.3	36.0
EBIT	8.2	7.0	17.6	18.8
Underlying operating profit (EBIT)	9.7	9.4	19.9	20.2
Profit for the period	6.4	4.2	12.0	14.3
Electricity generation (TWh)	35.9	37.2	130.3	129.0
Sales of electricity (TWh)	52.8	49.8	174.1	177.1
- of which, customer sales (TWh)	32.4	32.2	119.2	119.4
Sales of heat (TWh)	7.3	8.2	18.3	17.4
Sales of gas (TWh)	24.3	26.9	60.7	58.1
Return on capital employed ($\geq 8\%$)	7.1 ¹	7.8 ¹	7.0	7.1
FFO/adjusted net debt (22-27%)	18.1 ¹	20.7 ¹	20.7	18.1

¹ Last 12-month values

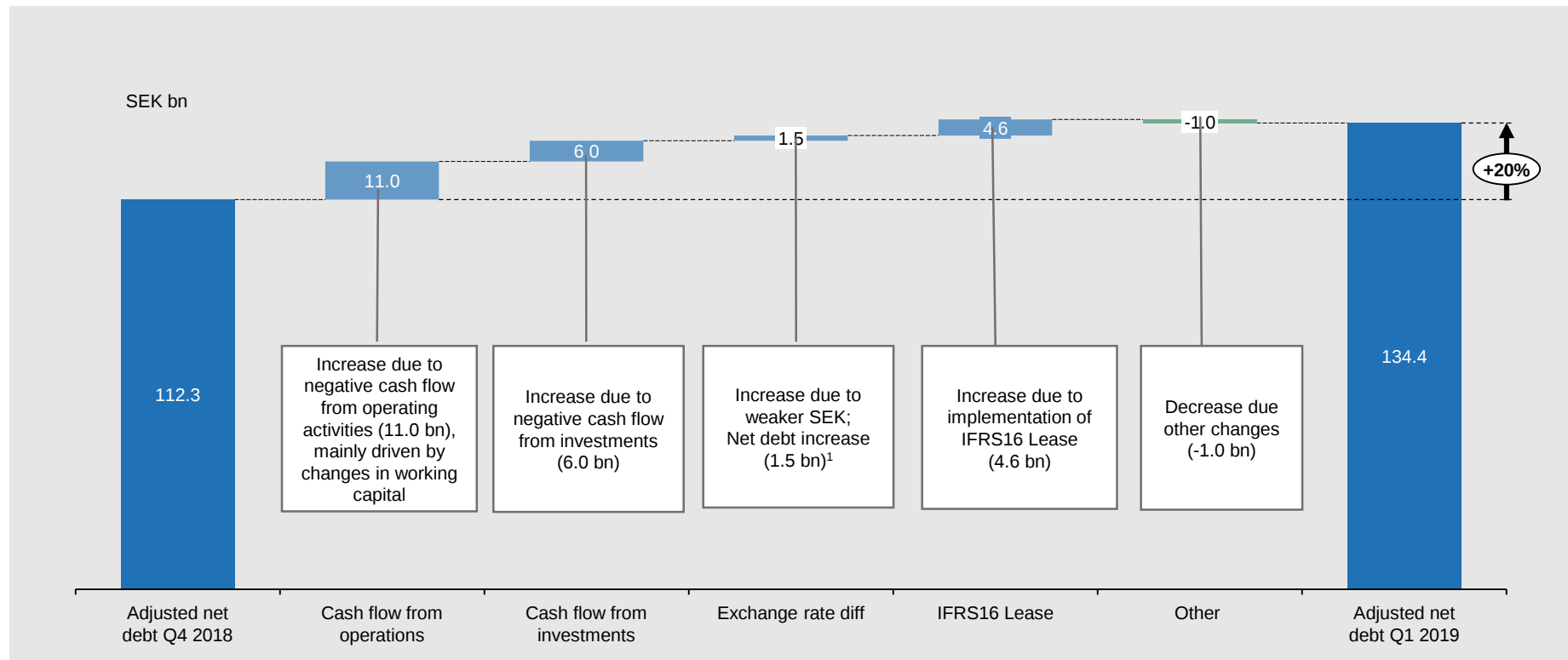


Appendix



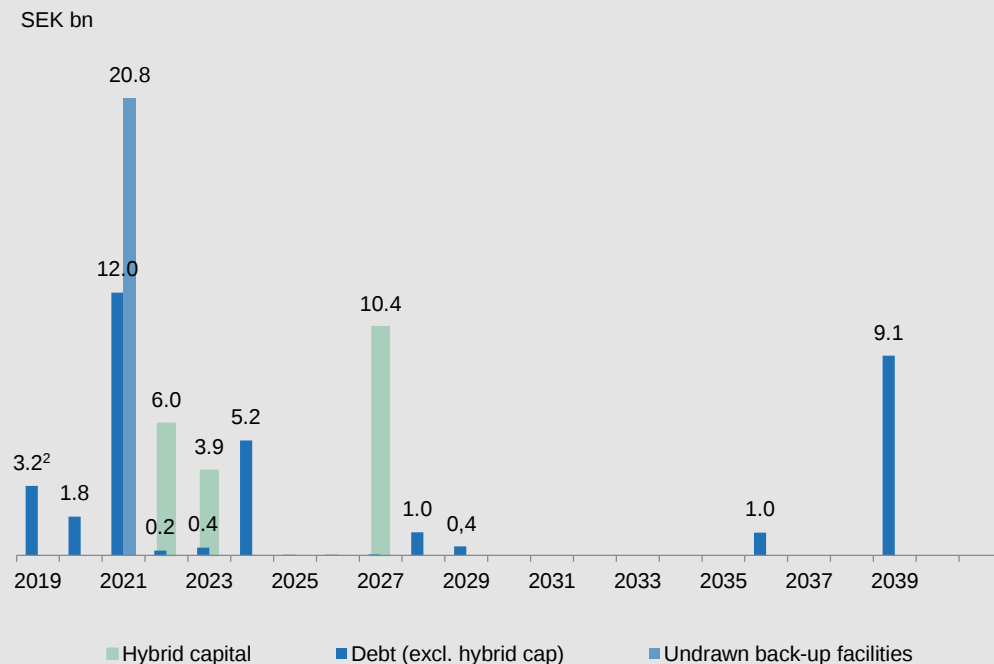
Development of adjusted net debt Q1 2019

Increase mainly due to negative cash flow from operating activities, primarily related to changes in working capital



¹ SEK weakened against EUR (from 10.25 to 10.40); translation of EUR denominated net debt into SEK leads to increase in Adjusted net debt

Debt maturity profile¹



¹ 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

² Short term debt are excluded (Repo, ECP and SCP) (20.9)

	31 Mar. 2019	31 Dec. 2018
Duration (years)	4.8	4.4
Average time to maturity (years)	7.0	6.4
Average interest rate (%)	4.5	4.5
Net debt (SEK bn)	72.5	47.7
Available group liquidity (MSEK)	21.5	34.5
Undrawn committed credit facilities (MSEK)	20.8	20.5

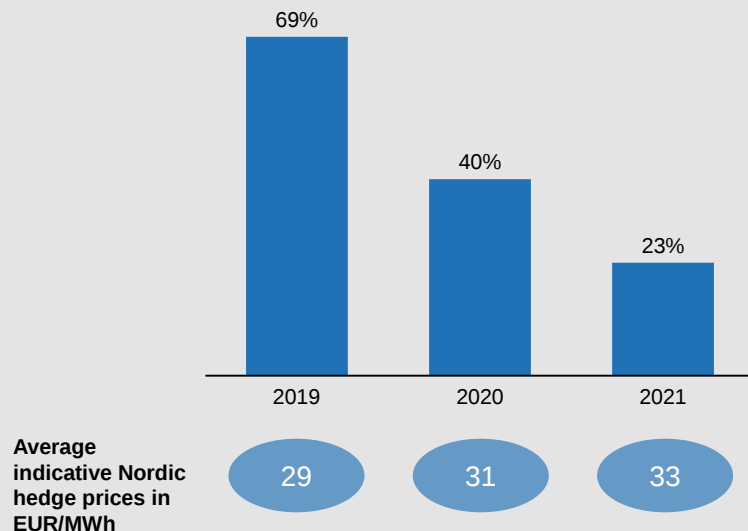
Cumulative maturities excl. undrawn back-up facilities

	2019- 2021	2022- 2024	From 2025
Debt incl. hybrid capital	16.9	15.7	22.1
% of total	31%	29%	40%

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 Nordic¹ hedge ratio (%) and indicative prices



Sensitivity analysis – Continental² portfolio

Market quoted	+/- 10% price impact on future profit before tax, MSEK ³			Observed yearly volatility
	2019	2020	2021	
Electricity	+/- 1,585	+/- 1,683	+/- 1,694	19% - 24%
Coal	-/+ 259	-/+ 216	-/+ 197	21% - 27%
Gas	-/+ 788	-/+ 836	-/+ 769	19% - 21%
CO ₂	-/+ 384	-/+ 426	-/+ 470	46% - 51%

¹ Nordic: SE, DK, NO, FI

² Continental: DE, NL, UK

³ The denotation +/- entails that a higher price affects operating profit favorably, and -/+ vice versa

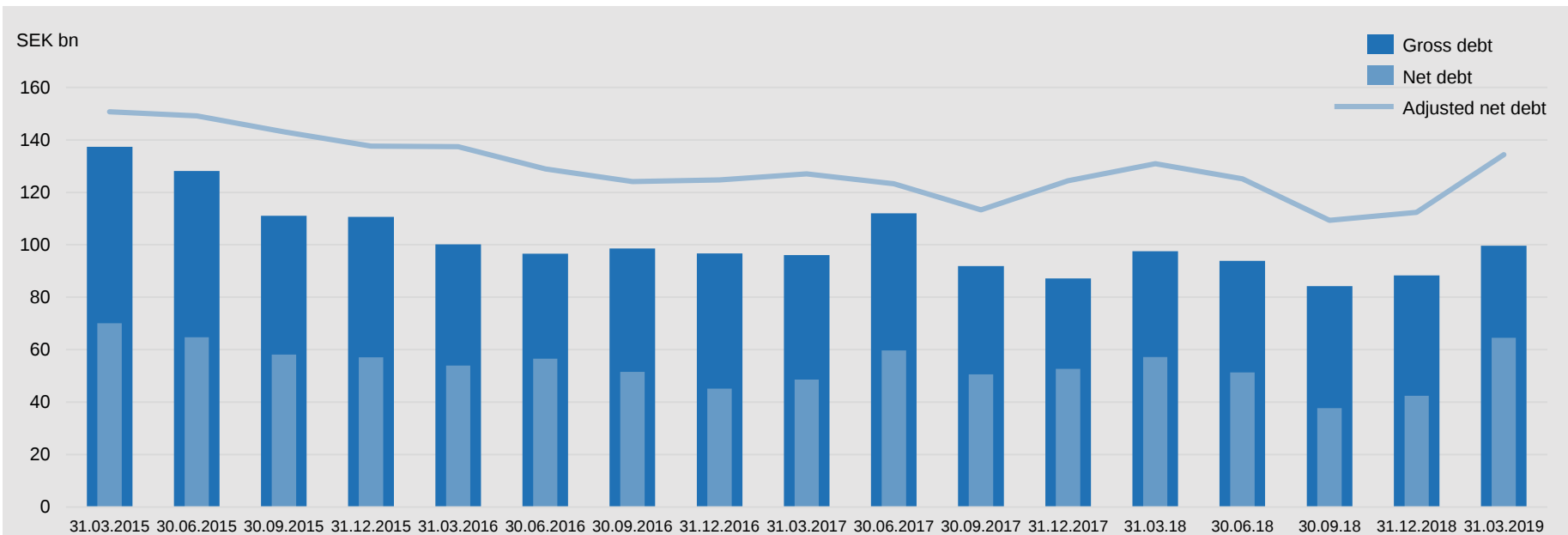
Liquidity position

Group liquidity	SEK bn	Committed credit facilities	Facility size, EUR bn	SEK bn
Cash and cash equivalents	12.2	RCF (maturity Dec 2021)	2.0	20.8
Short term investments	14.6	Total undrawn		20.8
Reported cash, cash equivalents & short term investments	26.8	Debt maturities²		SEK bn
Unavailable liquidity ¹	-5.3	Within 90 days		0.8
Available liquidity	21.5	Within 180 days		3.1

¹ German nuclear "Solidarvereinbarung" 2.3 SEK bn, Margin calls paid (CSA) 2.1 SEK bn, Insurance "Provisions for claims outstanding" 0.8 SEK bn

² Excluding loans from minority owners and associated companies

Debt development

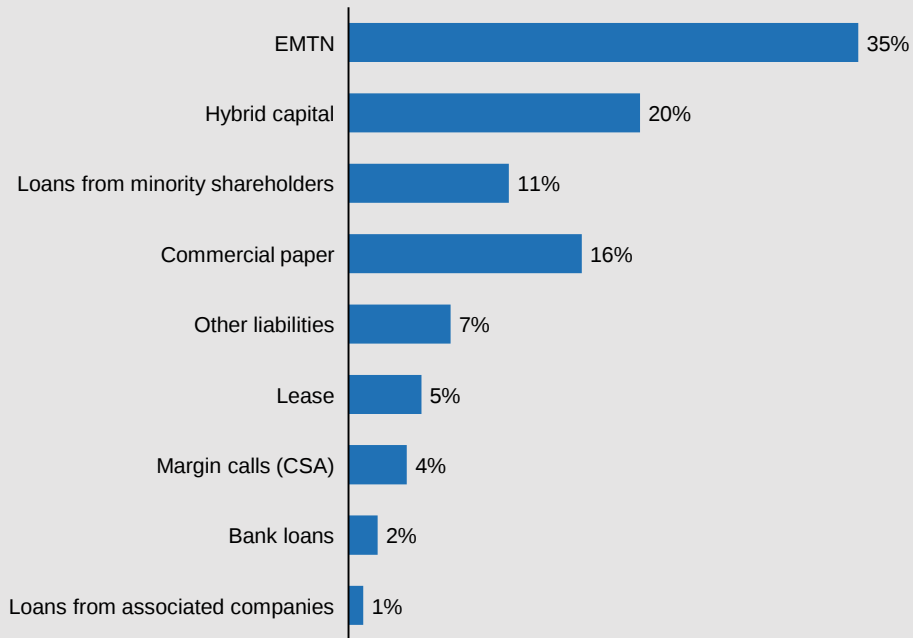


Net debt increased by SEK 24.8 bn compared with the level at 31 Dec. 2018. Adjusted net debt increased by SEK 22.1 bn to SEK 134.4 bn compared with the level at 31 December 2018. For the calculation of adjusted net debt, see slide 23.

Breakdown of gross debt

Total debt: SEK 99.6 bn (EUR 9.6 bn)

External market debt: SEK 88.5 bn (EUR 8.5 bn)



Debt issuing programmes	Size (EUR bn)	Utilization (EUR bn)
EUR 10bn Euro MTN	10.0	3.0
EUR 2bn Euro CP	2.0	1.6
SEK 15bn Domestic CP	1.4	0.0
Total	13.4	4.7

- 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

¹ EMTN= Euro Medium Term Notes

Reported and adjusted net debt

Reported net debt (SEK bn)	31 Mar. 2019	31 Dec. 2018	Adjusted net debt (SEK bn)	31 Mar. 2019	31 Dec. 2018
Hybrid capital	-20.1	-19.8	Total interest-bearing liabilities	-99.6	-88.3
Bond issues and commercial papers and liabilities to credit institutions	-52.8	-50.3	50% of Hybrid capital	10.0	9.9
Liabilities to associated companies	-0.6	-0.5	Present value of pension obligations	-40.0	-39.7
Liabilities to minority shareholders	-10.5	-10.4	Wind & other environmental provisions	-7.9	-7.7
Lease liabilities	-4.8	0.0	Provisions for nuclear power (net)	-30.9	-31.9
Other liabilities	-10.8	-7.2	Margin calls received	3.8	3.4
Total interest-bearing liabilities	-99.6	-88.3	Liabilities to minority owners due to consortium agreements	9.3	9.2
Reported cash, cash equivalents & short-term investments	26.8	40.1	Adjustment related to assets/liabilities held for sale	-0.7	-1.7
Loans to minority owners of foreign subsidiaries	0.3	0.5	= Adjusted gross debt	-155.9	-146.8
Net debt	-72.5	-47.7	Reported cash, cash equivalents & short-term investments	26.8	40.1
			Unavailable liquidity	-5.3	-5.6
			= Adjusted cash, cash equivalents & short-term investments	21.5	34.5
			= Adjusted net debt	-134.4	-112.3

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	Total Ringhals: 30.7	Total Ringhals: 30.7¹	
Forsmark 1	984	1980	66.0			
Forsmark 2	1,120	1981	66.0			
Forsmark 3	1,170	1985	66.0	Total Forsmark: 26.6	Total Forsmark: 17.6	
Total Sweden	6,974	-		60.0²	49.4²	36.5³
Brunsbüttel	771	1977	66.7	11.1	7.4	
Brokdorf	1,410	1986	20.0	0	3.3	
Krümmel	1,346	1984	50.0	6.8	6.8	
Stade ⁴	640	1972	33.3	0	1.0	
Total Germany	4,167	-	-	17.9	18.5	
Total SE & DE	11,141			77.9	67.9	

¹ Vattenfall is 100% liability of Ringhals decommissioning, while owning only 70.4%

² Total provisions in Sweden (IFRS accounting) include provisions of SEK 0.4 bn (pro rata SEK 0.2 bn considering share in Studsviks fonden) related to Ågesta, and SEK 2.3 bn (pro rata SEK 0.9 bn considering share in Studsviks fonden) related to SVAFO

³ Vattenfall's share of the Nuclear Waste Fund. IFRS consolidated value is SEK 43.4 bn.

⁴ Stade is being dismantled

Impairment history 2009 – 2019

SEK bn		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
The Netherlands	Thermal assets		4.3 ¹	0.4 ²	8.6 ²	14.7	2.6		2.8				33.4
	Trading					6.5 ¹	10.0 ¹		0.7				17.2
	Other	1.2	1.2			1.5 ²	1.9				0.1		5.9
Germany	Thermal assets			0.3		4.3	5.7	19.2	26.1				55.6
	Nuclear assets			10.5									10.5
	Transmission		5.1										5.1
	Other					0.1	1.1	0.3	2.3	0.4			4.2
The Nordic Countries	Renewable assets						1.4		0.1				1.5
	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					1.3
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
Impairments		5.5	11.1	11.3	12.3	30.1	23.8	36.8	33.8	0.4	0.1	0.0	165.2
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	-4.4
Impairments (net)		4.2	9.8	10.9	12.3	30.1	23.8	36.3	32.9	0.4	0.1	0.0	160.8

¹ Impairment of goodwill

² Impairment of assets and goodwill

Wind & solar - Installed capacity (MW¹) Q1 2019

	Solar	Onshore	Offshore	Total
United Kingdom	5	391	687	1 083
Denmark	0	243	299	542
The Netherlands	8	269	108	385
Sweden	0	244	110	355
Germany	2	19	636	657
Total (MW)	15	1 167	1 840	3 022



United Kingdom – ROC scheme

■ Thanet	300
■ Ormonde (51%)	150
■ Aberdeen Bay	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-Rottiden	78
■ Högabjär-Kärsås (50%)	38
■ Höge Väg (50%)	37
■ Hjuleberg (50%)	36
■ Juktan (50%)	29
■ Östra Herrestad	16
■ Näsudden	10

Installed capacity (MW) 355

Denmark – FIT scheme

■ Horns Rev 1 (60%)	158
■ Horns Rev 3 ³	141
■ 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
■ Ejlsing (97%)	7
■ Nordjyllandsværket	6
■ Lyngmose	5

Installed capacity (MW) 542

Germany – EEG scheme

■ DanTysk (51%)	288
■ Sandbank (51%)	288
■ alpha ventus (26%)	60
■ Jänschwalde	12
■ Westküste (20%)	7
■ Decentral Solar installations	2

Installed capacity (MW) 657

The Netherlands – MEP/SDE(+)

■ NoordzeeWind (50%)	108
■ Princess Alexia	122
■ Slufterdam	29
■ Eemmeerdijk	17
■ Irene Vorrink	17
■ Jaap Rodenburg	17
■ Windpoort (40%)	13
■ Hoofdplaatpolder (70%)	10
■ Reyndersweg (50%)	9
■ Echteld	8
■ De Bijrmen	6
■ Oom Kees (12%)	6
■ Oudendijk	5
■ Mariapolder	5
■ Hiddum Houw	4
■ Eemshaven	6
■ Velsen	2
■ Enkhuizen	2

Installed capacity (MW) 385

¹ Capacity in operation: total capacity of the wind farms and solar farms that Vattenfall has an ownership in. Minority shares included as 100%

² EOWDC – European Offshore Development Centre (Aberdeen Bay)

³ Horns Rev 3 commissioning ongoing, as per Q1 2019 17 turbines operational

Pipeline of key wind farms in our 5 core countries

	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
Construction	DK	Horns Rev 3	407	FIT	X	50,000hrs	100	2019	Under construction, first MWh produced
	DK	Kriegers Flak	605	FIT	X	50,000hrs	100	2021	
	NL	Wieringermeer	185	SDE+	X	15 yrs	100	2019/2020	Under construction
	NL	Wieringermeer ext.	118	SDE+	X	15 yrs	100	2020	Under construction
	NL	Moerdijk	27	SDE+	X	15 yrs	100	2020	Under construction
	NL	Haringvliet	22	SDE+	X	15 yrs	100	2020	Under construction
	SE	Blakliden + Fäbodberget	353	Certs	N/A	-	30	2021/2022	Under construction
Total 1,717 MW									
	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
Development	NL	Nieuwe Hemweg	~15	SDE+	X	15 yrs	100	2020	Procurement
	UK	South Kyle	~200	-	N/A	-	100	2022	Procurement
	DK	NK II	~150	-	N/A	-	100	2021	Permitting phase
	DK	Nørre Økse Sø	~50	-	N/A	-	80	2021	Permitting phase
	NL	Hollandse Kust Zuid 1 & 2	~700	-	X	-	100	2022	Procurement
	DK	Vesterhav projects	344	FIT	X	50,000hrs	100	2023	Procurement & Consenting
	UK	Thanet Extension	272	CFD		15 yrs	100	2022	Early planning, application for a Development Consent Order submitted
Offshore	UK	Norfolk Vanguard	1,800	CFD		15 yrs	100	2025	Early planning, application for a Development Consent Order submitted
Onshore	UK	Norfolk Boreas	1,800	CFD		15 yrs	100	2026	Concept/Early planning
Total >5GW									

Solar & batteries

Large scale solar & batteries pipeline under construction

Large Scale Solar	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
	NL	Velsen	2.3	SDE+	X	15 full-load yrs	100	2018	Handover to O&M delivery
	NL	Eemshaven	5.7	SDE+	X	15 full-load yrs	100	2019	Commissioning phase
	NL	Hemweg	2.0	SDE+	X	15 full-load yrs	100	2019	Construction phase
	NL	Coevorden	6.5	SDE+	X	15 full-load yrs	100	2019	Pre-construction phase
Total 16.5 MW									
Decentral solar Commissioned	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
	DE	Tenant electricity/ Mieterstrom	0.9	EEG (small scale)	X	20 years	100	2018 / 2019	Program finalized
	DE	PV@VF sites	0.1	EEG (small scale)	X	20 years	100	2019	
	DE	B2B customers – direct sale	0.1	EEG / own consumption	X	20 years	0	2018	
	NL	B2B customers – direct sale / Leasing	0.7	SDE+		15 Full-load yrs	0	2018	
Total 1.8 MW									
Decentral solar Construction	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
	DE	PV@VF sites	1.1	EEG (small scale)	X	20 years	100	2019	
	NL	Direct sale / Leasing	11.9	SDE+	X	15 Full-load yrs	0	2019	
Total 13.0 MW									

Solar & batteries

Large scale solar & batteries pipeline under construction

	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
Batteries	DE	NEW 4.0	1	Funding in R&D operation and FCR	Weekly for PFC	1-3 yrs funding 4-15 yrs FCR	100	2018	Operating
	DE	Jungheinrich	1	No support scheme → Peak shaving			100	2018	Operating
	SWE	Åre	1	No support scheme → Peak shaving			0	2019	Operating
	UK	Battery @ PyC	22	EFR and CM	X	1-4 yrs EFR 5-15 CM	100	2019	Handover to O&M delivery
	NL	Battery @ Alexia	3	FCR	weekly	15 years	100	2019	Commissioning phase
	DE	Hafenbatterie	1	Cooperation with BMW and Bosch, FCR	weekly		100	2019	Commissioning phase
	SWE	Networks	1	No support scheme			0	2019	Contracts signed
	NL	E-Mobility	0.25	No support scheme			0	2019	Contracts signed
			Total 30 MW						

PFC – Primary Frequency Control

FCR - Frequency Response Regulation

CM – Capacity Mechanism

EFR – Enhanced Frequency response