

Vattenfall Q1 Results 2018

Press Conference 26 April 2018

Magnus Hall, CEO

Anna Borg, CFO

Gunnar Groebler, SVP Business Area Wind

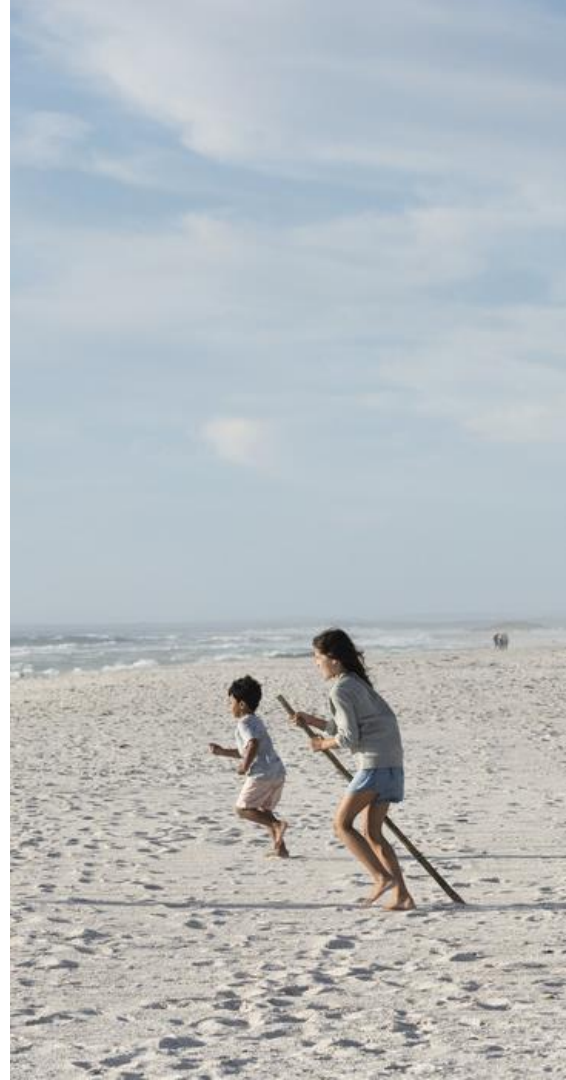


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Vattenfall Q1 Results 2018

Opening remarks

- **A positive start of the year with overall solid result developments**
- **Strong hydro production and higher electricity prices** contributing to improvements in Net Sales +11% at SEK 44.3 bn and Underlying EBIT +11% at SEK 9.4 bn
- **Challenging situation for coal and gas fired generation** with lower production and higher CO₂ and fuel prices
- **Customer growth and cold weather conditions** supporting positive developments for retail and distribution
- **Leading the development in offshore wind** with winning bid for Hollandse Kust Zuid 1 and 2 (NL) and installation of world's largest turbine, 8.8 MW in Aberdeen Bay (UK)



Vattenfall Q1 Results 2018

Overview

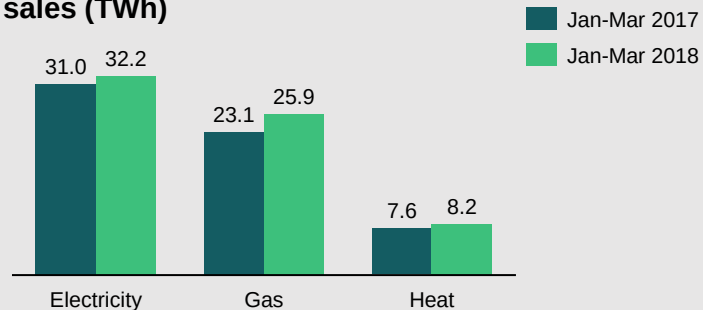
Result development

SEK bn	Q1 2018	Q1 2017	Δ
Net Sales	44.3	40.1	4.2
EBITDA	10.9	9.8	1.1
Underlying operating profit (EBIT)	9.4	8.4	1.0
EBIT	7.0	6.1	0.9
Profit for the period	4.2	3.8	0.4

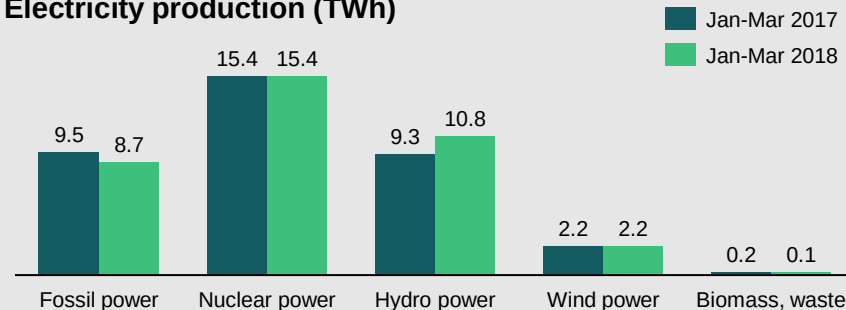
Financial targets

	Q1 2018	Q1 2017
Return on capital employed ¹ , %	7.8	-1.1
FFO/adjusted net debt ¹ , %	20.7	21.0

Customer sales (TWh)



Electricity production (TWh)



¹ Last 12-month values

Customers & Solutions

Growing customer base and increased efforts in decentralised solutions

Highlights - Q1 2018

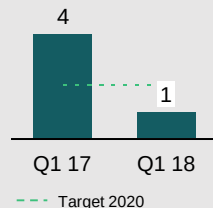
SEK bn	Q1 2018	Q1 2017
Net Sales	24,430	20,765
Underlying operating profit	1,009	807

- Increase in net sales and underlying operating profit mainly owing to higher B2C sales as a result of cold weather and an increased customer base
- Net sales also supported by positive price effects
- First quarter is generally affected by seasonality, mainly as a result of more gas volumes sold during the winter
- Supply deal with Swedish food retailer Axfood
- Lease purchase agreement for solar panels in the Netherlands
- New partnerships in e-mobility

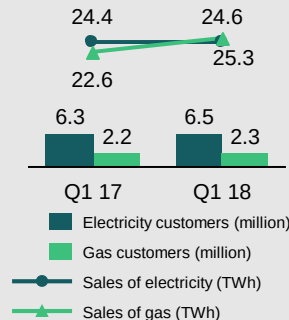
¹ The target is a positive NPS in absolute terms and +2 compared to Vattenfall's peer competitors to be achieved by 2020. The development from +4 to +1 means that peers have been catching up but that Vattenfall is still ahead.

Key data

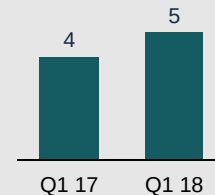
Net Promoter Score¹ (NPS)
relative to peers



Retail sales development



Charging stations for electric vehicles (k)



Power generation

Strong contribution from our hydro assets

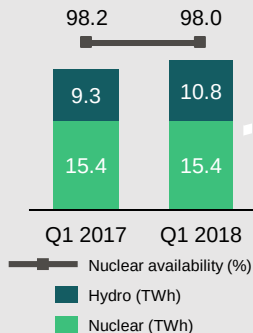
Highlights - Q1 2018

SEK bn	Q1 2018	Q1 2017
Net Sales	26,886	24,207
Underlying operating profit	3,817	2,616

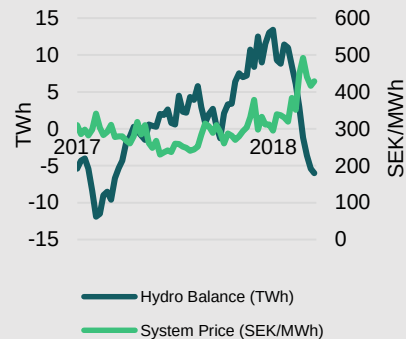
- Net sales and underlying operating profit increased mainly as a result of higher prices and higher hydro production
- Positive contribution from abolished nuclear capacity tax and lower property tax on hydro
- SKB accelerating program to present additional material on final nuclear storage in SE by the end of 2018
- Legislative proposal for implementation of the Water Framework Directive
- Decommissioning of German nuclear power operations progressing according to plan

Key data

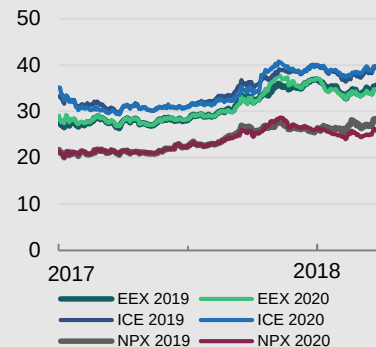
Production and availability



Hydro balance and system price



Future electricity prices (EUR/MWh)



Heat

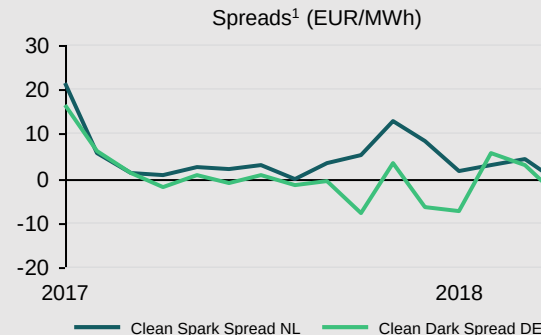
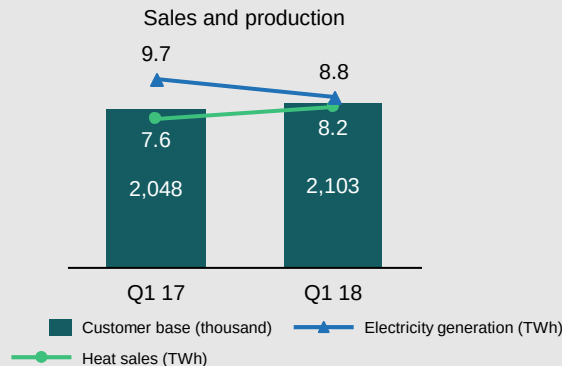
Continued growth in number of heat customers; higher fuel and CO₂ cost adversely affecting profitability

Highlights - Q1 2018

SEK bn	Q1 2018	Q1 2017
Net Sales	9,654	10,038
Underlying operating profit	1,557	2,233

- Despite customer growth, net sales and underlying operating profit decreased mainly due to lower electricity production following deteriorated spreads (higher costs for gas and CO₂)
- Lower subsidies for gas fired CHP plants and decreasing grid income in Germany following changes in the network regulation
- New business unit for Vattenfall InHouse (decentralised solutions for real estate owners)
- Commissioning of Lichterfelde CHP plant in Berlin is progressing
- Extension of district heating network in Hamburg

Key data



Distribution

Outage level stable despite challenging weather conditions

Highlights - Q1 2018

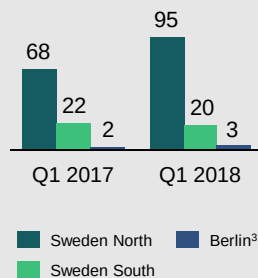
SEK bn	Q1 2018	Q1 2017
Net Sales	6,274	5,959
Underlying operating profit	2,286	2,144

- Net sales increased, mainly due to cold weather and higher network tariffs in Sweden
- Underlying operating profit improved as a result of positive price and volume effects in Sweden, partially offset by higher operating expenses
- Investments in Sweden increased by 20%, Q1 2018 vs Q1 2017
- Outages on stable level as a result of preventive maintenance and past investments
- Gotland to serve as pilot area in the energy transformation to become fossil-free¹

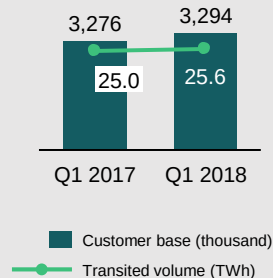
¹ Vattenfall is working together with the Swedish Energy Agency to study how Gotland's energy system can be made entirely fossil-free.

Key data

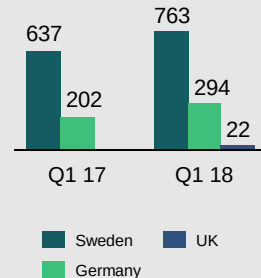
Service level (SAIDI, min)²



Customers and volumes



Investments (SEK mn)



² Excl. storms and other major weather related outages

³ Significantly lower SAIDI in Berlin as a result of being a city grid. Vattenfall's Swedish grid covers both urban areas and large rural areas.

Wind

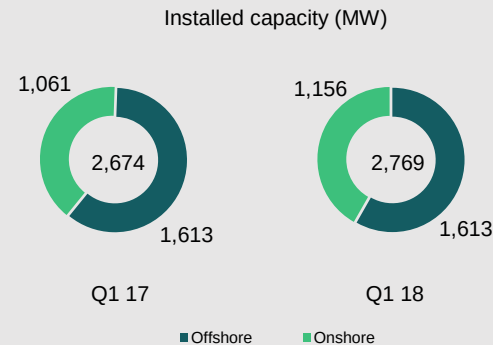
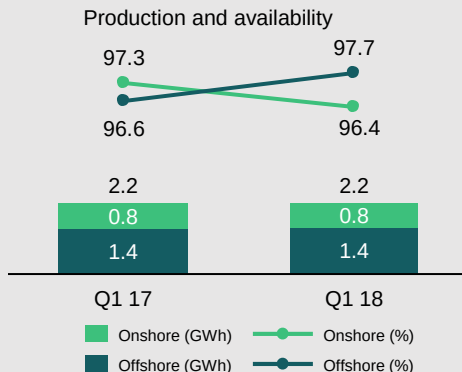
Leading the development of cost reductions and technology advancements in onshore as well as offshore wind

Highlights - Q1 2018

SEK bn	Q1 2018	Q1 2017
Net Sales	2,963	2,543
Underlying operating profit	1,041	858

- Net sales and underlying operating profit increased mainly as a result of newly added capacity in 2017 and positive price effects
- Higher generation as a result of new capacity offset by lower winds and curtailments
- Winning bid for Hollandse Kust Zuid 1 and 2 in the Netherlands
- Industry leader with successful installation of 8.8 MW (world's largest) turbine and innovative suction bucket foundation at Aberdeen bay

Key data



Financials

Anna Borg, CFO



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Vattenfall Q1 Results 2018

Financial highlights

Key data

SEK bn	Q1 2018	Q1 2017
Net Sales	44.3	40.1
EBITDA	10.9	9.8
Underlying operating profit (EBIT)	9.4	8.4
EBIT	7.0	6.1
Profit for the period	4.2	3.8
Funds from Operations (FFO)	8.8	8.3
Cash flow operating activities	1.3	-1.2
Net debt	64.4	54.7
Adjusted net debt	130.9	127.1
Adjusted net debt/EBITDA (times) ¹	3.7	5.5
Financial targets		
FFO/adjusted net debt (%) ¹	20.7	21.0
ROCE (%) ¹	7.8	-1.1

¹ Last 12-month values

Key developments

- Net sales increased by SEK 4.2 bn to SEK 44.3 bn mainly due to increased sales volumes in the Netherlands, Germany, France and the UK
- Underlying EBIT increased by SEK 1 bn to SEK 9.4 bn mainly due to increased earnings in Power Generation
- FFO increased by SEK 0.5 bn mainly due to increased EBITDA offset by higher preliminary taxes during 2018
- Net debt increased by SEK 9.7 bn mainly due to the recognition of interest bearing liabilities for the pay-out into the German nuclear fund in 2017 and currency effects due to the weakening SEK, partially compensated by positive cash flow after investments over the last 12 months.

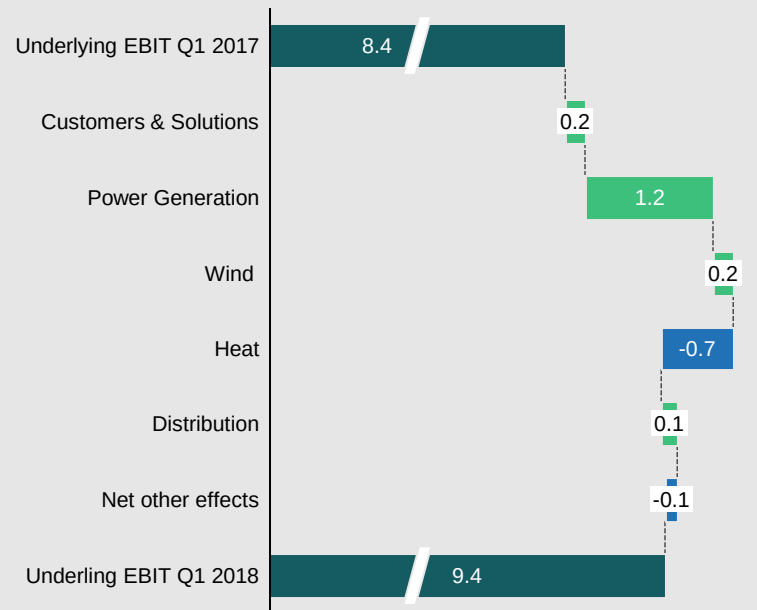


Development of underlying EBIT Q1 2018

Improvement following higher contribution mainly from Power Generation

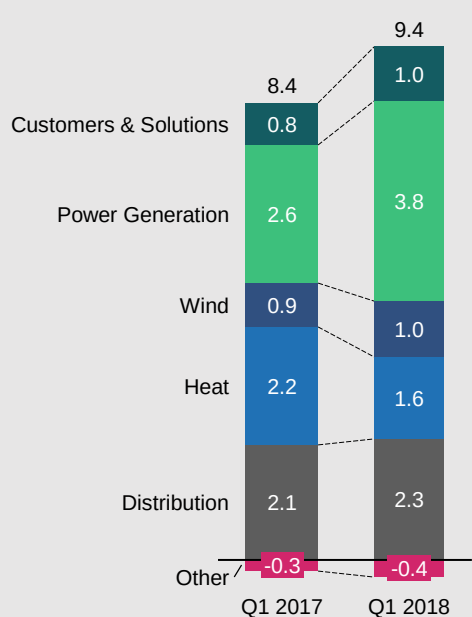
Change in Q1 2018 vs. Q1 2017

SEK bn



Breakdown per operating segment

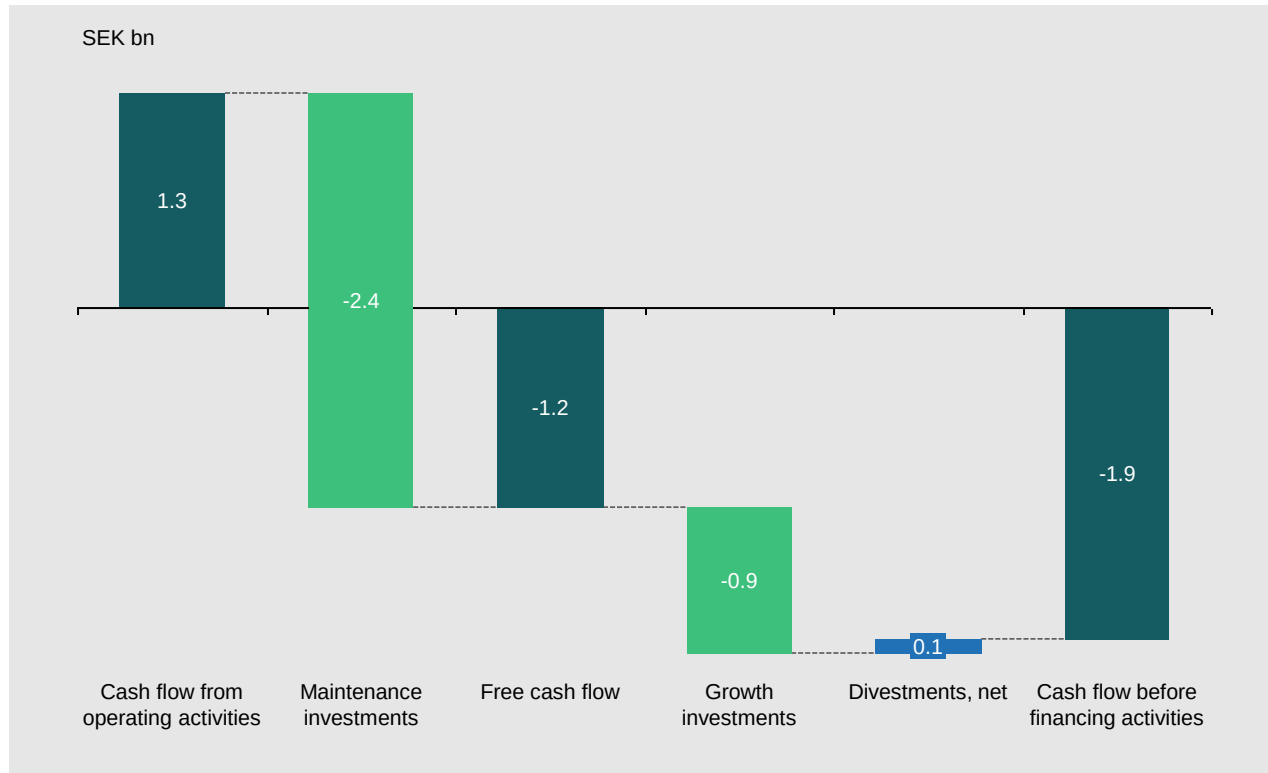
SEK bn



Highlights

- Customers & Solutions: increase mainly due to temperature effects in the Netherlands and increased contract base Germany
- Power Generation: Increase mainly explained by higher Nordic market prices and higher Nordic hydro production
- Wind: increase mainly explained by new capacity added during 2017, higher market prices
- Heat: decrease due to deteriorated spreads (higher fuel costs mainly for CO₂ and gas) which led to lower electricity production
- Distribution: increase due to price and volume effects in Sweden partially offset by higher operating expenses

Cash flow development Q1 2018



Highlights

- Cash flow from operating activities are SEK 1.3 bn, change in working capital have a negative impact by SEK 7.5 bn mainly attributable to cash development of net receivables/liabilities in BA Customers & Solutions and BA Heat following the seasonal patterns, changes in margin calls due to market CO₂ prices and decreased market power prices
- Maintenance investments in line with Q1 2017 mostly directed to Power Generation, BA Heat and BA Distribution

Overview of key figures Q1 2018

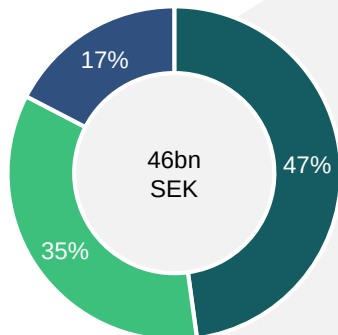
Amounts in SEK bn unless indicated otherwise	Q1 2018	Q1 2017	FY 2017	Last 12 months
Net sales	44.3	40.1	135.1	139.3
EBITDA	10.9	9.8	34.4	35.6
EBIT	7.0	6.1	18.5	19.4
Underlying operating profit (EBIT)	9.4	8.4	23.2	24.2
Profit for the period	4.2	3.8	9.5	9.8
Electricity generation (TWh)	37.2	36.6	127.3	127.9
Sales of electricity (TWh)	49.8	45.2	157.3	161.9
- of which, customer sales (TWh)	32.2	31.0	108.8	110.0
Sales of heat (TWh)	8.2	7.6	18.8	19.4
Sales of gas (TWh)	25.9	23.1	56.4	59.2
Return on capital employed (%)	7.8	-1.1	7.7	7.8
FFO/adjusted net debt (%)	20.7	21.0	21.4	20.7



Investments in sustainable growth

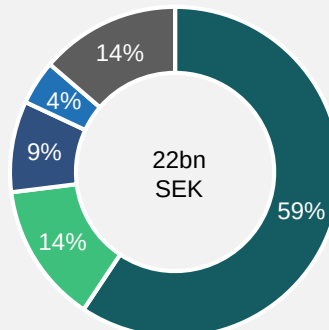
Vattenfall investment plan 2018-2019

**Total capex
2018-2019**



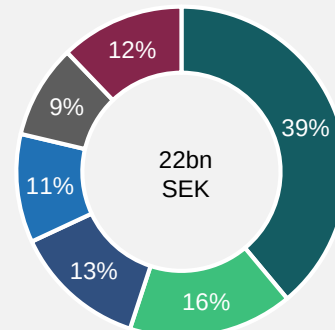
- Growth, 22bn SEK
- Maintenance, 16bn SEK
- Replacement, 8bn SEK

**Growth capex per
technology 2018-2019**



- Wind power, 13bn SEK
- Distribution grids, 3bn SEK
- Heat grids, 2bn SEK
- Solar energy, 1bn SEK
- New businesses*, 3bn SEK

**Growth capex per country
2018-2019**



- Denmark, 8bn SEK
- Germany, 4bn SEK
- Netherlands, 3bn SEK
- Sweden, 2bn SEK
- UK, 2bn SEK
- Other, non-assigned, 3bn SEK

* Mainly decentralised solutions, energy storage and e-mobility

Hollandse Kust Zuid 1 and 2

Gunnar Groebler, SVP Business Area Wind



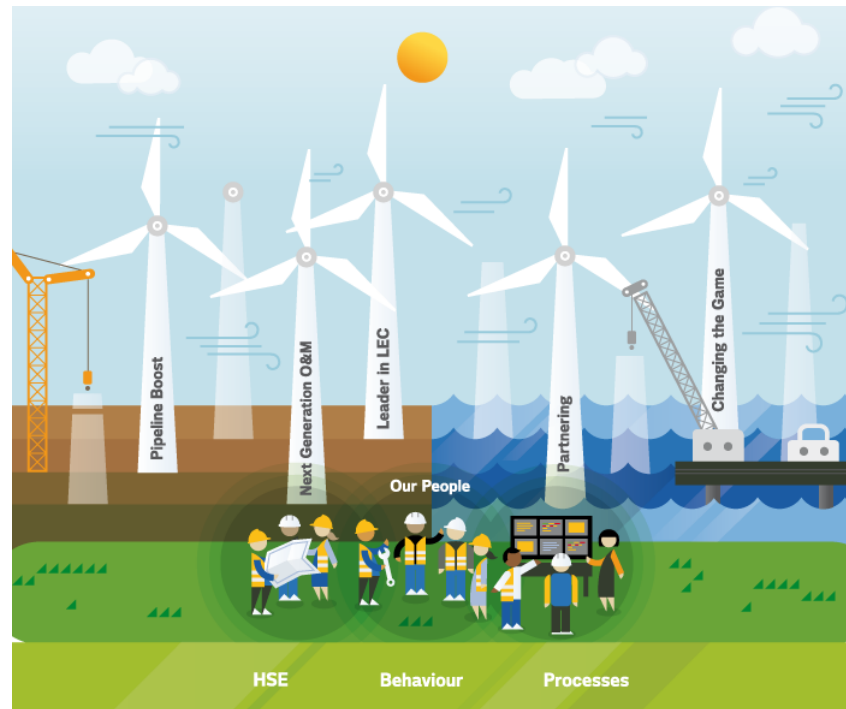
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Strategy of Business Area Wind

Managing Levelized Energy Revenues (LER) will be key going forward

Our picture of success

- By 2020 we will
 - ... operate 4 GW within Offshore, Onshore and Solar
 - ... be a leader in Levelized Energy Cost (LEC)
 - ... be able to deliver first new offshore and onshore projects without subsidies
 - ... have secured merchant exposure from renewable energies through corporate PPAs
- Investments of SEK 13 bn 2018-2019
- Continue the partnering concept to finance strong future growth
- By 2025 we will
 - ... have grown further within Offshore, Onshore and Solar
 - ... have delivered subsidy free projects both on- and offshore
 - ... significantly support the energy transition in other industries through renewable electricity production

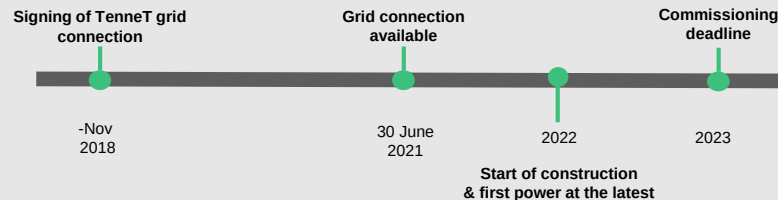


Vattenfall wins Hollandse Kust Zuid 1 and 2

Commitment to build the world's first subsidy-free offshore wind farm in the Netherlands



Timeline¹



Key details on tender

Selection criteria with highest weighting

- Quality of overview of risks (market, design/construction, operational)
- Quality of mitigating measures

Applied selection criteria by RVO.nl

- Knowledge and experience
- Quality of the wind farm design
- Capacity of the wind farm
- Social costs

Key data

Capacity	684 – 760 MW
Grid connection	Provided by TenneT
Distance from shore	30km
Water depth	18-22m
Foundations	Ground mounted (monopiles estimated)
Turbine model	To be decided
Ownership	100% Vattenfall

¹ Assuming irrevocable permit May 1st

Vattenfall wins Hollandse Kust Zuid 1 and 2

Key takeaways

- ✓ Project with excellent site conditions (shallow waters, proximity to shore)
- ✓ Continuous cost reductions and portfolio approach supported our winning bid
- ✓ Attractive opportunity to support the Dutch energy transition
- ✓ Strong customer base demanding renewable energy

The European Offshore Wind Deployment Centre

Gunnar Groebler, SVP Business Area Wind



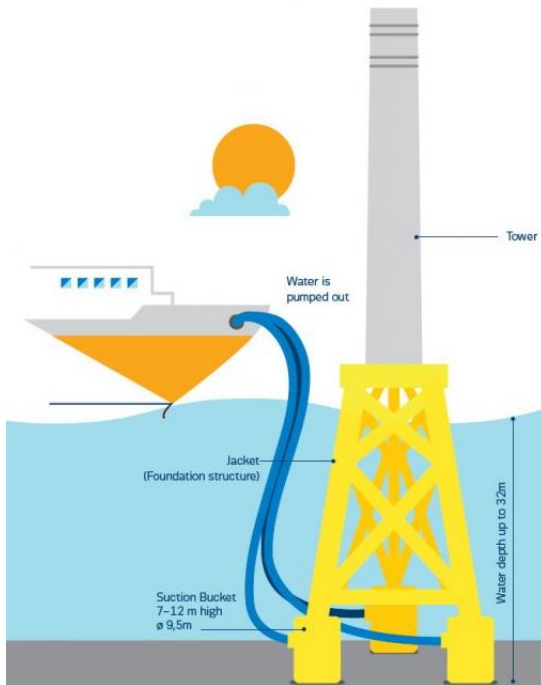
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The European Offshore Wind Deployment Center

Installed the world's most powerful wind turbines, 8.8 MW and 8.4 MW MHI Vestas

Key facts

- Scotland's largest test and demonstration facility for offshore wind, located in Aberdeen Bay
- Installation of the world's most powerful turbines 8.8 MW and 8.4 MW from MHI Vestas
- Vattenfall's first 66kV export cables to onshore substation
- Total capacity of 93.2 MW
- Annual production of 312 GWh
- Suction bucket foundations – industry first with the new foundation technology
- Will be generating power in summer 2018, operating for 20 years
- Will meet the demand of 79,000 UK homes every year



Suction bucket foundations



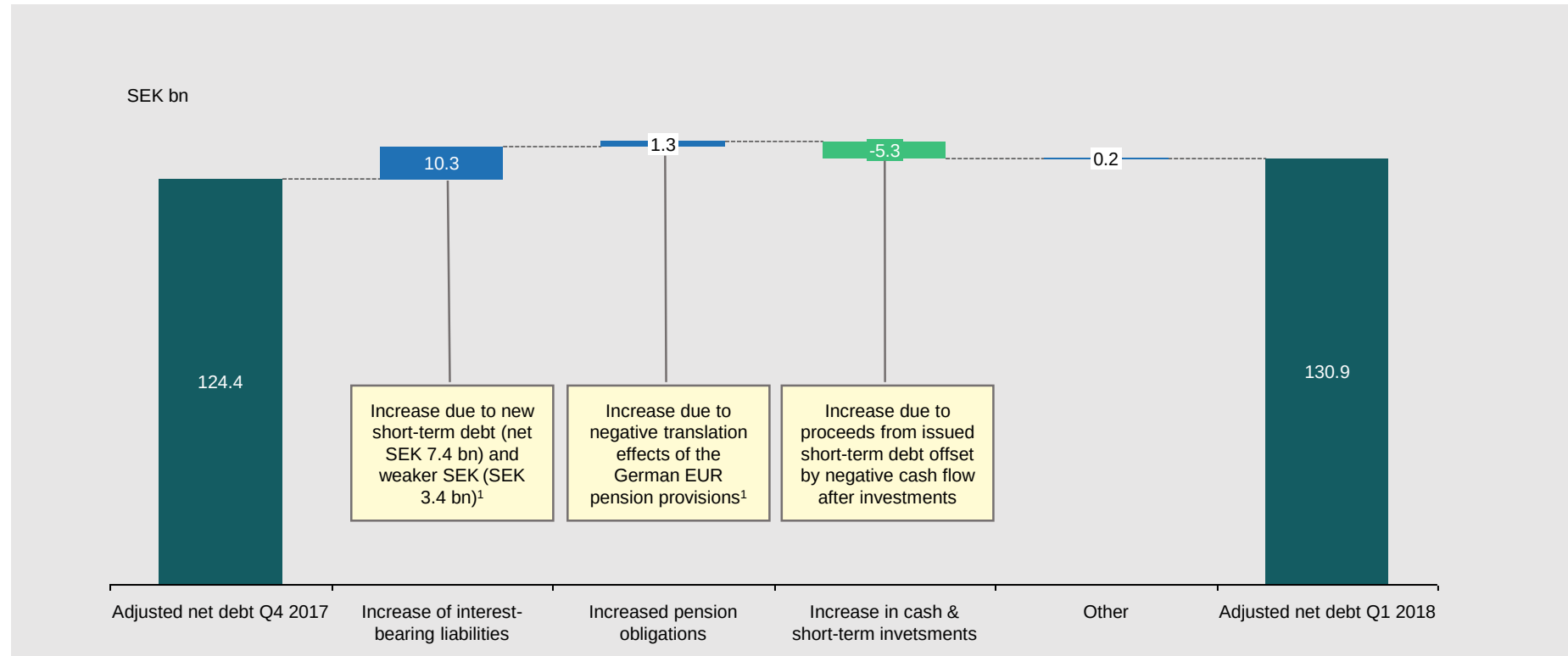
European Offshore Wind Deployment Center (EOWDC), Aberdeen Bay

Appendix



Development of adjusted net debt Q1 2018

Adjusted net debt negatively affected by a weaker SEK



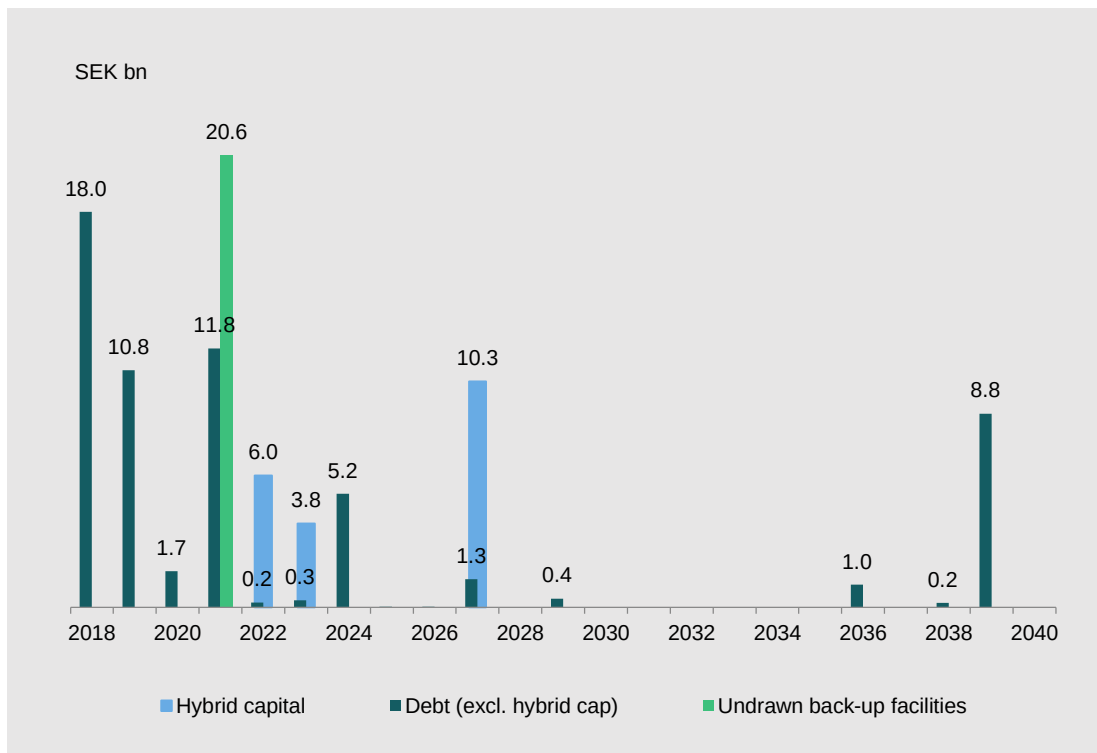
¹ SEK weakened considerably against EUR (from 9.84 to 10.28); translation of EUR denominated net debt and pension provisions into SEK leads to increase in adjusted net debt. A substantial part of Vattenfall's net debt and pension provisions are denominated in EUR.

Capital expenditures

SEK bn	Q1 2018	Q1 2017	FY 2017
Electricity generation	1.6	1.7	9.1
CHP/Heat	0.7	0.4	3.5
Electricity networks	1.1	0.8	5.3
Other	-0.0	1.1	3.5
Total	3.3	4.0	21.3
- of which maintenance and replacement	2.4	2.5	12.6
- of which growth	0.9	1.6	8.7



Debt maturity profile¹



	31 Mar. 2018	31 Dec. 2017
Duration (years)	4.4	4.3
Average time to maturity (years)	6.6	6.9
Average interest rate (%)	4.4	4.4
Net debt (SEK bn)	64.4	59.3
Available group liquidity (MSEK)	25.2	19.9
Undrawn committed credit facilities (MSEK)	20.6	19.7

Cumulative maturities excl. undrawn back-up facilities

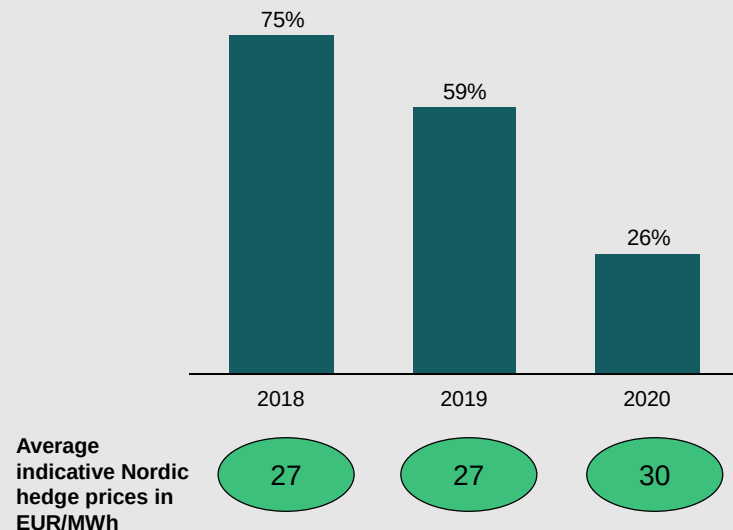
	2018- 2020	2021- 2023	From 2024
Debt incl. hybrid capital	30.5	22.1	27.2
% of total	38%	28%	34%

¹ 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.

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
	2018	2019	2020	
Electricity	+/- 783	+/- 1301	+/- 1305	15% - 19%
Coal	-/+ 268	-/+ 293	-/+ 263	20% - 29%
Gas	-/+ 740	-/+ 668	-/+ 664	11% - 16%
CO ₂	-/+ 210	-/+ 248	-/+ 293	36% - 47%

¹ Nordic: SE, DK, NO, FI

² Continental: GE, NL, UK

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

Continued strong liquidity position

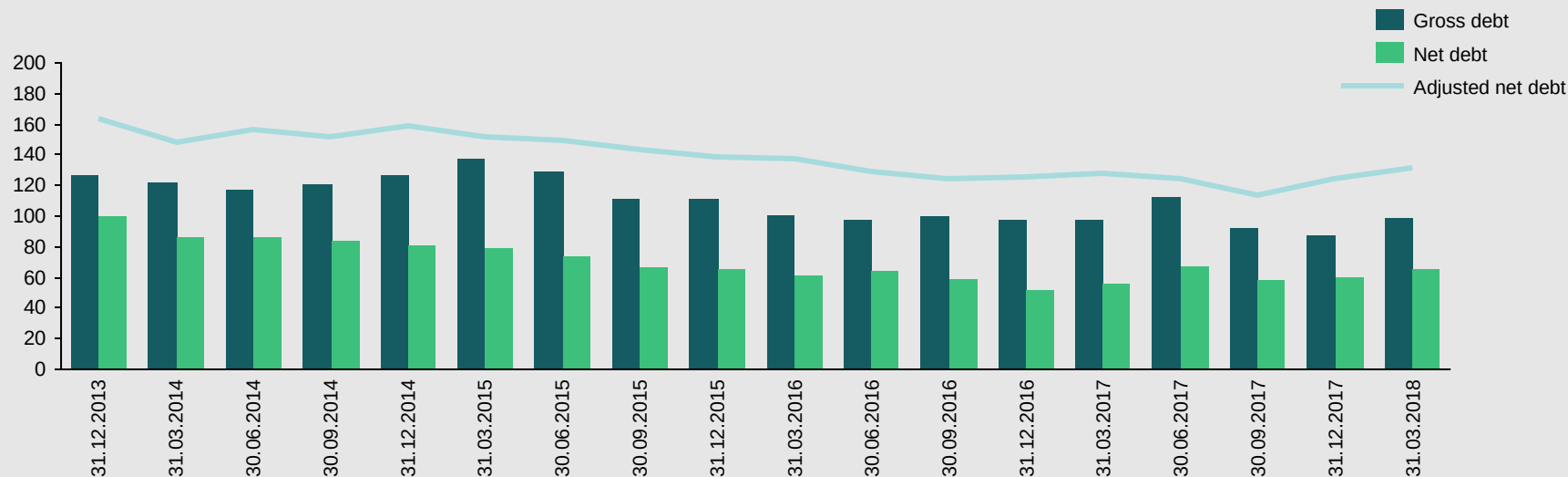
Group liquidity	SEK bn	Committed credit facilities	Facility size, EUR bn	SEK bn
Cash and cash equivalents	14.4	RCF (maturity Dec 2021)	2.0	20.6
Short term investments	18.1	Total undrawn		20.6
Reported cash, cash equivalents & short term investments	32.5	Debt maturities²		SEK bn
Unavailable liquidity ¹	-7.3	Within 90 days		17.6
Available liquidity	25.2	Within 180 days		18.0

¹ German nuclear "Solidarvereinbarung" 3.7 SEK bn, Margin calls paid (CSA) 2.7 SEK bn, Insurance

"Provisions for claims outstanding" 0.9 SEK bn

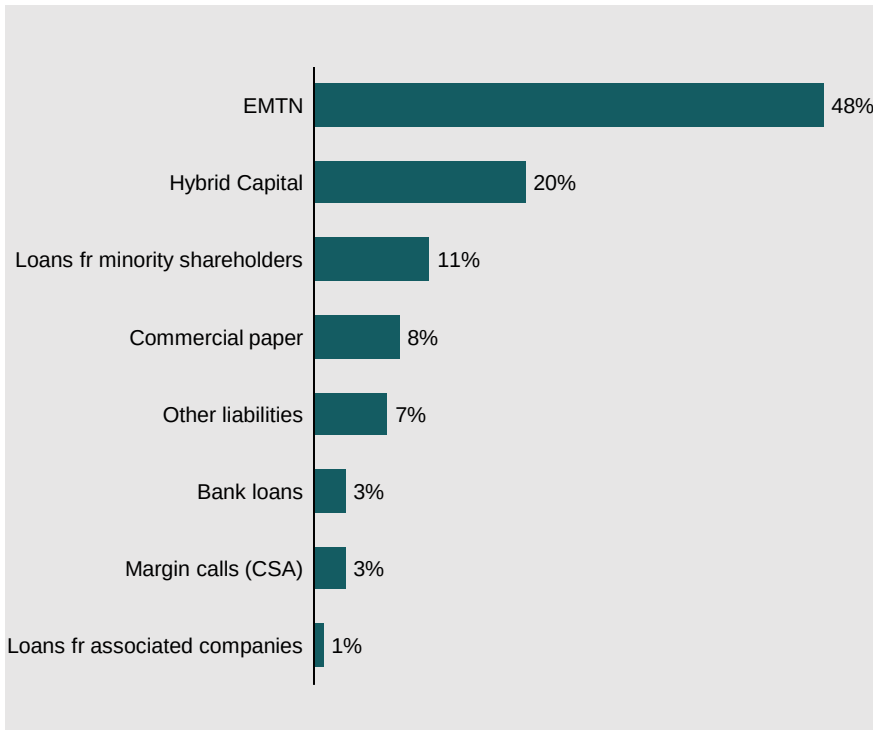
² Excluding loans from minority owners and associated companies

Debt development



Net debt increased by SEK 5.1 bn compared with the level at 31 Dec. 2017. Adjusted net debt increased by SEK 6.5 bn to SEK 130.9 bn at 31 Mar. 2018. For the calculation of adjusted net debt, see slide 29.

Breakdown of gross debt



Debt issuing programmes	Size (EUR bn)	Utilization (EUR bn)
EUR 10bn Euro MTN	10.0	4.2
EUR 2bn Euro CP	2.0	1.4
SEK 15bn Domestic CP	1.5	0.0
Total	13.5	5.7

- 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. 2018	31 Dec. 2017	Adjusted net debt (SEK bn)	31 Mar. 2018	31 Dec. 2017
Hybrid capital	-19.6	-19.1	Total interest-bearing liabilities	-97.5	-87.2
Bond issues and commercial papers and liabilities to credit institutions	-57.0	-52.1	50% of Hybrid capital	9.8	9.6
Liabilities to associated companies	-0.7	-0.5	Present value of pension obligations	-43.3	-42.0
Liabilities to minority shareholders	-10.4	-10.4	Wind & other environmental provisions	-6.8	-6.5
Other liabilities	-9.8	-5.1	Provisions for nuclear power (net)	-30.8	-30.7
Total interest-bearing liabilities	-97.5	-87.2	Margin calls received	3.3	3.3
Reported cash, cash equivalents & short-term investments	32.5	26.9	Liabilities to minority owners due to consortium agreements	9.2	9.2
Loans to minority owners of foreign subsidiaries	0.7	1.0	= Adjusted gross debt	-156.1	-144.3
Net debt	-64.4	-59.3	Reported cash, cash equivalents & short-term investments	32.5	26.9
			Unavailable liquidity	-7.3	-7.0
			= Adjusted cash, cash equivalents & short-term investments	25.2	19.9
			= Adjusted net debt	-130.9	-124.4

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: 29.0	Total Ringhals: 29.0¹	
Forsmark 1	984	1980	66.0			
Forsmark 2	1,120	1981	66.0			
Forsmark 3	1,170	1985	66.0	Total Forsmark: 24.7	Total Forsmark: 16.3	
Total Sweden	6,974	-		53.9²	45.5²	32.9³
Brunsbüttel	771	1977	66.7	11.8	7.9	
Brokdorf	1,410	1986	20.0	0	3.1	
Krümmel	1,346	1984	50.0	6.9	6.9	
Stade ⁴	640	1972	33.3	0	1.0	
Total Germany	4,167	-	-	18.7	18.8	
Total SE & DE	11,141			72.6	64.3	

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

² Total provisions in Sweden (IFRS accounting) include provisions of SEK 0.2 bn related to Ågesta

³ Vattenfall's share of the Nuclear Waste Fund (book value). IFRS consolidated value is SEK 39.1 bn.

⁴ Stade is being dismantled

Impairment history 2009 – Q1 2018

SEK bn		2009	2010	2011	2012	2013	2014	2015	2016	2017	Q1 2018	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					5.8
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	0.0	165.1
Reversed impairment losses		-1.3	-1.3	-0.4	0.0	0.0	0.0	-0.5	-0.9	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	0.0	160.7

¹ Impairment of goodwill

² Impairment of assets and goodwill

Wind - Installed capacity (MW¹) Q1 2018

	Onshore ²	Offshore	Total	United Kingdom – ROC scheme		Denmark – FIT scheme		The Netherlands – MEP/SDE(+)	
United Kingdom	396	590	986	■ Thanet	300	■ Horns Rev 1 (60%)	158	■ NoordzeeWind (50%)	108
Denmark	245	158	403	■ Ormonde (51%)	150	■ Klim (98%)	67	■ Prinsess Alexia	122
The Netherlands	241	108	349	■ Kentish Flats	90	■ Nørrekær Enge 1 (99%)	30	■ Eemmeerdijsk	17
Sweden	255	121	376	■ Kentish Flats Extension	50	■ Rejsby Hede	23	■ Irene Vorrink	17
Germany	19	636	655	■ Pen Y Cymoedd	228	■ Hagesholm	23	■ Jaap Rodenburg	17
Total (MW)	1,156	1,613	2,769	■ Ray	54	■ Nørre Økse Sø	17	■ Windpoort (40%)	13
				■ Edinbane	41	■ Tjæreborg Enge	17	■ Hoofdplaatpolder (70%)	10
				■ Clashindarroch	37	■ Hollandsbjerg	17	■ Reyndersweg (50%)	9
				■ Swinford	22	■ Bajlum (89%)	15	■ Echteld	8
				■ Parc Cynog incl. Solar ²	9	■ DræbyFed	9	■ De Bjirmen	6
				■ Pendine	5	■ Ryå	8	■ Oom Kees (12%)	6
				Installed capacity (MW)	986	■ Ejding (97%)	7	■ Oudendijk	5
						■ Nordjyllandsværket	6	■ Mariapolder	5
				Sweden – certificate scheme		■ Lyngmose	5	■ Hiddum Houw	4
				■ Lillgrund	111	■ Vellingmærsk	1	■ Enkhuizen	2
				■ Utgrunden	10	Installed capacity (MW)	403	Installed capacity (MW)	349
				■ Stor-Rotliden	78				
				■ Högabjär-Kärsås (50%)	38	Germany – EEG scheme			
				■ Höge Våg (50%)	38	■ DanTysk (51%)	288		
				■ Hjuleberg (50%)	36	■ Sandbank (51%)	288		
				■ Juktan (50%)	29	■ alpha ventus (26%)	60		
				■ Östra Herrestad	16	■ Jänschwalde	12		
				■ Näsudden	11	■ Westküste (20%)	7		
				■ Hedeskoga	6	Installed capacity (MW)	655		
				■ Other assets ³	3				
				Installed capacity (MW)	376				

■ Offshore
■ Onshore
% Vattenfall ownership

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

² 5 MW Solar

³ Kulle (1 MW), Stenkyrka (1 MW), Ruuthsbo (1 MW)

Pipeline of key wind farms 5 core countries

Construction

Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
UK	Aberdeen	92	ROC	X	20 yrs	100	2018	Under construction
DK	Horns Rev 3	406	FIT	X	50.000hrs	100	2019	Under construction
NL	Slufterdam	29	SDE+	X	15yrs	100	2019	Under construction
NL	Wieringermeer	180	SDE+	X	15yrs	100	2020	Under construction

Total 707 MW

Development

Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
NL	Wieringermeer ext.	~115	SDE+	X	15 yrs	100	2019	Procurement
SE	Blakliden + Fäbodberget	~350	Certs	N/A	15 yrs	100	2022	Procurement, preparing for FID Q2 2018
NL	Moerdijk	~21	SDE+	X	15 yrs	100	2019	Procurement
NL	Haringvliet	~21	SDE+	X	15 yrs	100	2019	Procurement
UK	South Kyle	~200	-	N/A	-	100	2021	Procurement
DK	NK II	~120	-	N/A	-	100	2021	EIA expected in Q2 2018
NL	Hollandse Kust Zuid 1 & 2	~700	-	X	-	100	2023	Permit awarded Q1 -18, preparing for procurement
DK	Danish Near Shore	344	FIT	X	50.000hrs	100	2021	Procurement
DK	Kriegers Flak	605	FIT	X	50.000hrs	100	2021	Procurement
DE	Sandbank Plus	<250	FIT (new EEG)		20 yrs	100	2024	Participated in next tender, outcome expected Q2 2018
UK	Thanet Extension	272	CFD		15 yrs	100	2024	Concept/Early planning
UK	Norfolk Vanguard	1.800	CFD		15 yrs	100	2027	Concept/Early planning
UK	Norfolk Boreas	1.800	CFD		15 yrs	100	2028	Concept/Early planning

**Total
>6GW**

Offshore

Onshore

Pipeline of solar & batteries

Large scale solar pipeline

	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Owner-ship (%)	Commissioning	Current status
Construction	NL	Velsen	2.3	SDE+	X	15 full-load yrs	100	2018	Construction started
	NL	Eemshaven	5.5	SDE+	X	15 full-load yrs	100	2018	Preparing for construction
	NL	Hemweg	2.4	SDE+	X	15 full-load yrs	100	2018	Preparing for construction
	NL	Haringvliet	38	SDE+	X	15 full-load yrs	100	2019	Subsidy received and working towards TG2
Development	NL	Floriade	4	SDE+	X	15 full-load yrs	100	2018	Subsidy received and working towards TG2
	NL	Wieringermeer	28	SDE+		15 full-load yrs	100	2020	Preparing for permit and bid submission
	NL	Oudendijk	15	SDE+		15 full-load yrs	100	2019	preparing for permit and bid submission
	NL	Echteld1	5	SDE+		15 full-load yrs	100	2019	preparing for permit and bid submission
	NL	Diemen	1.9	SDE+		15 full-load yrs	100	2019	preparing for permit and bid submission
	NL	Kooypunt	12	SDE+		15 full-load yrs	100	2019	preparing for permit and bid submission
	NL	Bijrmen	15	SDE+		15 full-load yrs	100	2019	preparing for permit and bid submission
	DE	Kogel West	10	EEG auction	X	20 yrs	100	2019	Subsidy received and working towards TG2
		TG0 projects	> 350				100	>2019	Early development and preparing for permit
			Total ~500 MW						

Pipeline of solar & batteries

Decentral solar pipeline

	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Owner-ship (%)	Commissioning	Current status
Construction	DE	PV@VF sites	Max. 5.6	EEG (small scale)	X	20 years	100	2018	FID for program / not all sites permitted yet / profitability check per site
	DE	Tenant electricity/ Mieterstrom	Max. 1.2	EEG / Tenant electricity	X	20 years	100	2018	FID / Framework agreement signed / BA Heat will be asset owner
	DE	B2B customers – direct sale	Max. 2	EEG / own consumption	X	20 years	0	2018	FID for program / not all contracts signed yet
	DE	B2B customers – roof rent	Max. 2	EEG / own consumption	X	20 years	100	2018	FID for program / not all contracts signed yet
	NL	B2B customers – direct sale / Leasing	Max. 2	SDE+		15 Full-load yrs	0	2018	FID for program / not all contracts signed yet
	NL	Merin / Direct sale	9	SDE+	X	15 Full-load yrs	0	2018 / 2019	Contract signed
Development	DE	Tenant electricity/ Mieterstrom		EEG / Tenant electricity		20 years	100	2018 / 2019	Product sales
	DE	B2B customers – direct sale		EEG / own consumption		20 years	0	2018 / 2019	Product sales
	DE	B2B customers – roof rent		EEG / own consumption		20 years	100	2018 / 2019	Product sales
	NL	B2B customers – direct sale / Leasing		SDE+		Full-load yrs	0	2019	Product sales
			Total ~21 MW						

Pipeline of solar & batteries

Batteries pipeline

	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
Construction	NL	Battery @ Alexia	3	FCR	weekly	15 years	100	2018	Preparing for commissioning
	UK	Battery @ PyC	22	EFR and CM	X	1-4 yrs EFR 5-15 CM	100	2018	Preparing for commissioning
	DE	Hafenbatterie	1	Cooperation with BMW and Bosch; FCR	weekly	10 years	100	2018	Preparing for commissioning
	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	Construction ongoing
Development	DE	Decentral - Pilot project	0.2	No support scheme → Peak shaving		15 years	100	2018	Construction ongoing
	UK	Battery @ Ray	10	tbd		15 years	100	2020	Prepare for TG0 decision
	DE	Decentral	1	No support scheme → Peak shaving		15 years	100	2018 / 2019	Sales of product
	NL	Battery @ Alexia extension	9	FCR	weekly	16 years	100	2019	Prepare for TG2 decision
	NL	Battery @ Haringvliet	12	FCR	weekly	16 years	100	2020	Prepare for TG2 decision
			Total ~60 MW						

PCR – Primary Control Reserve

CM – Capacity Mechanism

EFR – Enhanced Frequency response

FCR - Frequency Response Regulation