Vattenfall Q1 Results 2017

Magnus Hall, CEO and Stefan Dohler, CFO

Press Conference 28 April 2017

VATTENFALL

BUSINESS HIGHLIGHTS AND KEY FIGURES

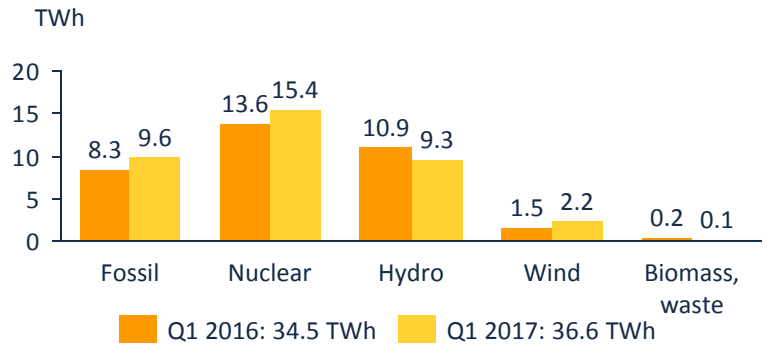
- High availability and production in Swedish nuclear
- Significant renewables growth
- Increase in customer base and strong Net Promoter Score (NPS)
- Continued investments to improve quality of supply in distribution grids in Germany and Sweden
- Build out of charging infrastructure for electric vehicles
- Expanding customer offering with geothermal heating

SEK million	Q1 2017	Q1 2016[1]
Net Sales	40 064	41 619
Underlying EBIT	8 341	8 300
EBIT	6 024	10 199
Profit for the period	3 782	6 820
ROCE, %	-1.1	-1.0
ROCE excl. IAC, %	8.6	7.6
FFO/adjusted net debt, %	20.9	19.7

1) Excluding lignite

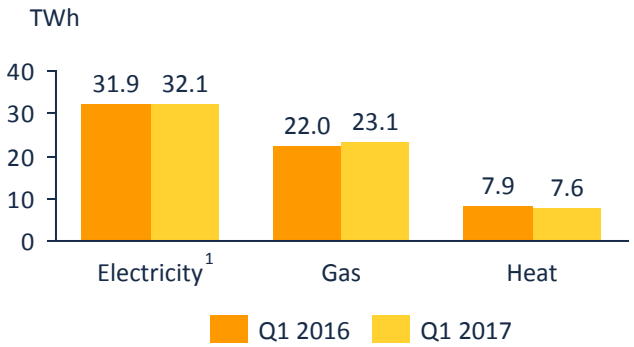
GENERATION AND CUSTOMER SALES DEVELOPMENT

Generation increased as a result of higher availability in nuclear



- High availability in nuclear power generation
- Hydro power generation decreased as a result of lower reservoir levels. Nordic reservoir levels were 23% (32%) of capacity at the end of the quarter, which is a normal level
- Higher wind power generation mainly owing to newly added capacity (Sandbank, Ray and Pen y Cymoedd)

Positive sales development due to increase in customer base

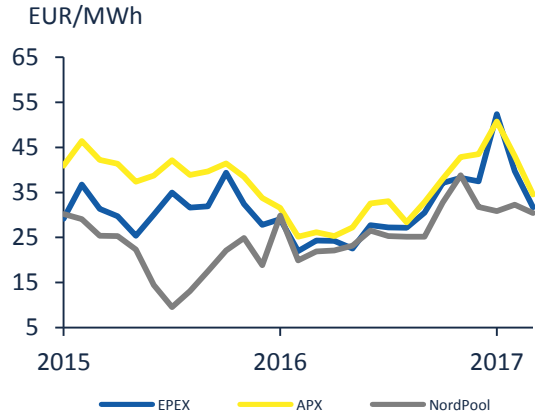


- Sales of electricity increased by 0.2 TWh mainly as a result of higher sales to customers
- Sales of gas increased by 1.1 TWh mainly as a result of increased customer base in Germany
- Sales of heat decreased by 0.3 TWh due to divestments in Sweden and the Netherlands

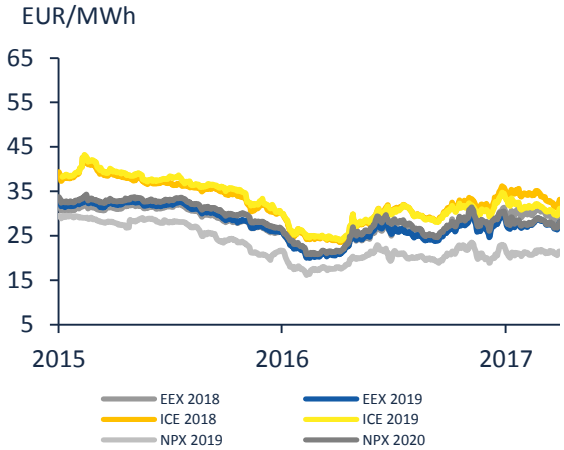
1) Pertains to electricity sales to customers, i.e., excluding bilateral sales to Nordpool.

IMPROVED PRICE DEVELOPMENT DRIVEN BY STRONGER FUEL PRICES

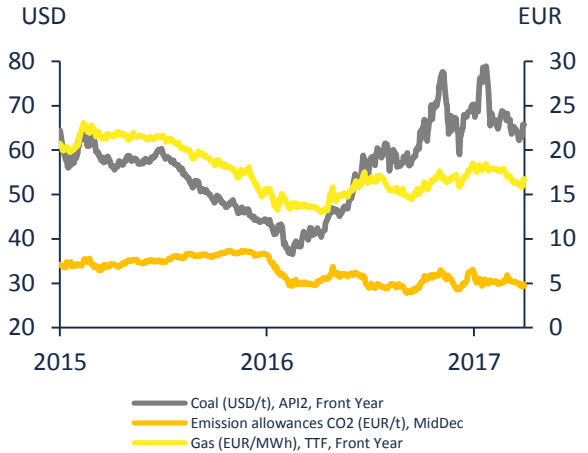
Spot power prices average



Electricity futures



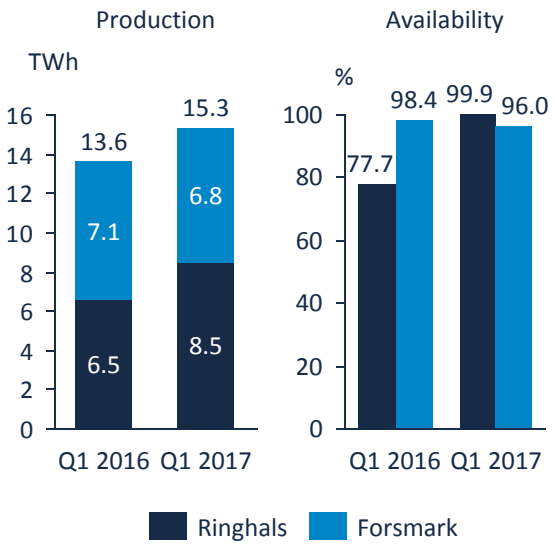
Commodity prices



- Nordic spot prices 30% higher vs. Q1 2016 mainly owing to stronger fuel prices and a weaker hydrological balance
- Stronger fuel prices pushed German and Dutch spot prices to approx. 65% and 55% higher respectively vs. Q1 2016
- Electricity futures prices higher in all of Vattenfall's markets mainly owing to recovery in coal and gas prices
- Recovery of coal and gas prices, lower prices of CO_2 allowances

STRONG PERFORMANCE IN NUCLEAR AND IMPROVED REGULATIONS

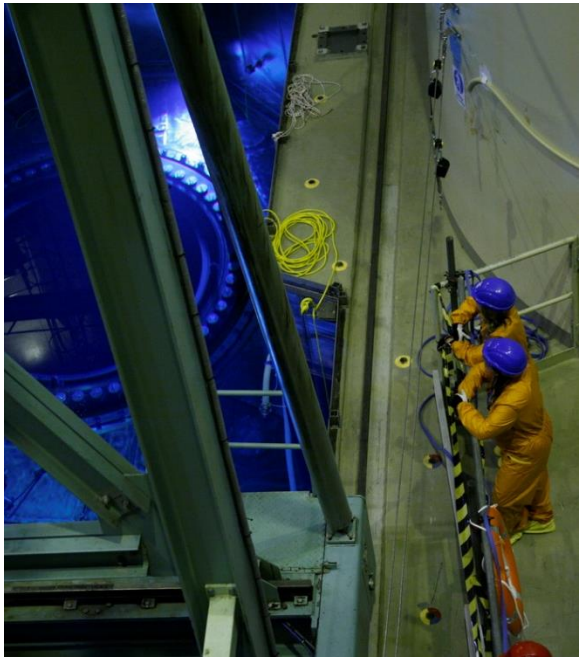
Increase in nuclear production and high availability



Positive regulatory developments

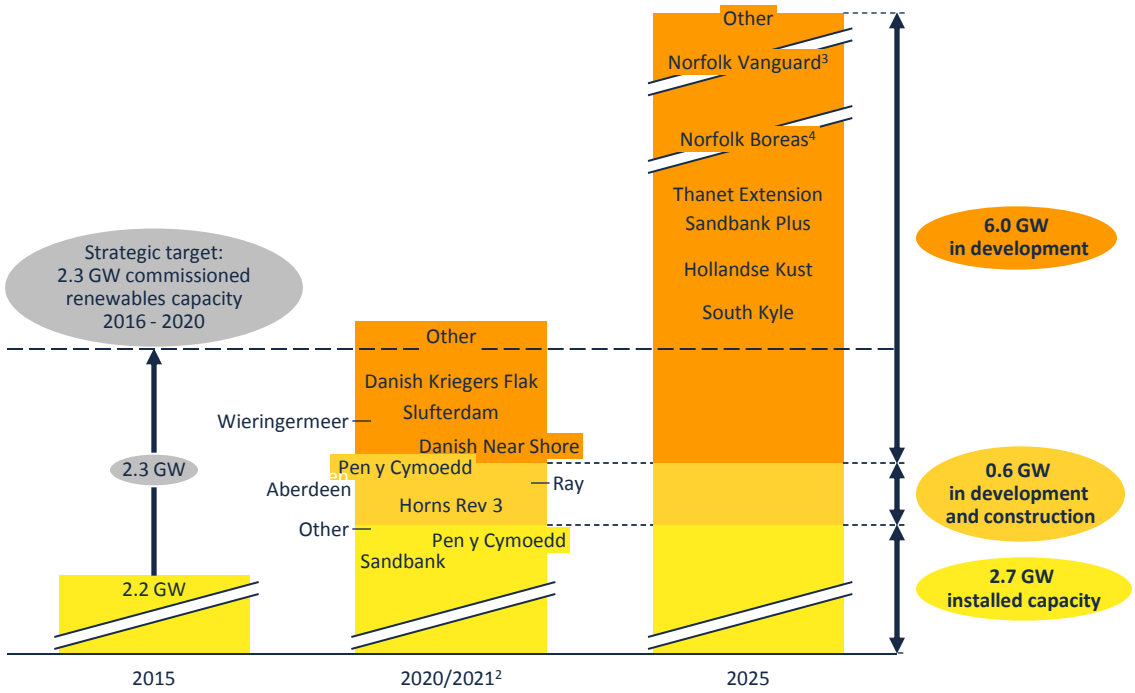
Swedish energy agreement concretized in the form of Government propositions to parliament

- ✓ Abolishment of capacity tax
- ✓ Payments to the nuclear waste fund over 50 years operational lifetime and broader investment mandate



SIGNIFICANT GROWTH IN RENEWABLES

A total of 2.7 GW capacity and more than 1,100 wind power turbines in operation. 1.5 GW of awarded project pipeline in offshore. Nearly to all capacity in development have underlying fixed support systems.[1]



Highlights Q1 2017

- Full commissioning of offshore wind park Sandbank in Germany (288 MW)
- Partial commissioning of onshore wind park Pen y Cymoedd in the UK (144 MW out of total 228 MW)

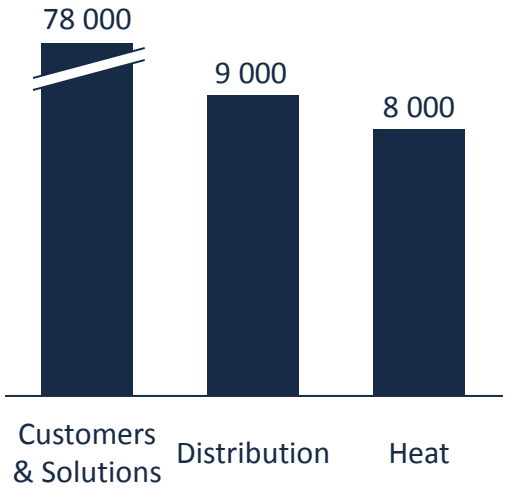
1) Exceptions: South Kyle and Aultmore
2) Danish Kriegers Flak expected commissioning 2021
3) Commissioning expected in 2025-2027
4) Commissioning TBD

MAKING PROGRESS IN CUSTOMER GROWTH AND SUSTAINABILITY RATINGS

Highlights Q1 2017

- Gold rating for Vattenfall's sustainability performance by EcoVadis[1]
- Increase of customer base by ~95,000 contracts and strong NPS[2] value
- Vattenfall to provide CO_2 neutral district cooling to GE Healthcare in Uppsala
- Chinese high-tech company Canaan Creative chooses Vattenfall as energy supplier for a datacenter in Boden
- Vattenfall acquired 35% of BrainHeart Energy Sweden, largest supplier of geothermal solutions to private customers in Sweden

Customer growth Q1 2017 (approx. number of customers)



1) EcoVadis methodology based on CSR standards such as GRI (Global Reporting Initiative), UN Global Compact and ISO 26000.
2) Net Promoter Score (NPS) is a score ranging from -100 to 100 that measures the willingness of customers to recommend a company's products or services to others.

ELECTRIFICATION AS A SOLUTION TO THE CLIMATE ISSUE

Partnering up for innovation and research

R&D partnership developments in Q1 2017

- Production of biofuels with climate smart hydrogen

preem VATTENFALL

- Large scale battery production in Sweden

northvolt VATTENFALL

- Increased investments by Swedish Energy Agency in CO_2 free steel production

SSAB LKAB VATTENFALL

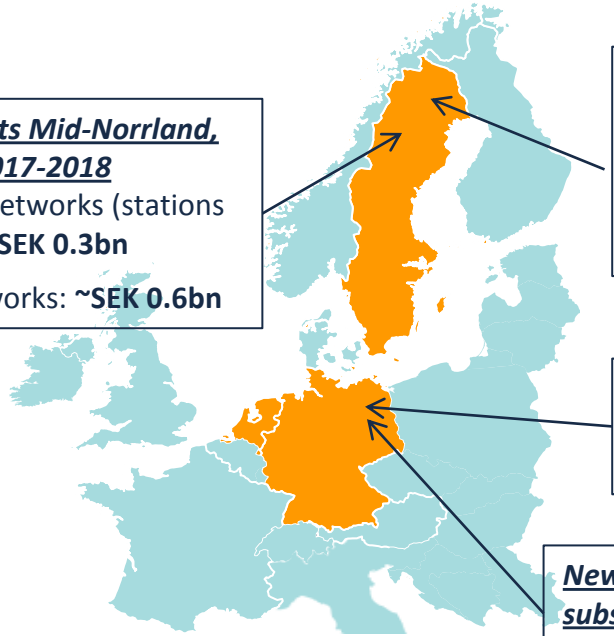
R&D and business development contribute to realisation of strategy

- ✓ Driven by identified market opportunities and strategic business needs
- ✓ More emphasis on solutions for and with customers than ever before
- ✓ Partnerships with customers and large and small technology vendors
- ✓ Exploring new ideas and technologies for new business opportunities
- ✓ Strong focus on implementation of successful results

BUILDING THE INFRASTRUCTURE OF THE NEW ENERGY LANDSCAPE

Significant upgrades are needed to modernize the grid and to allow for more renewable and distributed power in the system

- Total investments of SEK 12.4bn in 2017-2018, of which growth investments amount to SEK 5.6bn
- Investments in Sweden to improve quality of supply in the northern part of of the country
- Majority of investments in Germany allocated to maintenance and modernisation of the distribution network



Investments Mid-Norrland, Sweden 2017-2018
Regional Networks (stations & lines): **~SEK 0.3bn**

Local Networks: **~SEK 0.6bn**

Investments North of Norrland, Sweden 2017-2018
Regional Networks (stations & lines): **~SEK 0.6bn**

Local Networks: **~SEK 0.6bn**

***Newbuild 110 kV Charlottenburg switchplant, Berlin*: ~SEK 0.5bn**

***Newbuild 110 kV Wuhletal substation, Berlin*: ~SEK 0.2bn**

LEADING THE EXPANSION OF INFRASTRUCTURE FOR ELECTRIC VEHICLES

With the partner-based charging network, InCharge, Vattenfall supports the move towards zero emission transport

- Vattenfall will provide 60 new charging points incorporated in the InCharge charging network, for electric vehicles to eight streets in Stockholm as part of the City of Stockholm's initiative for more sustainable city environment and to help traffic become less independent of fossil-based fuels

- Nuon won a tender together with its partner Heijmans to install and operate 2,480 public charging points in the provinces of Noord Brabant and Limburg. Installation started in March 2017 and will be completed by the end of 2018

inCharge www.beincharge.se

GROWING IN BOTH LARGE SCALE AND DECENTRALISED SOLAR PV

Growth strategy in solar decided in Q1 2017, consisting of two pillars

1. Decentralized solar PV & storage
   Offering solutions for commercial and residential customers. Besides winning new customers Vattenfall will also leverage the existing customer base of 6 million.
2. Large-scale solar
   Installing solar PV at our wind farms or other existing sites offers synergies from using joint grid connections and infrastructure.

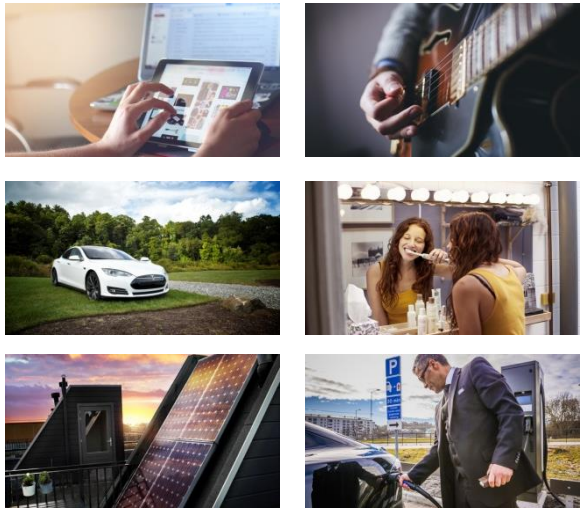
Strategic fit with Vattenfall's purpose and strategy

- ✓ Solar PV powers climate smarter living
- ✓ Substantial experience in solar PV and storage already gained
- ✓ Attractive growth in our main markets, notably the Netherlands
- ✓ Leverage on synergies by installing solar PV at existing wind farms by using joint grid connection, infrastructure etc.

DEFINED PURPOSE FOR VATTENFALL

POWER
CLIMATE
SMARTER
LIVING

“At Vattenfall we exist to help all of our customers power their lives in ever climate smarter ways and free from fossil fuel within one generation”

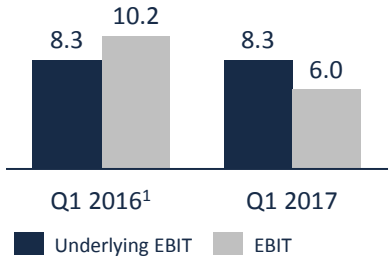


FINANCIALS

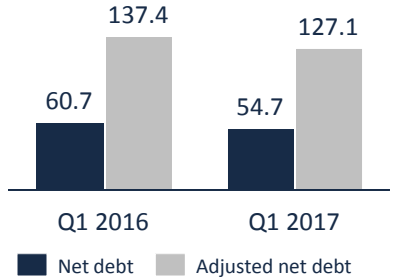
Stefan Dohler, CFO

Q1 2017 FINANCIAL HIGHLIGHTS

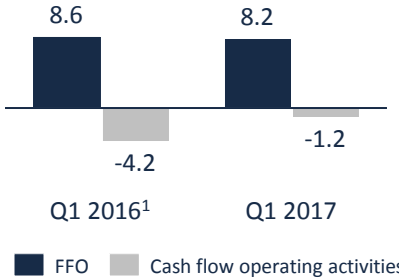
Stable underlying EBIT, SEK bn



Lower debt levels, SEK bn



Seasonal effects on cash flow, SEK bn



- Stable underlying EBIT development: lower production margins in the Power Generation operating segment was mitigated by higher earnings contribution from the wind and heat operations
- Lower reported EBIT mainly attributable to a one-time gain from divestments in Q1 2016 (SEK 1.8 billion) and lower valuation of derivatives (SEK -2.0 billion) and inventories (SEK -0.5 billion) in Q1 2017 as a result of weaker commodity prices (no cash effect)
- Lower net debt and adjusted net debt vs. Q1 2016
- Stable FFO adjusted for positive tax effect in Q1 2016. Cash flow from operating activities impacted by seasonally negative cash flow from changes in working capital
- Continued efficiency measures across the full operations + support units

1) Excluding lignite

Q1 2017 FINANCIAL OVERVIEW

SEK bn	Q1 2017	Q1 2016[2]
Net Sales	40.1	41.6
EBITDA	9.7	13.7
Underlying EBIT	8.3	8.3
EBIT	6.0	10.2
Financial items, net	-1.0	-1.6
Profit for the period	3.8	6.8
Cash flow (FFO)	8.2	8.6
Cash flow operating activities	-1.2	-4.2
Net debt	54.7	60.7
Adjusted net debt	127.1	137.4
FFO/adjusted net debt (%)	20.9[1]	19.7[1]
Adjusted net debt/EBITDA (times)	5.5[1]	4.2[1]

1) Last 12 months
2) Excluding lignite

ITEMS AFFECTING COMPARABILITY

SEK bn	Q1 2017	Q1 2016[1]
Capital gains	0.2	1.8
Capital losses	-	-0.1
Impairment losses	-	-
Reversed impairment losses	-	-
Provisions	-	-
Unrealised changes in the fair value of energy derivatives	-2.0	0.4
Unrealised changes in the fair value of inventories	-0.5	0.2
Restructuring costs	-	-0.3
Other items affecting comparability	-	-0.1
Total	**-2.3**	**1.9**

- Unrealized changes in the fair value of energy derivatives (SEK -2.0 billion) and inventories (SEK -0.5 billion) pertain mainly to temporary effects related to sourcing activities
- Capital gains of SEK 1.8bn in Q1 2016 pertain to the sales of the network services operations in Hamburg and the sale of property in Bramfeld

1) Excluding lignite

UNDERLYING EBIT PER OPERATING SEGMENT

SEK bn	Q1 2017	Q1 2016[2]
Customers & Solutions	0.7	0.8
Power Generation	2.6	2.9
Wind	0.9	0.7
Heat	2.2	2.1
Distribution	2.2	1.9
Other[1]	-0.1	-
Eliminations	-0.2	-0.1
Total	**8.3**	**8.3**

- Customer & Solutions: Almost on par with previous year
- Power Generation: Lower production margins resulting from average lower prices achieved and lower production volumes in hydro. Higher realised result contribution from sourcing and trading activities
- Wind: New capacity added (Sandbank in Germany, Ray and Pen Y Cymoedd in the UK)
- Heat: Lower operating expenses and lower depreciation as a result of the impairments in 2016
- Distribution: Increased revenues as a result of lower number of power outages and higher network tariffs in Sweden and Germany

1) "Other" pertains mainly to all Staff functions, including Treasury and Shared Service Centres
2) Excluding lignite

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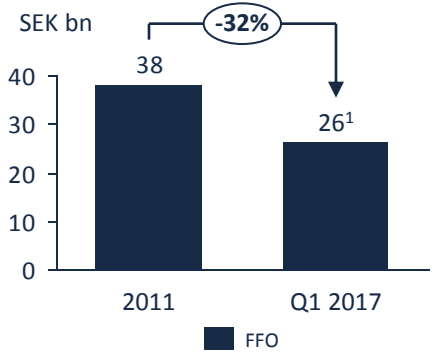
FINANCIAL TARGETS

Financial metric	Target	Q1 2017	Q1 2016[2]
Return on Capital Employed (ROCE)[1] (ROCE excl. items affecting comparability)	9%	-1.1 (8.6)	-1.0 (7.6)
FFO/adjusted net debt[1]	22-30%	20.9	19.7
Net debt/equity	50-90%	62.6	48.8
Dividend policy (% of the year's profit after tax)	40-60%	-	-

1) Last 12 months
2) Excluding lignite

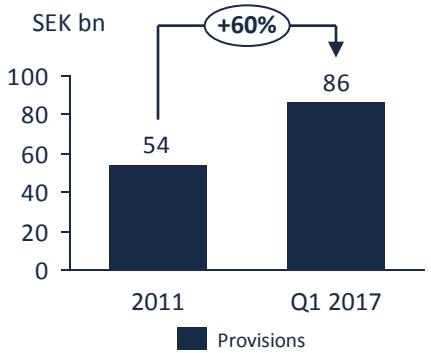
SUCCESSFUL IN MANAGING LEVERAGE IN A TOUGH MARKET

Despite drop in FFO due to declining market conditions...



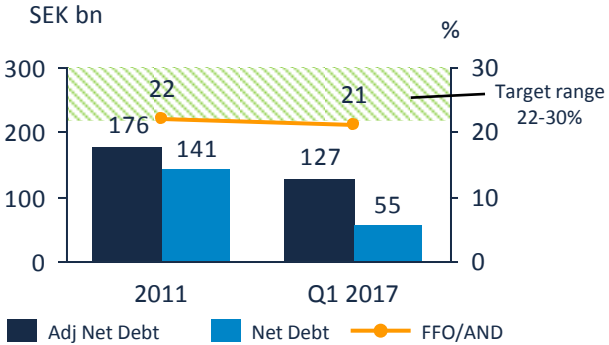
- Pressure on earnings as a result of weaker situation for merchant generation → FFO declining by SEK 12bn
- Higher share of regulated and contracted earnings will lower volatility going forward

...and increase of provisions...



- Declining discount rate environment and revised cost estimates → Provisions increased by SEK 32bn
- Reduced uncertainty in provision development going forward with the transfer of medium and long-term nuclear liabilities in Germany

...FFO/AND is today close to our target range



During the past 5 years, we have actively reduced the overall net debt position by SEK 86bn through:

- Cost reductions
- Reduced capex
- Divestments
- No dividend pay-out

1) Last 12 months

A LEADER IN COST REDUCTIONS AND OPERATIONAL EFFICIENCY

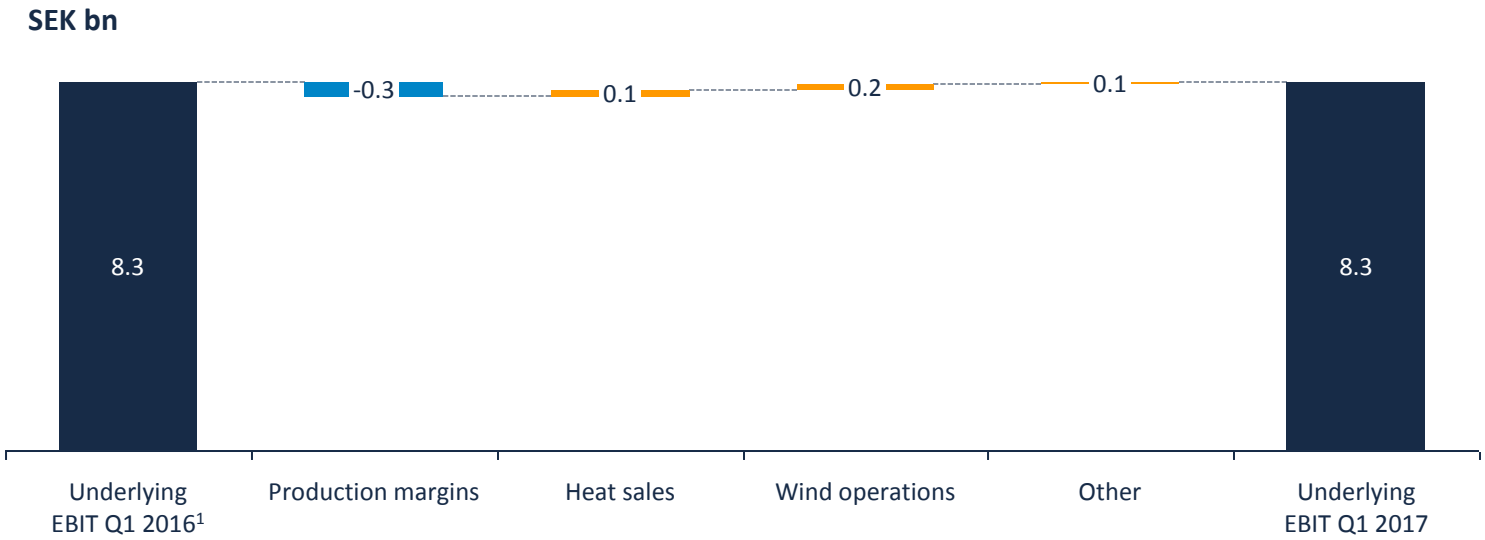
Cost reductions through structural measures with a business centric approach. A performance culture, focus on operational excellence and strong asset management will enable a sustainable growth for Vattenfall.

Power Generation	Wind	Distribution	Customers & Solutions	Heat	Group level
Operational efficiency measures	**Leading the development in lowering LEC**	**Focus on effective operations and investment efficiency**	**Best in class cost to serve**	**Strengthen operational performance**	**Optimizing structure and scope of staff and support functions**
➢ Target production cost of 0.19 SEK/kWh by 2021 in nuclear ➢ Strengthen synergies between Ringhals and Forsmark ➢ Increase flexibility of hydro and nuclear plants ➢ Consolidation of BA Markets org.	➢ Procurement excellence & supply chain integration ➢ Portfolio approach and technology development ➢ O&M optimization, harmonization and digitalization	➢ Modernisation of grids leading to fewer outages and higher quality of delivery ➢ Continuous process improvements ➢ Increased efficiency through adopting digitalisation (surveillance and smart grids)	➢ Outsourcing of selected operational processes ➢ Enhancing customer journeys and accelerating digital capabilities ➢ Improving internal processes	➢ Operational excellence and continuous benchmarking* ➢ Target 25% reduction of maintenance capex and opex spend 2016-2020 ➢ Maximise short term cash in condensing	➢ Business process outsourcing with support functions in scope ➢ IT transformation: capability management, data centre transformation, ERP consolidation ➢ Real estate consolidation (locations)

*Top quartile performance according to Solomon

DEVELOPMENT OF UNDERLYING EBIT Q1 2017

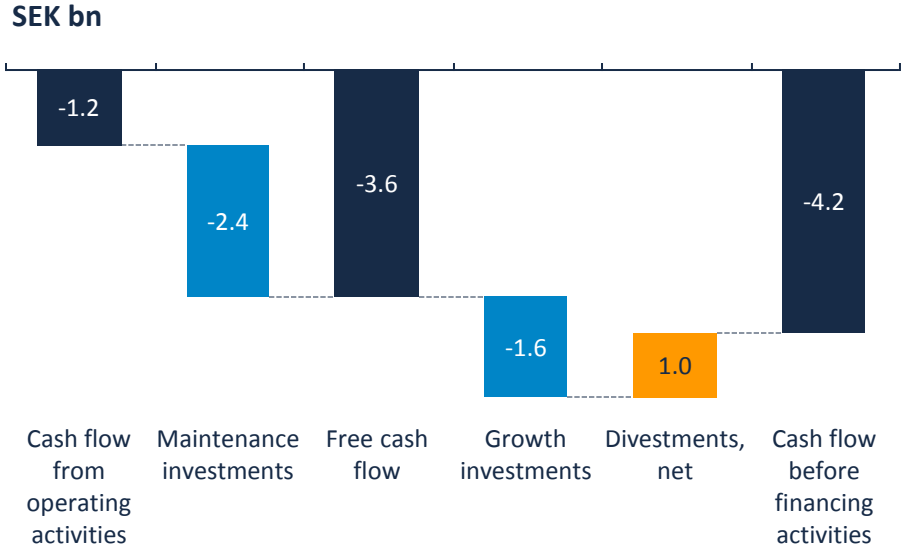
Lower production margins fully offset by contribution from the heat and wind operations
Underlying EBIT in line with previous year



1) Excluding lignite

CASH FLOW DEVELOPMENT Q1 2017

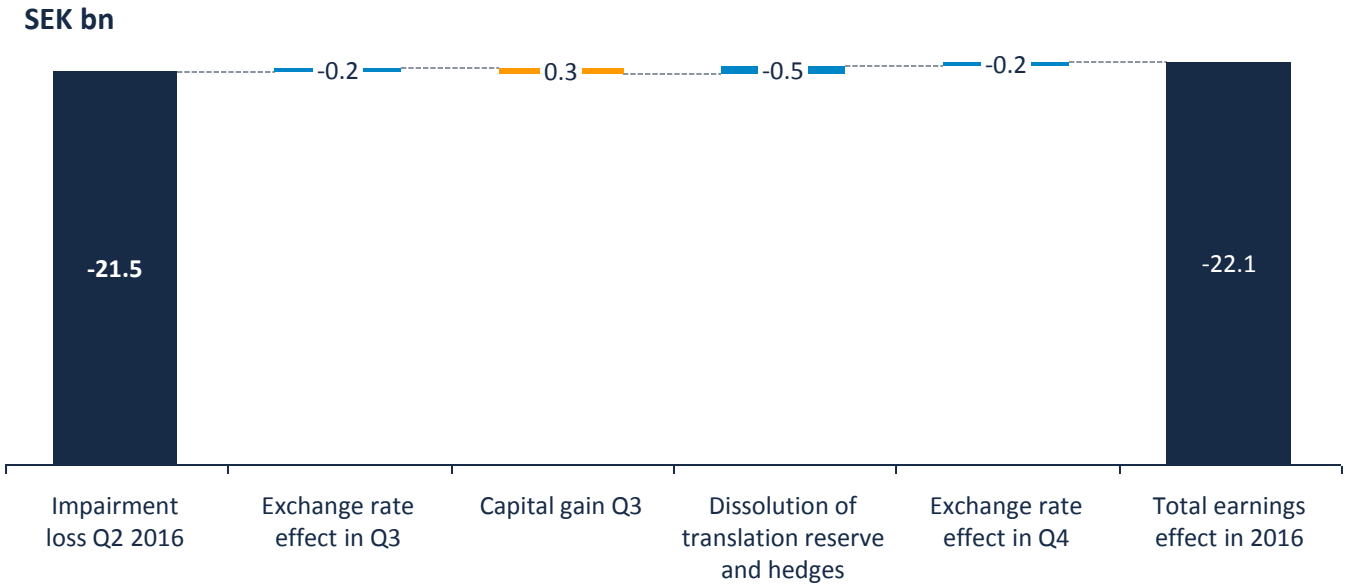
Cash flow from operating activities impacted by seasonally negative cash flow from changes in working capital and higher taxes paid due to tax refund in Sweden in Q1 2016



- Funds from operations (FFO) decreased vs. Q1 2016, mainly owing to higher taxes paid due to tax refunds in Sweden in the first quarter of 2016
- Cash flow after changes in working capital Q1 2017 was seasonally negative
- Growth investments in Q1 2017 were mainly attributable to investments within wind power
- Divestments in Q1 2017 were mainly attributable to the heat operations in Sweden and in the Netherlands

APPENDIX

TOTAL EARNINGS EFFECT OF SALE OF LIGNITE OPERATIONS



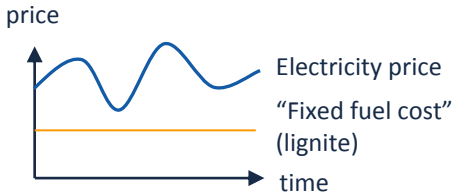
IMPAIRMENT HISTORY 2009 – Q1 2017

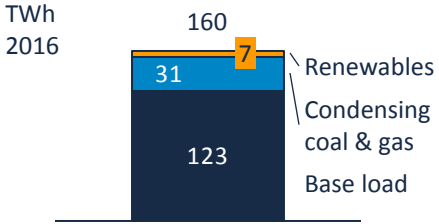
		2009	2010	2011	2012	2013	2014	2015	2016	Total
The Netherlands	Thermal assets		4.3[1]	0.4[2]	8.6[2]	14.7	2.6		2.8	33.4
	Trading					6.5[1]	10.0[1]		0.7	17.2
	Other	1.2	1.2			1.5[2]	1.9			5.8
Germany	Thermal assets			0.3		4.3	5.7	19.2	26.1	55.6
	Nuclear assets			10.5						10.5
	Transmission		5.1							5.1
	Other					0.1	1.1	0.3	2.3	3.8
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**	**164.7**
Reversed impairment losses		-1.3	-1.3	-0.4	0.0	0.0	0.0	-0.5	-0.9	-4.4
Impairments (net)		**4.2**	**9.8**	**10.9**	**12.3**	**30.1**	**23.8**	**36.3**	**32.9**	**160.3**

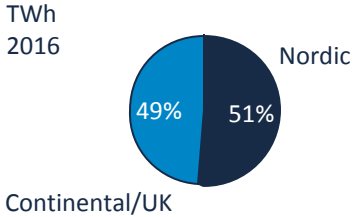
1) Impairment of goodwill
2) Impairment of assets and goodwill

ADAPTING THE HEDGE STRATEGY TO CHANGING POWER PRICE EXPOSURE

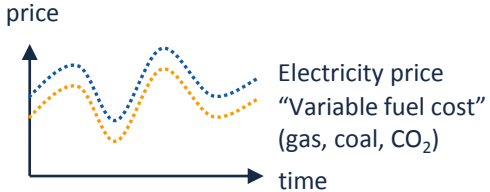
Before lignite divestment



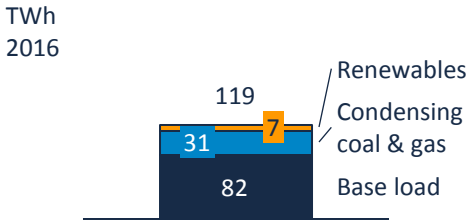




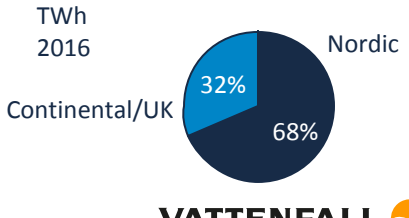
After lignite divestment



From fixed fuel to variable fuel dominated in Germany



Group base load production hours reduced by ~33%



C/UK power production share reduced from 49% to 32%

- Lower hedge ratio
- Hedging primarily Nordic exposure
- Hedging closer to delivery

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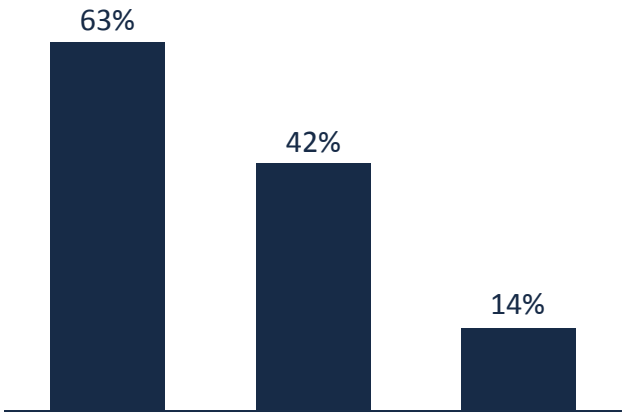
PRICE HEDGING

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 hedge ratio (%) and indicative prices



Average indicative Nordic hedge prices

2018	2019	2020
28	29	36

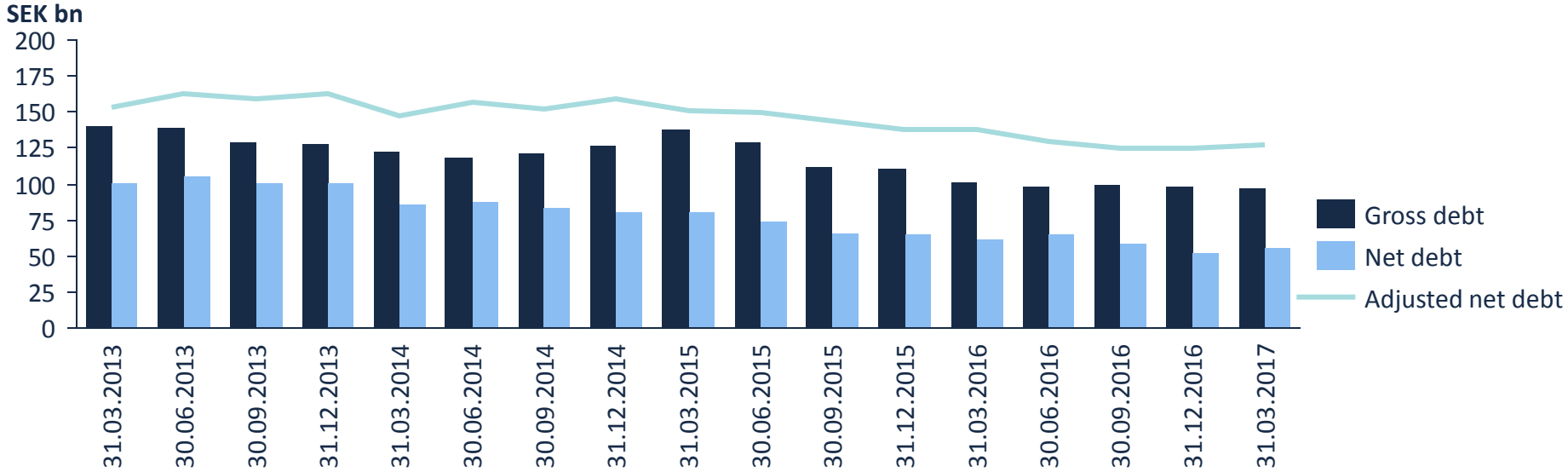
Sensitivity analysis – Continental portfolio

Market quoted	+/- 10% impact on future profit before tax, MSEK[1]			Observed yearly volatility
	2017	2018	2019	
Electricity	+/- 275	+/- 391	+/- 742	22% - 23%
Coal	-/+ 7	-/+ 221	-/+ 214	31% - 32%
Gas	-/+ 146	-/+ 395	-/+ 371	25% - 27%
CO_2	-/+ 21	-/+ 59	-/+ 67	54% - 55%

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

DEBT DEVELOPMENT

Net debt increased as a result of negative cash flow after investments. Adjusted net debt increased as a result of higher net debt, which was partly offset by lower amount of nuclear provisions.



Net debt increased by SEK 4.0 billion compared with the level at 31 Dec. 2016. Adjusted net debt increased by SEK 2.3 billion, compared with the level at 31 Dec. 2016. For the calculation of adjusted net debt, see slide 32.

CONTINUED STRONG LIQUIDITY POSITION

Group liquidity	MSEK
Cash and cash equivalents	18,010
Short term investments	21,298
Reported cash, cash equivalents & short term investments	**39,308**
Unavailable liquidity[1]	-6,998
Available liquidity	**32,310**

Committed credit facilities	Facility size	MSEK
RCF (maturity Dec 2021)	2,000 MEUR	19,064
Total undrawn		19,064

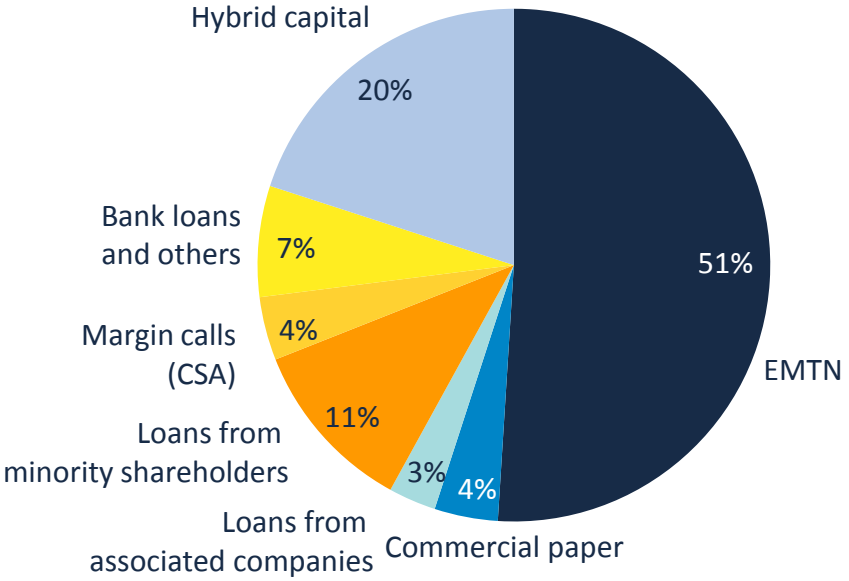
Debt maturities[2]	MSEK
Within 90 days	5,352
Within 180 days	6,216

1) German nuclear ”Solidarvereinbarung” 3,245 MSEK, Margin calls paid (CSA) 2,550 MSEK, Insurance “Provisions for claims outstanding” 1,202 MSEK
2) Excluding loans from minority owners and associated companies

BREAKDOWN OF GROSS DEBT

Total debt: SEK 96bn (EUR 10bn)

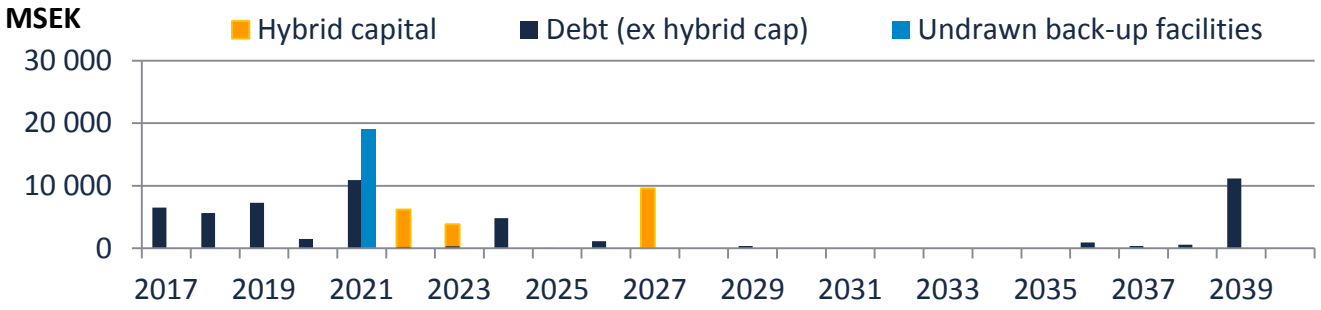
External market debt: SEK 83bn (EUR 9bn)



Debt issuing programmes	Size (MEUR)	Utilization (MEUR)
EUR 10bn Euro MTN	10,000	4,610
EUR 2bn Euro CP	2,000	415
SEK 15bn Domestic CP	1,574	0
Total	**13,574**	**5,025**

- 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

DEBT MATURITY PROFILE[1]



	31 Mar. 2017	31 Dec. 2016
Duration (years)	5.6	5.6
Average time to maturity (years)	8.3	8.5
Average interest rate (%)	4.5	4.4
Net debt (SEK bn)	54.7	50.7
Available group liquidity (MSEK)	32,310	36,297
Undrawn committed credit facilities (MSEK)	19,064	19,105

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

REPORTED AND ADJUSTED NET DEBT

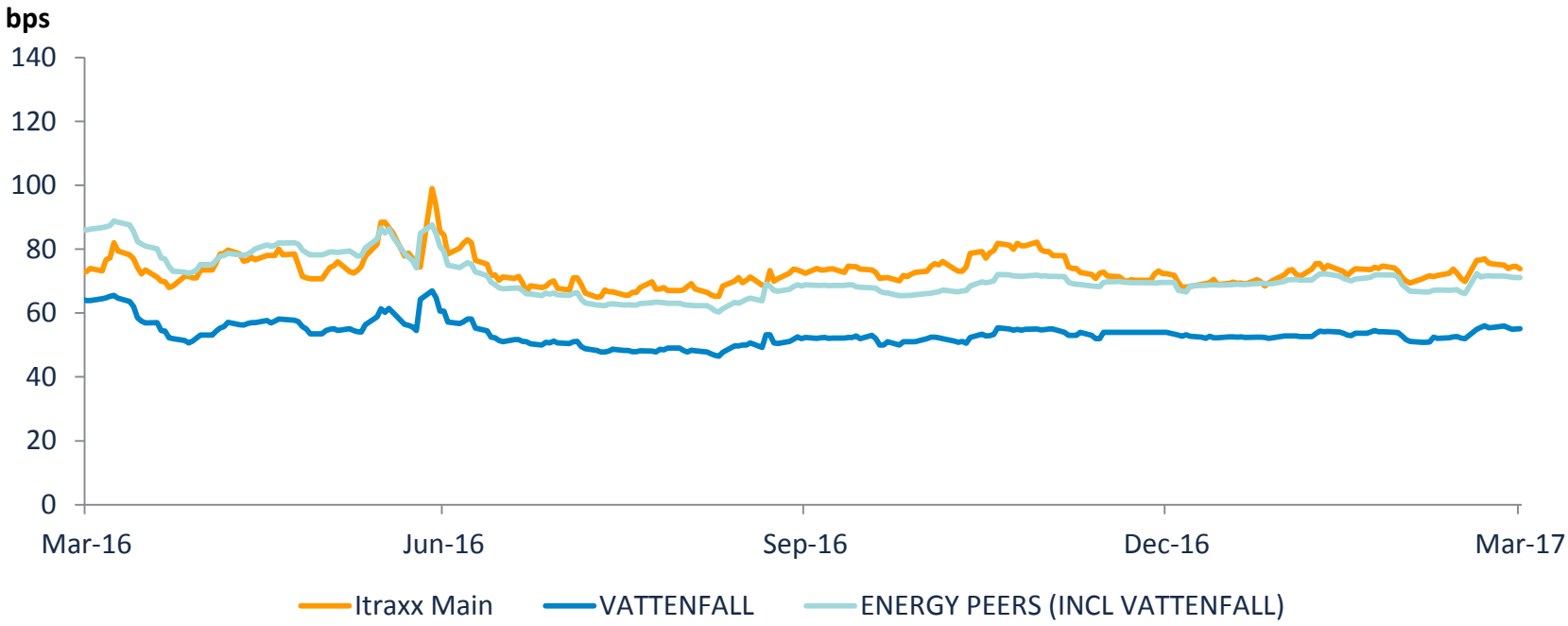
Reported net debt (SEK bn)	31 Mar. 2017	31 Dec. 2016
Hybrid capital	-19.1	-19.2
Bond issues and commercial papers and liabilities to credit institutions	-56.0	-55.8
Liabilities to associated companies	-3.1	-2.8
Liabilities to minority shareholders	-10.3	-10.1
Other liabilities	-7.5	-8.8
Total interest-bearing liabilities	**-96.0**	**-96.7**
Reported cash, cash equivalents & short-term investments	39.3	43.3
Loans to minority owners of foreign subsidiaries	2.0	2.7
Net debt	**-54.7**	**-50.7**

Adjusted net debt (SEK bn)	31 Mar. 2017	31 Dec. 2016
Total interest-bearing liabilities	-96.0	-96.7
50% of Hybrid capital	9.5	9.6
Present value of pension obligations	-40.6	-40.6
Wind & other environmental provisions	-4.3	-4.4
Provisions for nuclear power (net)	-40.9	-41.9
Margin calls received	3.7	4.0
Liabilities to minority owners due to consortium agreements	9.2	9.0
= Adjusted gross debt	**-159.4**	**-161.0**
Reported cash, cash equivalents & short-term investments	39.3	43.3
Unavailable liquidity	-7.0[1]	-7.0[1]
= Adjusted cash, cash equivalents & short-term investments	**32.3**	**36.3**
= Adjusted net debt	**-127.1**	**-124.7**

1) Of which: German nuclear ”Solidarvereinbarung” 3.2, Margin calls paid (CSA) 2.6, Insurance “Provisions for claims outstanding” 1.2

STABLE CDS SPREAD DEVELOPMENT

CDS spread 5-years



NUCLEAR PROVISIONS

Reactor	Net capacity (MW)	Start (year)	Vattenfall share (%)	Vattenfall provisions, MSEK (IFRS accounting)	Vattenfall provisions, MSEK (pro rata)	Sw nuclear waste fund MSEK (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: 25,635**	**Total Ringhals: 25,635[1]**	
Forsmark 1	984	1980	66.0			
Forsmark 2	1,120	1981	66.0			
Forsmark 3	1,170	1985	66.0	**Total Forsmark: 22,019**	**Total Forsmark: 14,533**	
Total Sweden	**6,974**	-		**47,884[2]**	**40,398[2]**	**30,985[3]**
Brunsbüttel	771	1977	66.7	19,990	13,327	
Brokdorf	1,410	1986	20.0	0	5,634	
Krümmel	1,346	1984	50.0	12,948	12,948	
Stade[4]	640	1972	33.3	0	2,691	
Total Germany	**4,167**	-	-	**32,938**	**34,601**	
Total SE & DE	**11,141**			**80,822**	**74,999**	

1) Vattenfall is 100% liability of Ringhals decommissioning, while owning only 70.4%
2) Total provisions in Sweden (IFRS accounting) include provisions of 230 MSEK related to Ågesta
3) Vattenfall's share of the Nuclear Waste Fund (book value). IFRS consolidated value is 36,943 MSEK.
4) Stade is being dismantled

CAPITAL EXPENDITURES

Continuing operations SEK bn	Q1 2017	Q1 2016	FY 2016
Electricity generation	1.7	1.9	13.1
CHP/Heat	0.4	0.5	3.1
Electricity networks	0.8	0.8	5.2
Other	1.1	0.2	0.5
Total	**4.0**	**3.3**	**21.9**
- of which maintenance and replacement	*2.4*	*2.3*	*10.6*
- of which growth	*1.6*	*1.0*	*11.4*

WIND - INSTALLED CAPACITY (MW[1]) Q1 2017

	Onshore	Offshore	Total
United Kingdom	258	590	848
Denmark	246	158	404
The Netherlands	281	108	389
Sweden	257	121	378
Germany	19	636	655
Total (MW)	**1,061**	**1,613**	**2674[4]**

Onshore (incl.solar)

Offshore

% Vattenfall ownership

United Kingdom – ROC scheme	
Thanet	300
Ormonde (51%)	150
Kentish Flats	90
Kentish Flats Extension	50
Edinbane	41
Clashindarroch	37
Swinford	22
Parc Cynog[2]	9
Pen Y Cymoedd	144
Pendine	5
Installed capacity (MW)	**848**

Sweden – certificate scheme	
Lillgrund	111
Stor-Rotliden	78
Högabjär-Kärsås (50%)	38
Höge Väg (50%)	38
Hjuleberg (50%)	36
Juktan (50%)	29
Östra Herrestad	16
Näsudden	11
Utgrunden	10
Hedeskoga	7
Other assets[3]	4
Installed capacity (MW)	**378**

Denmark – FIT scheme	
Horns Rev 1 (60%)	158
Klim (98%)	67
Nørrekær Enge 1 (99%)	30
Rejsby Hede	23
Hagesholm	23
Nørre Økse Sø	17
Tjæreborg Enge	16
Hollandsbjerg	17
Bajlum (89%)	15
DræbyFed	9
Ryå	8
Ejsing (97%)	7
Nordjyllandsværket	6
Lyngmose	5
Other assets	3
Installed capacity (MW)	**404**

Germany – EEG schem	
DanTysk (51%)	288
Sandbank (51%)	288
alpha ventus (26%)	60
Jänschwalde	12
Westküste (20%)	7
Installed capacity (MW)	**655**

The Netherlands – MEP/SDE(+)	
Prinses Alexia	122
Egmond aan Zee (50%)	108
Oudelandertocht (50%)	20
Eemmeerdijk	17
Irene Vorrink	17
Jaap Rodenburg	17
Slufterdam (existing)	14
Windpoort (40%)	13
Hoofdplaatpolder (70%)	10
Reyndersweg (50%)	9
Echteld	8
De Bjirmen	6
Oom Kees (12%)	6
Oudendijk	5
Mariapolder	5
Groettocht (50%)	5
Hiddum Houw	4
Waterkaaptocht (50%)	4
Enkhuizen	2
Installed capacity (MW)	**389**

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

2) Including 5 MW solar

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

4) Part of Pen Y Cymoedd commissioned. Remainder (84 MW) will follow in Q2. Ray (54 MW) will also be commissioned then.

PIPELINE OF WIND FARMS 5 CORE COUNTRIES

In development and construction

Country	Name	No. of Turbines	Capacity (MW)[1]	Support scheme	Awarded	Duration of support	Owner-ship (%)	Commissioning	Current status
UK	Pen y Cymoedd	76	228	ROC	X	20 yrs	100	2017	Under construction
UK	Ray	16	54	ROC	X	20 yrs	100	2017	Under construction
UK	Aberdeen	11	92	ROC	X	20 yrs	100	2018	Under construction
DK	Horns Rev 3	49	407	FIT	X	50.000hrs	100	2019	Under construction
			Total 781						

In development

Country	Name	No. of Turbines	Capacity (MW)[1]	Support scheme	Awarded	Duration of support	Owner-ship (%)	Commissioning	Current status
NL	Slufterdam	8	~25-30	SDE+	X	Full-load yrs	100	2018	Preparing for investment decision
NL	Wieringermeer	50	180	SDE+	X	Full-load yrs	100	2019	Preparing for investment decision
DE	Forst Briesnig	5	16	FIT (old EEG)	X	20 yrs	100	2018	Preparing for investment decision
SE	Fäbodberget	34	122	Certs	tbd	15 yrs	100	2020	Preparing for grid investment decision
SE	Blakliden	50	180	Certs	tbd	15 yrs	100	2020	Preparing for grid investment decision
SE	Bruzaholm	≤25	≤75	Certs	tbd	15 yrs	100	2022	Permitting activities
UK	South Kyle	50	170	-	-	-	100	2020-2022	Permitting activities
UK	Aultmore	13	~25	-	-	-	100	2020-2022	Permitting activities
NL	Hollandse Kust	~60-80	700	FIT		20 yrs		2023	Preparing for tender
DK	Danish Near Shore	35-44	350	FIT	X	50.000hrs	100	2020	Tender won & concession signed
DK	Danish Kriegers Flak	60-75	600	FIT	X	50.000hrs	100	2021	Tender won & concession signed
DE	Sandbank Plus	~15	<250	FIT (new EEG)		20 yrs	100	2024	Participate in next tender
UK	Thanet Extension	34	340	CFD		15 yrs	100	2021	Concept/Early planning
UK	Norfolk Vanguard	120-180	1,800	CFD		15 yrs	100	2025-2027	Concept/Early planning
UK	Norfolk Boreas	120-180	1,800	CFD		15 yrs	100	TBD	Concept/Early planning
			Total ~6,000						

Onshore

Offshore

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

2) Pending closing of transaction

VATTENFALL