



Vattenfall H1 and Q2 Results 2017

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Press Conference 21 July 2017



BUSINESS HIGHLIGHTS AND KEY FIGURES

- **Vattenfall delivers positive results**
 - Profit for the period SEK 5.9 bn
 - Underlying operating profit increasing to SEK 13.2 bn
- **Vattenfall grows**
 - Customer growth by more than 110,000 customers contracts
 - Further wind farms fully operational
 - Strengthened presence in UK
- **On track to meet strategic and financial targets**
 - Further steps to fossil-free within one generation
 - Continued focus on cost reductions and operational excellence
 - Positive developments in German nuclear operations

SEK bn	H1 2017	H1 2016 ¹	Q2 2017	Q2 2016 ¹
Net Sales	69.4	71.7	29.3	30.0
Underlying EBIT	13.2	12.0	4.9	3.7
EBIT	10.5	1.9	4.4	-8.3
Profit for the period	5.9	1.0	2.1	-5.8
ROCE, %	4.2	3.1	4.2	3.1
ROCE excl. IAC, %	9.6	8.4	9.6	8.4
FFO/adj net debt, %	22.2	22.4	22.2	22.4

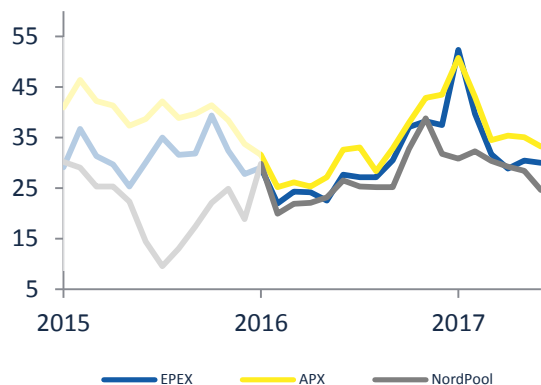
1) Excluding divested lignite operations

IMPROVED PRICE DEVELOPMENT DRIVEN BY STRONGER FUEL PRICES

- Nordic spot prices 15% higher vs. Q2 2016 mainly owing to higher coal price
- German and Dutch spot prices were 20% and 22% higher respectively vs. Q2 2016
- Electricity futures prices higher as a result of stronger fuel prices
- Recovery of coal and gas prices, lower prices of CO₂ allowances

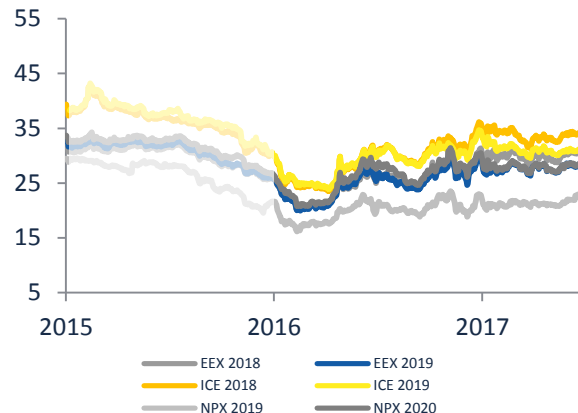
Spot power prices average

EUR/MWh



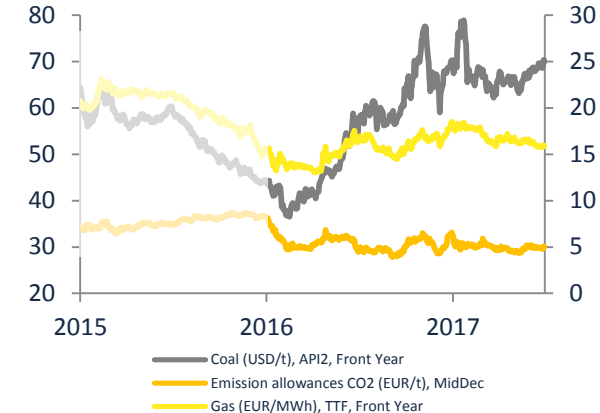
Electricity futures

EUR/MWh



Commodity prices

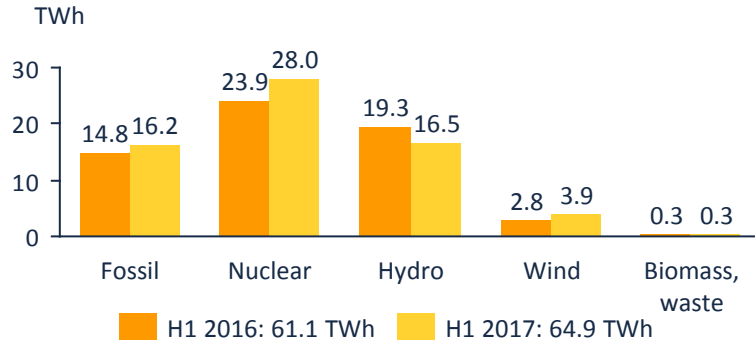
USD EUR



POSITIVE GENERATION AND CUSTOMER SALES DEVELOPMENT

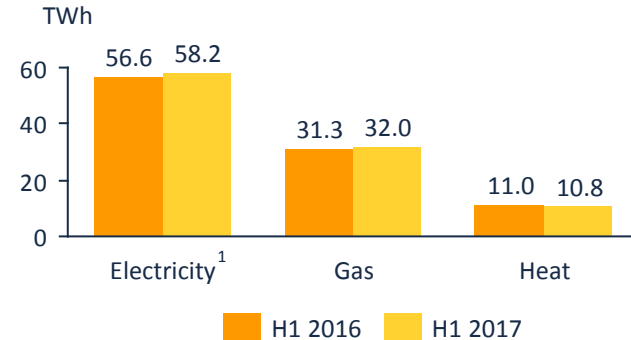
Generation increased by 4 TWh to 65 TWh

- Strong increase in nuclear production due to high availability
- Fossil plants benefit from better spreads
- New assets increase wind production
- Lower reservoir levels decrease hydro production



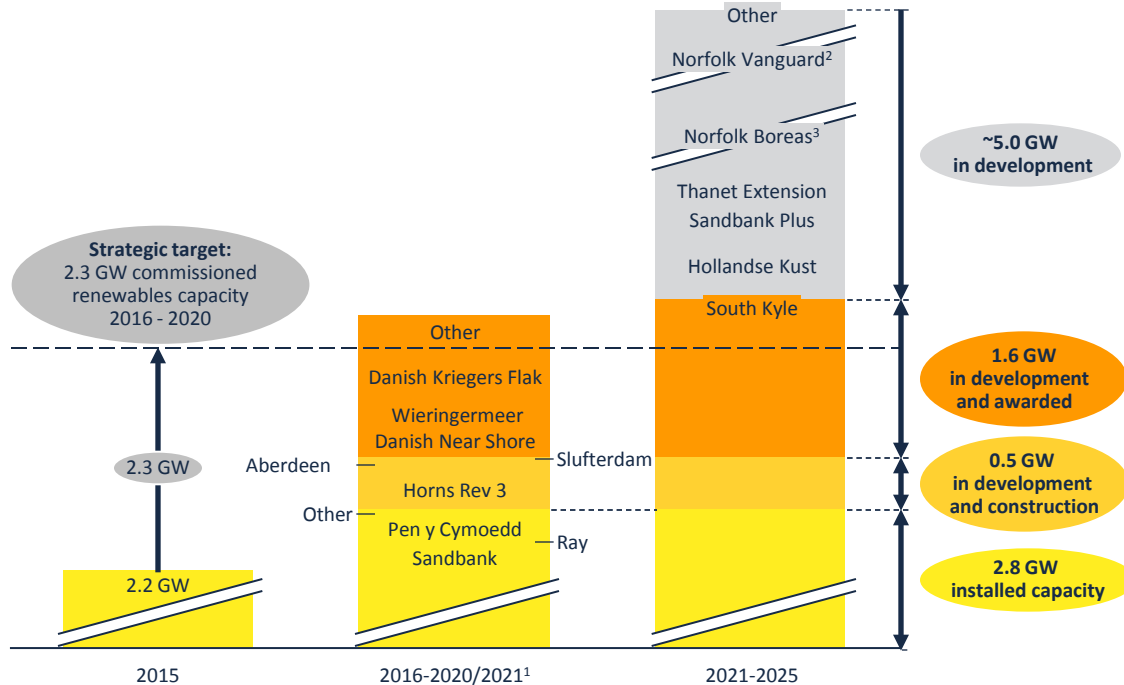
Positive sales development due to increase in customer base

- Overall customer contracts increase by more than 110,000
- Sales volumes in electricity increasing
- Relatively stable volumes in gas and heat



SIGNIFICANT GROWTH IN RENEWABLES

A total of 2.8 GW are now in operation. With a further ~2 GW in development and construction or awarded, Vattenfall is well on track meeting its strategic long-term target on renewable capacity growth.



Highlights H1 2017

- ✓ Commissioning of UK-onshore wind farms Pen y Cymoedd (228 MW) and Ray (54 MW) and Sandbank in Germany (288 MW)
- ✓ Investment Decision Slufterdam (29 MW)
- ✓ Newly established business unit (within BA Wind) for PV and Batteries to increase growth in those areas
- ✓ More than one third of all capex in the first half of 2017 was invested in new renewables (wind, solar, biomass), in total SEK 2.7 bn

1) Danish Kriegers Flak expected commissioning 2021

2) Commissioning expected in 2025-2027

3) Commissioning TBD

STRENGTHENED PRESENCE IN UK

Vattenfall complements its presence in the UK by entering the B2C and B2B - market

Major UK locations and wind farms



Strong acquisitions and new offerings

- Fast growing iSupplyEnergy acquired
 - ✓ Gas and electricity retail
 - ✓ 120,000 customers
 - ✓ 100% share
- New renewable-power offering to B2B-customers
- Complementing our already existing strong presence in UK with more than 200 employees and ~1,000 MW wind farms in operation with further projects in renewables and batteries in development



Source: Bournemouth Tourism

FOSSIL-FREE WITHIN ONE GENERATION

Vattenfall delivers on its commitment to become fossil-free within one generation with significant steps taken in Q2 – coupling all important CO₂-emitting sectors

Power → Transport

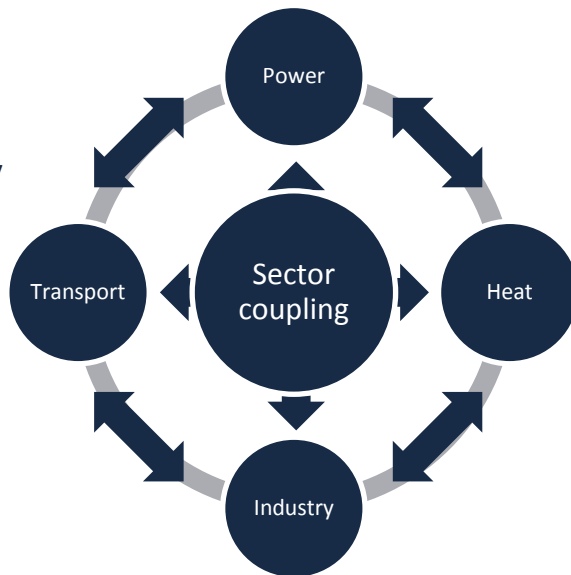
- New business unit **E-Mobility** is being established
- Successful deal with real estate company Slättö Förvaltning for **500 charging points and InCharge subscriptions** over five years.

Power → Industry processes

Climate smart projects with partners

- **Zero-CO₂-Cement** with Cementa
- **Fossil-free-steel** with SSAB/LKAB JV
- **Green hydrogen** with Preem

Potential to **decrease Swedish CO₂ – emissions by up to 30% after 2030**



Power → Heat

- Investment decision for **Power to Heat-plant** in Berlin

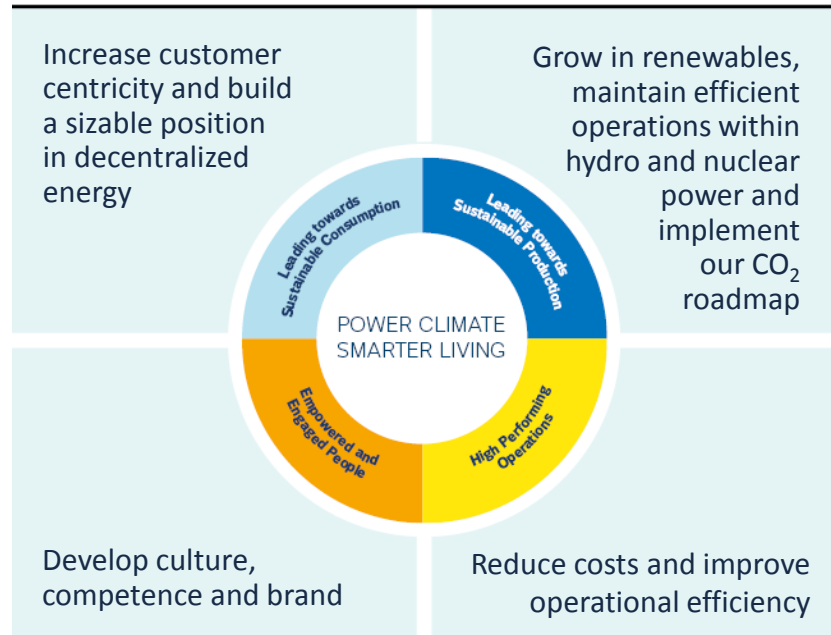
Combined Heat and Power Production

- **Decommissioning** of the last **lignite-fired CHP-plant**, **saving 600kt CO₂/a**
- **Investment** decision to convert a 120 MW heat plant in Uppsala to **biomass-firing**
- **Research project** started with Statoil and Gasunie in Eemshaven to **replace natural gas by hydrogen** as fuel

STRATEGY AND STRATEGIC TARGETS

Vattenfall is well on track to meet its strategic targets until 2020

Our strategic objectives and prioritised areas



Strategic targets to 2020

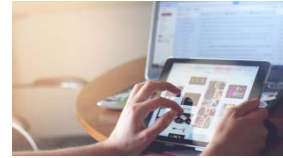
Strategic targets to 2020	30 June 2017
1 Customer engagement, NPS +2 (Net Promoter Score)	+3
2 Aggregated commissioned new renewables capacity 2016-2020: $\geq 2,300$ MW	597
3 Absolute CO ₂ emissions, pro rata, continuing operations: ≤ 21 Mtonnes	11.8
4 ROCE: $\geq 9\%$ (continuing operations)	4.2
5 Safety as LTIF (Lost Time Injury Frequency): ≤ 1.25	1.3
6 Employee Engagement Index: $\geq 70\%$ ¹	...

1) Only updated on an annual basis

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”

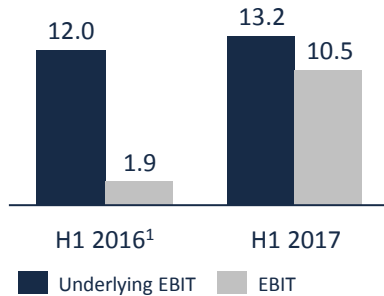


FINANCIALS

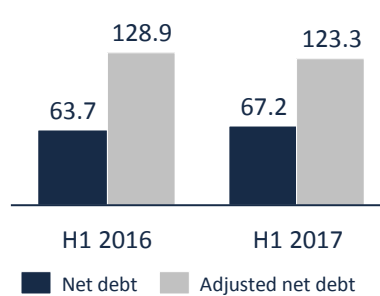
Stefan Dohler, CFO

H1 2017 FINANCIAL HIGHLIGHTS

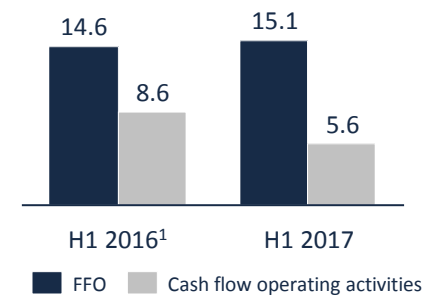
Increasing underlying EBIT, SEK bn



Fairly stable debt levels, SEK bn



Stable funds from operations, SEK bn



- Underlying EBIT increased by SEK 1.2 bn to SEK 13.2 bn due to increased earnings in heat, wind, and distribution
- Strong increase in reported EBIT due to impairments on thermal and German hydro assets taken in Q2 2016¹
- FFO and debt levels fairly stable, with FFO / adjusted net debt at 22.2 % and above target of 22%
- Continued focus on operational excellence and costs in standardised services and operations
- Credit rating agencies affirmed rating and revised the outlook from negative to stable (Moody's: A3 and S+P: BBB+)
- On July, 3rd (event after Q2), SEK 17.2 bn have been paid to the Nuclear Fund in Germany. The payment is neutral for adjusted net debt.

1) Excluding divested lignite operations

CONTINUED FOCUS ON OPERATIONAL EXCELLENCE AND COSTS

Vattenfall is committed to reach its ROCE-target of 9% also in the current market price environment

Strengthened efficiency in internal services

Vattenfall entered strategic partnerships with Capgemini (finance and procurement) and Accenture (HR). This will lead to

- ✓ Improved quality
- ✓ Increased cost-efficiency
- Up to 500 employees affected from outsourcing activities

Optimisation of Hydro Germany

To make Hydro Germany (pump storage plants) fit for the future in the current price environment several measures will be taken

- ✓ Optimising plant operations
- ✓ Capex and opex reductions
- Restructuring implies reduction of staff by up to 60% (currently 420 FTE) until 2019



POSITIVE DEVELOPMENTS IN GERMAN NUCLEAR OPERATIONS IN H1 2017

Vattenfall has significantly reduced its business risks related to German nuclear operations

Four positive developments

- ✓ EU has approved the new law regarding obligations for interim and final storage of nuclear waste
- ✓ SEK 17.2 bn payment made on 3rd July (event after Q2) to the public fund, thereby releasing Vattenfall from obligations for interim and final storage of nuclear waste
- ✓ De-fueling of the nuclear power plant Brunsbüttel: 300 MSEK provisions released
- ✓ Decision of German constitutional court: SEK 1.8 bn nuclear tax refund for the 20%-share in nuclear power plant Brokdorf
- Note: Decision unrelated to the arbitration proceedings at the ICSID¹, where a decision is expected later in 2017.



1) ICSID: International Centre for Settlement of Investment Disputes (ICSID)

CONTINUED STRONG LIQUIDITY POSITION

Group liquidity	SEK bn
Cash and cash equivalents	21.6
Short term investments	21.2
Reported cash, cash equivalents & short term investments	42.8
Unavailable liquidity ¹	-7.0
Available liquidity	35.8

Committed credit facilities	Facility size	SEK bn
RCF (maturity Dec 2021)	2.0 EUR bn	19.3
Total undrawn		19.3
Debt maturities ²		SEK bn
Within 90 days		4.9
Within 180 days		5.9

- From the available liquidity of SEK 36 bn, SEK 17.2 bn have been paid out after Q2 on 3rd of July to the German nuclear fund.
- Despite the large payment, the liquidity of Vattenfall remains strong.

1) German nuclear "Solidarvereinbarung" 3.3 SEK bn, Margin calls paid (CSA) 2.6 SEK bn, Insurance "Provisions for claims outstanding" 1.1 SEK bn

2) Excluding loans from minority owners and associated companies, and excluding liability to pay-out into German nuclear fund

H1 AND Q2 2017 FINANCIAL OVERVIEW

Underlying operating profit is increasing due to higher earnings mainly in heat, wind, and distribution

SEK bn	H1 2017	H1 2016 ²	Q2 2017	Q2 2016 ²
Net Sales	69.4	71.7	29.3	30.0
EBITDA	18.4	18.0	8.7	4.3
Underlying operating profit (EBIT)	13.2	12.0	4.9	3.7
EBIT	10.5	1.9	4.4	-8.3
Financial items, net	-2.1	-2.4	-1.1	-0.8
Profit for the period	5.9	1.0	2.1	-5.8
Funds from Operations (FFO)	15.1	14.6	6.8	6.0
Cash flow operating activities	5.6	8.6	6.8	12.9
Net debt	67.2	63.7	67.2	63.7
Adjusted net debt	123.3	128.9	123.3	128.9
FFO/adjusted net debt (%)	22.2 ¹	22.4 ¹	22.2 ¹	22.4 ¹
Adjusted net debt/EBITDA (times)	4.5 ¹	4.1 ¹	4.5 ¹	4.1 ¹

1) Last 12 months

2) Excluding divested lignite operations

UNDERLYING EBIT PER OPERATING SEGMENT

SEK bn	H1 2017	H1 2016 ²	Q2 2017	Q2 2016 ²
Customers & Solutions	1.1	1.1	0.3	0.4
Power Generation	5.6	5.4	3.0	2.5
Wind	1.1	0.6	0.2	-0.1
Heat	2.7	2.2	0.5	0.0
Distribution	3.4	2.8	1.2	0.9
Other ¹	-0.5	0.0	-0.4	0.0
Eliminations	-0.1	-0.1	-0.0	-0.0
Total	13.2	12.0	4.9	3.7

- Customer & Solutions: operating profit in line with last year
- Power Generation: increase owing to improved trading results and refund of hydro property tax, offset partly by lower achieved power prices.
- Wind: higher operating profit following new capacity added (Sandbank, Pen y Cymoedd, Ray)
- Heat: higher gross margin
- Distribution: underlying operating profit increased as a result of a higher gross margin resulting from positive price effects.

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

2) Excluding divested lignite operations

ITEMS AFFECTING COMPARABILITY

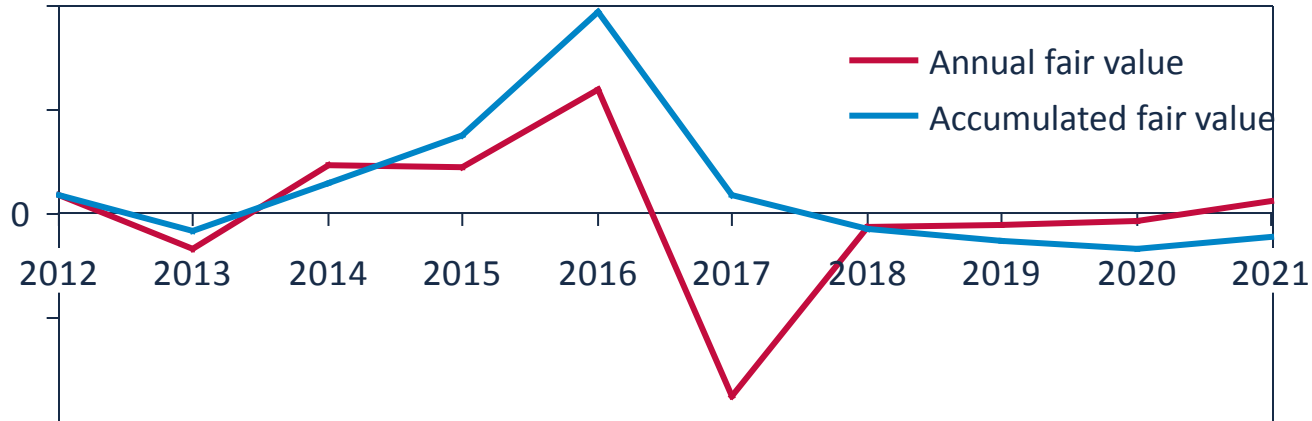
SEK bn	H1 2017	H1 2016 ¹	Q2 2017	Q2 2016 ¹
Capital gains	0.6	2.0	0.4	0.3
Capital losses	0.0	-0.1	0.0	-0.0
Impairment losses	-0.4	-9.0	-0.4	-9.0
Reversed impairment losses	-	-	-	-
Provisions	-0.6	-	-0.6	-
Unrealised changes in the fair value of energy derivatives	-3.1	-3.4	-1.2	-3.8
Unrealised changes in the fair value of inventories	-0.6	0.6	-0.1	0.4
Restructuring costs	-0.0	-0.3	-0.0	0.0
Other items affecting comparability	1.3	-0.0	1.4	0.1
Total	-2.7	-10.1	-0.4	-12.0

- Unrealized changes in the fair value of energy derivatives (SEK -3.1 bn) and inventories (SEK -0.6 bn) pertain mainly to temporary effects related to sourcing activities
- Other items refer mainly to the refund of nuclear fuel tax (SEK 1.8 bn)
- In H1 2016 impairments were made for the Moorborg power plant and hydro assets in Germany and fossil-based assets in the Netherlands.

1) Excluding divested lignite operations

FAIR VALUE ADJUSTMENTS OVER TIME

Conceptual graph



- **Fair value profit and loss is a pass-through position** for external deals. Upon settlement the deals transfer into underlying EBIT.
- External deals, for which a hedge purpose is sufficiently proven, are not recognized in the fair value profit and loss. Such deals are 'parked' in the balance sheet hedge reserve until settlement.
- Hence the **fair value profit and loss** does not provide a comprehensive view and is **no indication for the future underlying EBIT**.

FINANCIAL TARGETS

On an underlying basis Vattenfall meets its financial targets

Financial metric	Target ²	H1 2017	H1 2016 ³
Return on Capital Employed (ROCE) ¹ (ROCE excl. items affecting comparability)	9%	4.2 9.6	3.1 8.4
FFO/adjusted net debt ¹	22-30%	22.2	22.4
Net debt/equity	50-90%	74.7	72.6
Dividend policy (% of the year's profit after tax)	40-60%	-	-

1) Last 12 months

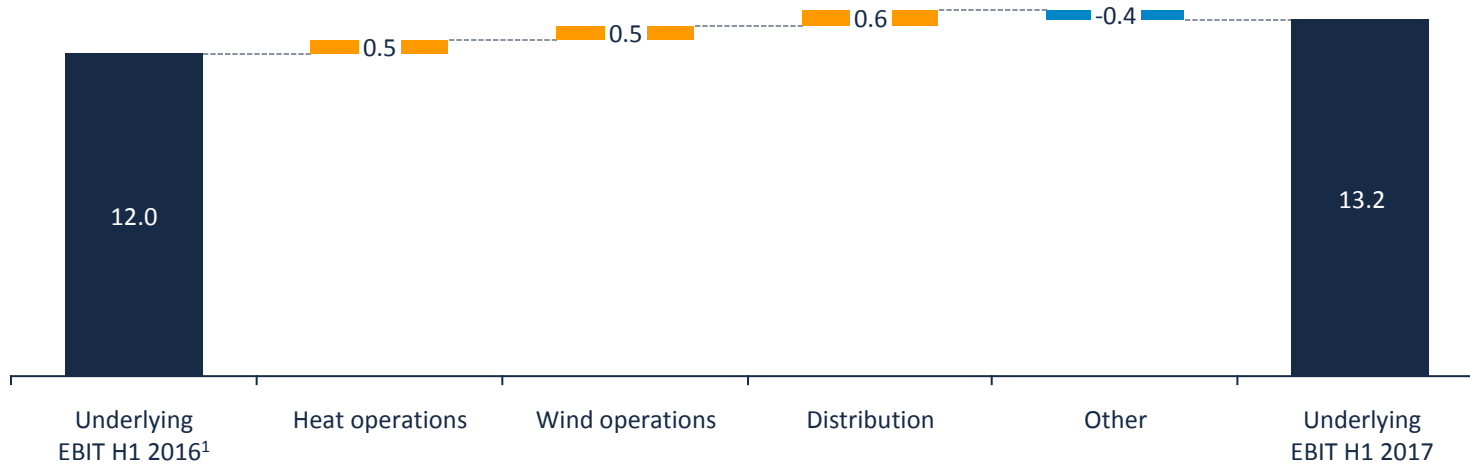
2) Financial targets are set and reviewed by the owner for a business cycle-period

3) Excluding divested lignite operations

DEVELOPMENT OF UNDERLYING EBIT H1 2017

Improvement following higher contribution from heat, wind and distribution operations

SEK bn

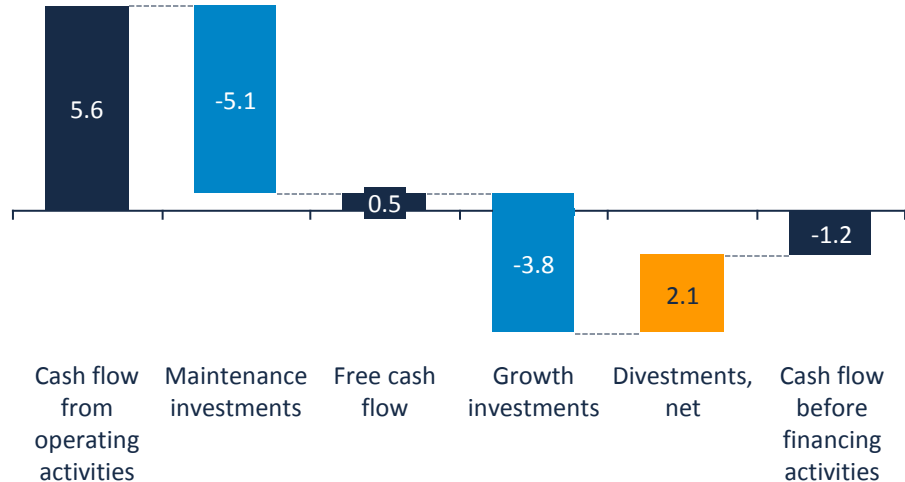


1) Excluding divested lignite operations

CASH FLOW DEVELOPMENT H1 2017

Positive cash flow from operating activities and divestments offset investment cash flows to a great extent, despite negative cash flows from working capital

SEK bn



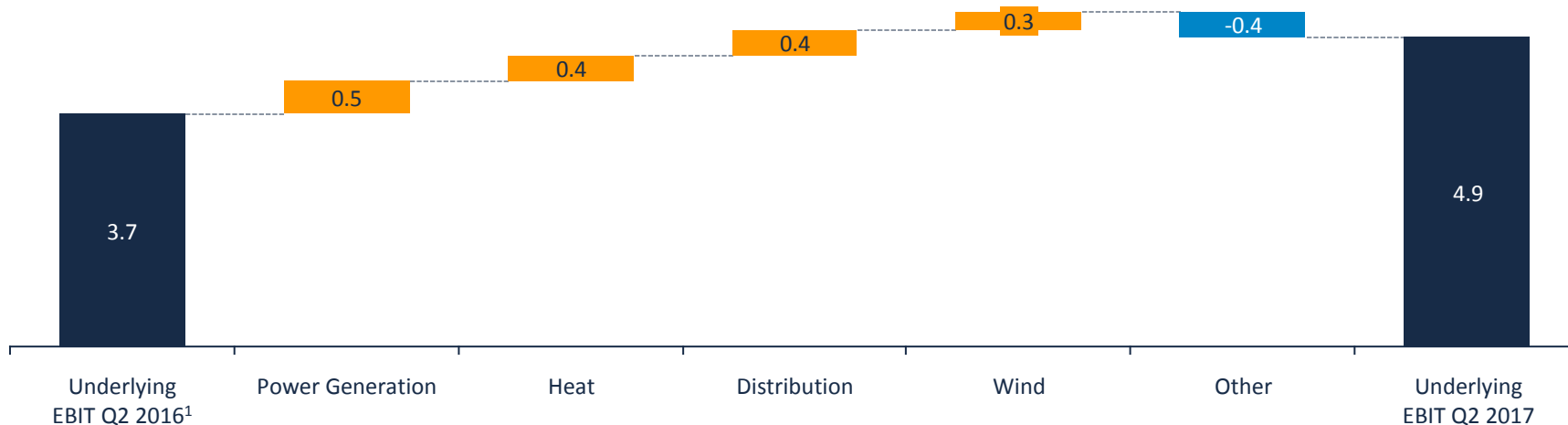
- FFO amounts to SEK 15.1 bn.
- Cash flow after changes in working capital is SEK 5.6 bn.
- Growth investments in H1 2017 were mainly attributable to investments within wind power.
- Divestments in H1 2017 were mainly attributable to the heat operations in Germany and Sweden.

APPENDIX

DEVELOPMENT OF UNDERLYING EBIT Q2 2017

Positive development coming from across the Vattenfall group

SEK bn

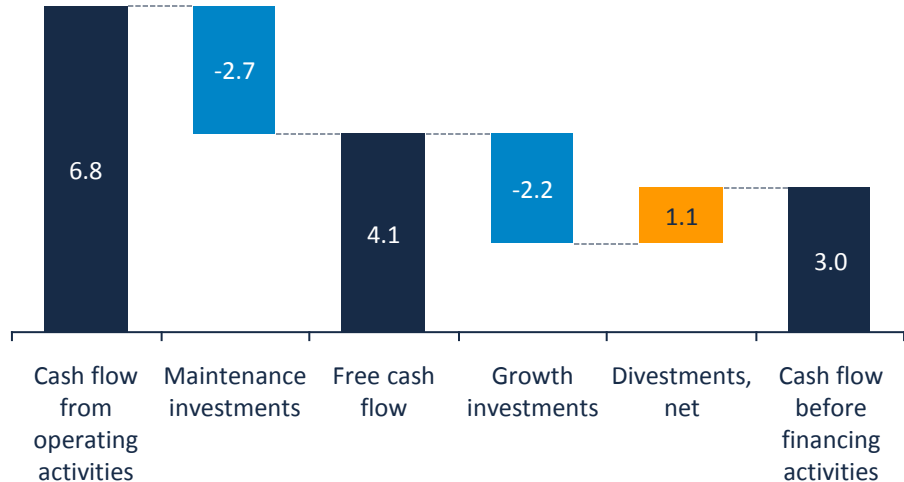


1) Excluding divested lignite operations

CASH FLOW DEVELOPMENT Q2 2017

Healthy cash flow from operating activities, thereby reducing adjusted net debt

SEK bn



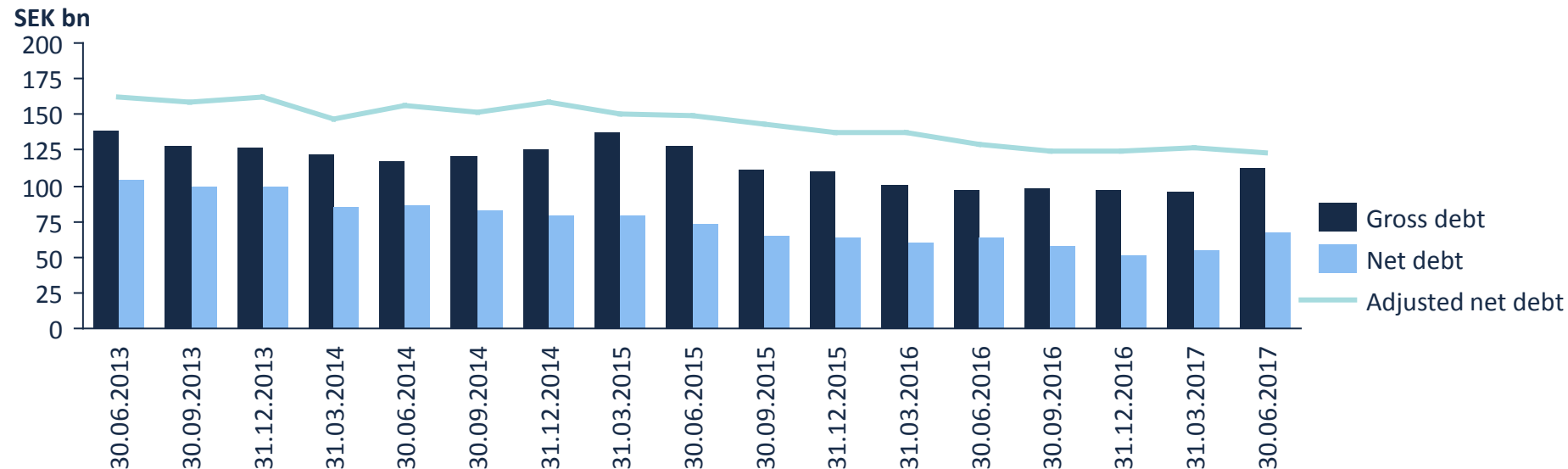
- Both FFO and cash flow from operating activities amount to SEK 6.8 bn; cash flow from working capital movements relatively flat
- Net cash flow from investing activities is SEK -3.8 bn
- Adjusted net debt reduces following positive cash flow before financing activities

CAPITAL EXPENDITURES

Continuing operations SEK bn	H1 2017	H1 2016	Q2 2017	Q2 2016	FY 2016
Electricity generation	4.1	4.4	2.5	2.5	13.1
CHP/Heat	1.1	1.0	0.7	0.5	3.1
Electricity networks	2.0	1.9	1.2	1.2	5.2
Other	1.6	0.3	0.5	0.1	0.5
Total	8.9	7.6	4.9	4.3	21.9
- of which maintenance and replacement	5.1	5.3	2.7	3.0	11.6
- of which growth	3.8	2.3	2.2	1.3	10.3

DEBT DEVELOPMENT

Adjusted net debt decreased in Q2 as a result of a positive cash flow before financing activities. Higher debt for the German nuclear pay-out is offset by lower nuclear provisions.

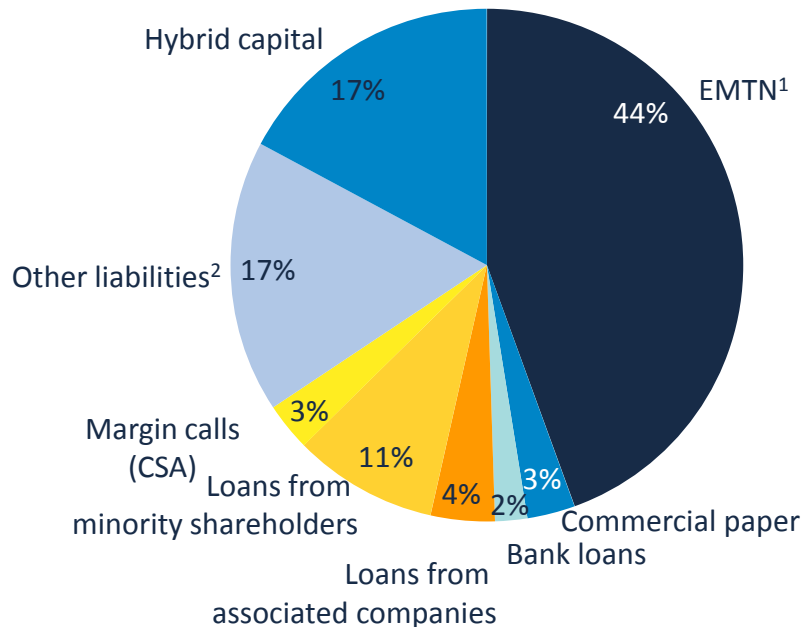


Net debt increased by SEK 16.4 billion compared with the level at 31 Dec. 2016. Adjusted net debt decreased by SEK 1.5 billion, compared with the level at 31 Dec. 2016. For the calculation of adjusted net debt, see slide 32.

BREAKDOWN OF GROSS DEBT

Total debt: SEK 112bn (EUR 12bn)

External market debt: SEK 97bn (EUR 10bn)



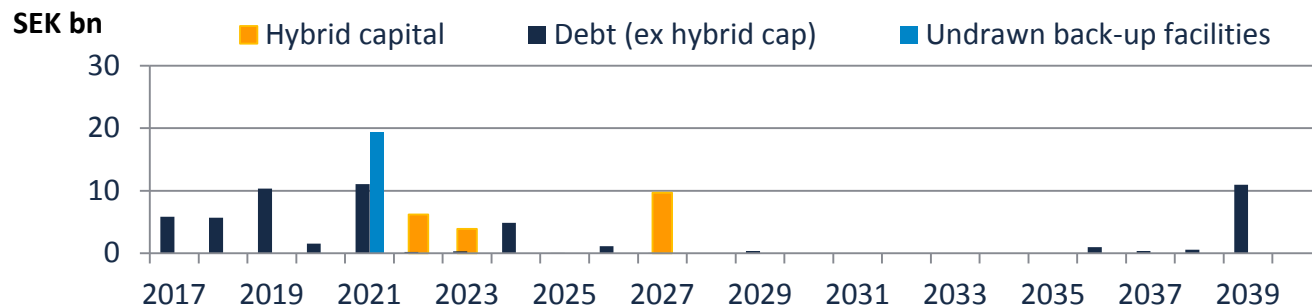
Debt issuing programmes	Size (EUR bn)	Utilization (EUR bn)
EUR 10bn Euro MTN	10.0	4.6
EUR 2bn Euro CP	2.0	0.7
SEK 15bn Domestic CP	1.6	-
Total	13.6	5.3

- 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

2) Includes liability to pay into the German nuclear fund on July 3

DEBT MATURITY PROFILE¹



	30 Jun. 2017	31 Dec. 2016
Duration (years)	5.3	5.6
Average time to maturity (years)	8.0	8.5
Average interest rate (%)	4.5	4.4
Net debt (SEK bn)	67.2	50.7
Available group liquidity (SEK bn)	35.8	36.3
Undrawn committed credit facilities (SEK bn)	19.3	19.1

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. Liability to pay into the German nuclear fund is excluded

REPORTED AND ADJUSTED NET DEBT

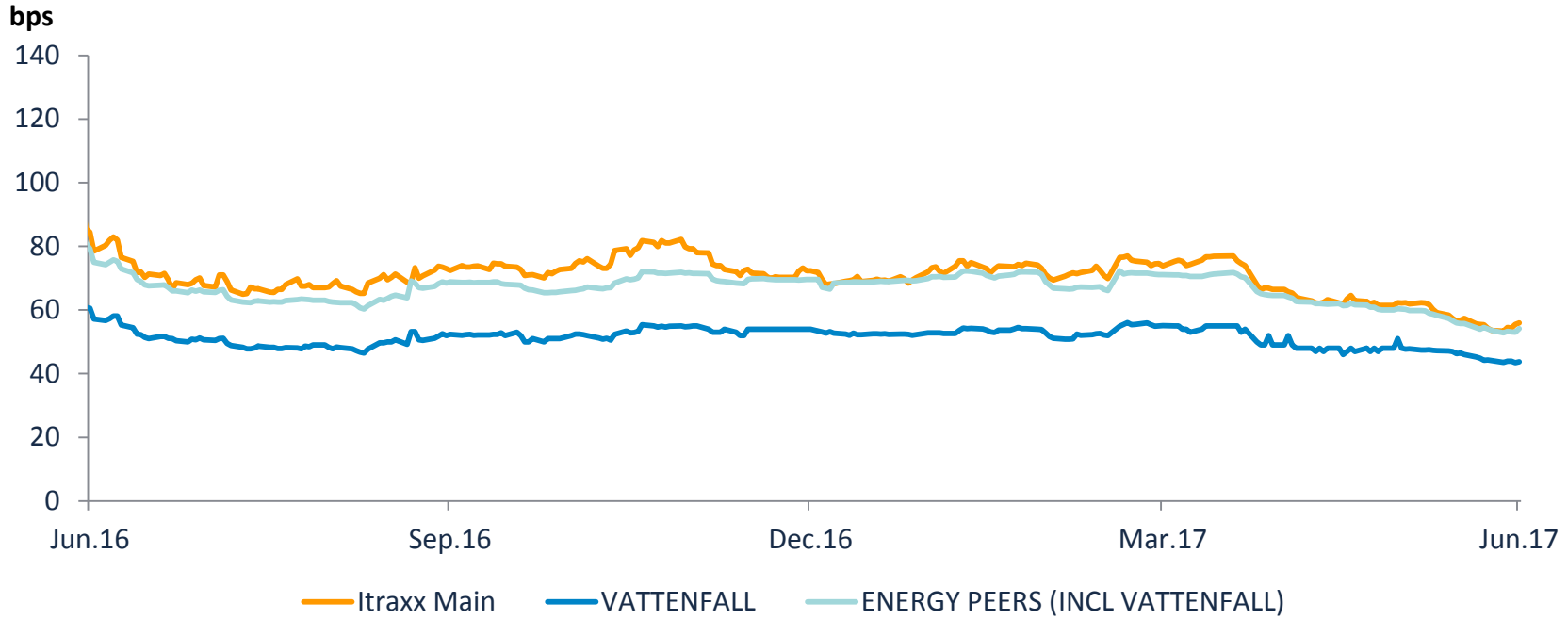
Reported net debt (SEK bn)	30 Jun. 2017	31 Dec. 2016
Hybrid capital	-19.0	-19.2
Bond issues and commercial papers and liabilities to credit institutions	-55.0	-55.8
Liabilities to associated companies	-4.7	-2.8
Liabilities to minority shareholders	-10.4	-10.1
Other liabilities	-22.9	-8.8
Total interest-bearing liabilities	-112.0	-96.7
Reported cash, cash equivalents & short-term investments	42.8	43.3
Loans to minority owners of foreign subsidiaries	2.0	2.7
Net debt	-67.2	-50.7

1) Of which: German nuclear "Solidarvereinbarung" 3.3, Margin calls paid (CSA) 2.6, Insurance "Provisions for claims outstanding" 1.1

Adjusted net debt (SEK bn)	30 Jun. 2017	31 Dec. 2016
Total interest-bearing liabilities	-112.0	-96.7
50% of Hybrid capital	9.5	9.6
Present value of pension obligations	-39.6	-40.6
Wind & other environmental provisions	-4.4	-4.4
Provisions for nuclear power (net)	-25.3	-41.9
Margin calls received	3.4	4.0
Liabilities to minority owners due to consortium agreements	9.3	9.0
= Adjusted gross debt	-159.1	-161.0
Reported cash, cash equivalents & short-term investments	42.8	43.3
Unavailable liquidity	-7.0 ¹	-7.0 ¹
= Adjusted cash, cash equivalents & short-term investments	35.8	36.3
= Adjusted net debt	-123.3	-124.7

STABLE CDS SPREAD DEVELOPMENT

CDS spread 5-years



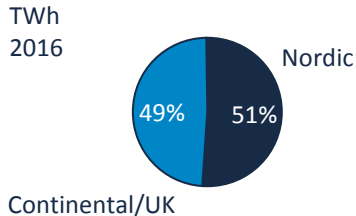
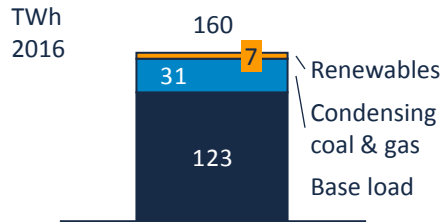
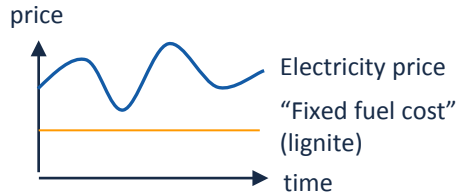
IMPAIRMENT HISTORY 2009 – H1 2017

SEK bn	2009	2010	2011	2012	2013	2014	2015	2016	H1 2017	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
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	165.1
Reversed impairment losses	-1.3	-1.3	-0.4	0.0	0.0	0.0	-0.5	-0.9	0.0	-4.4
Impairments (net)	4.2	9.8	10.9	12.3	30.1	23.8	36.3	32.9	0.4	160.7

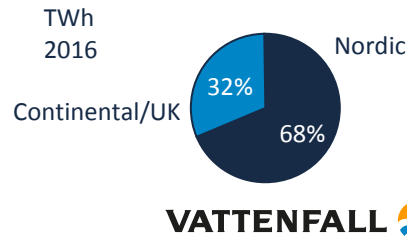
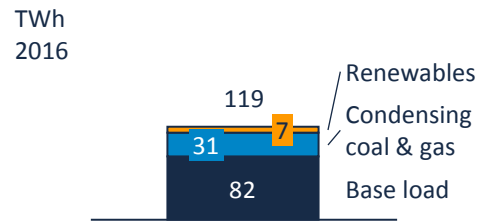
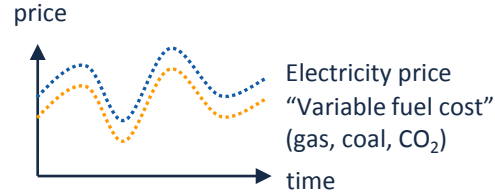
1) Impairment of goodwill
2) Impairment of assets and goodwill

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%

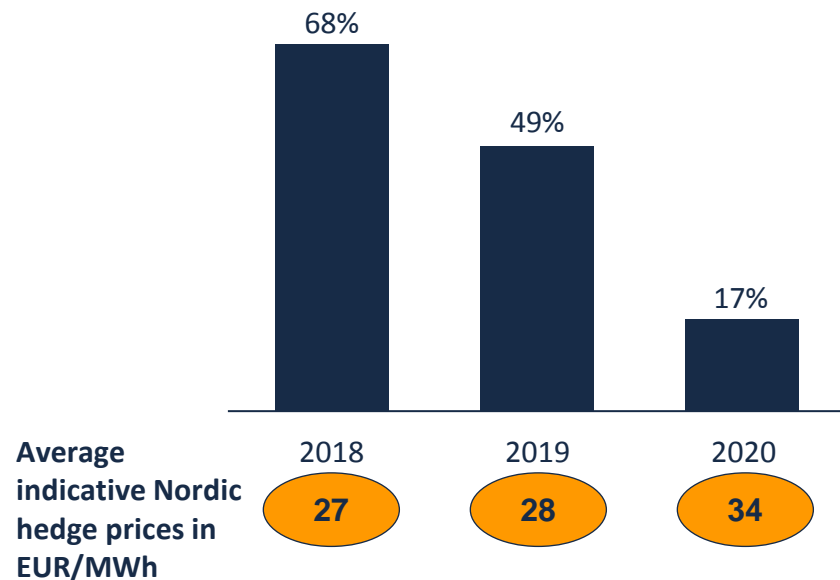
C/UK power production share reduced from 49% to 32%

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

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	+/- 545	+/- 768	+/- 831	21% - 26%
Coal	-/+ 267	-/+ 241	-/+ 229	31% - 32%
Gas	-/+ 494	-/+ 376	-/+ 417	18% - 27%
CO ₂	-/+ 75	-/+ 77	-/+ 100	52% - 55%

1) Nordic: SE, DK

2) Continental: GE, NL, UK

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

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: 26.9	Total Ringhals: 26.9¹	
Forsmark 1	984	1980	66.0			
Forsmark 2	1,120	1981	66.0			
Forsmark 3	1,170	1985	66.0	Total Forsmark: 23.3	Total Forsmark: 15.4	
Total Sweden	6,974	-		50.4²	42.5²	31.7³
Brunsbüttel	771	1977	66.7	11.0	7.3	
Brokdorf	1,410	1986	20.0	0	5.7	
Krümmel	1,346	1984	50.0	6.5	6.5	
Stade ⁴	640	1972	33.3	0	2.7	
Total Germany	4,167	-	-	17.5	22.3	
Total SE & DE	11,141			67.9	64.7	

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 37.8 bn.

4) Stade is being dismantled

DECREASED PENSION PROVISIONS

	30 June 2017	31 Dec 2016	Impact (SEK bn)
Sweden	2.75%	2.75%	-
Germany	2.00%	1.75%	-1.3

- Following the increase in market rates, the discount rate for German pension provisions is increased by 25 bp, which decreased provisions by SEK 1.3 billion.

KEY DEVELOPMENTS IN CORE MARKETS

Overall

- Stable underlying EBIT-development
- Strengthened efficiency in services by partnering with Accenture and CapGemini

United Kingdom

- Acquisition of iSupplyEnergy
- Commissioning of Pen y Cymoedd and Ray
- Renewable energy offer to B2B-customers

The Netherlands

- Investment decision wind farm Slufterdam
- Research project in Eemshaven to replace natural gas by hydrogen

Sweden

- Climate smart-partnerships with Cementa, LKAB, SSAB, and Preem
- Investment decision to convert Uppsala-plant to biomass-firing

Germany

- EU-approval and resulting payment of SEK 17.2 bn (EUR 1.797 bn) to nuclear fund (payment after the balance sheet date)
- Restructuring Hydro Germany
- Investment decision for power to heat plant Berlin
- Sandbank commissioned

WIND AND SOLAR- INSTALLED CAPACITY (MW¹)

	Onshore ³	Offshore	Total
United Kingdom	396	590	986
Denmark	246	158	404
The Netherlands	286	108	394
Sweden	257	121	378
Germany	19	636	655
Total (MW)	1,204	1,613	2817

United Kingdom – ROC scheme	
■ Thanet	300
■ Pen y Cymoedd	228
■ Ormonde (51%)	150
■ Kentish Flats	90
■ Ray	54
■ Kentish Flats Extension	50
■ Edinbane	41
■ Clashindarroch	37
■ Swinford	22
■ Pendine	5
■ Parc Cynog Solar	5
■ Parc Cynog	4
Installed capacity (MW)	986
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 ²	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 scheme	
■ 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
■ Eemmeerdiijk	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
■ Floriade dak	2,3
Installed capacity (MW)	394

- Onshore
- Offshore
- Solar

% Vattenfall ownership

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

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

3) Onshore number including solar plants.

PIPELINE OF MAIN WIND AND SOLAR PROJECTS

	Country	Name	No. of Turbines	Capacity (MW) ¹	Support scheme	Awarded	Duration of support	Owner-ship (%)	Commissioning	Current status
In development and construction	NL	Slufterdam	8	29	SDE+	X	Full-load yrs	100	2018	Preparing for 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 528										
	Country	Name	No. of Turbines	Capacity (MW) ¹	Support scheme	Awarded	Duration of support	Owner-ship (%)	Commissioning	Current status
In development	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	Currently none	X	-	100	2021	Preparing for project establishment phase
	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
	Onshore	NL	Velsen		2	SDE+	X	Full-load yrs	100	2018
NL		Eemshaven		6	SDE+	X	Full-load yrs	100	2018	Preparing for investment decision
NL		Hemweg		2	SDE+	X	Full-load yrs	100	2018	Preparing for investment decision
NL		Haringvliet		36	SDE+		Full-load yrs	100	2019	Preparing for bid
NL		Wieringermeer		28	SDE+		Full-load yrs	100	2019	Preparing for bid
Total ~6,500										

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