



Vattenfall Q3 and 9M Results 2017

Magnus Hall, CEO and Stefan Dohler, CFO

Press Conference 27 October 2017



BUSINESS HIGHLIGHTS AND KEY FIGURES

- Growth in onshore wind with investment decision for Wieringermeer (180MW) and acquisition of a neighbouring project (115MW)
- Improved availability in nuclear and completion of yearly revisions
- Program launch to increase efficiency in staff functions (SEK 2 bn cost reduction target by 2020)
- Pushing the transition to electric vehicles through the EV100 initiative
- Launch of climate smarter energy solutions, InHouse (SE), Haus-Strom (DE) and solar lease (DE, NL)

SEK bn	9M 2017 ¹	Q3 2017 ¹
Net Sales	96.8 (101.4)	27.4 (29.7)
Underlying EBIT	16.0 (14.6)	2.8 (2.6)
EBIT	12.6 (4.2)	2.2 (2.3)
Profit for the period	6.7 (1.8)	0.8 (0.8)
ROCE, % ²	4.2 (3.1)	4.2 (3.1)
ROCE excl. IAC, % ²	9.8 (8.4)	9.8 (8.4)
FFO/adj net debt, % ²	24.0 (23.9)	24.0 (23.9)

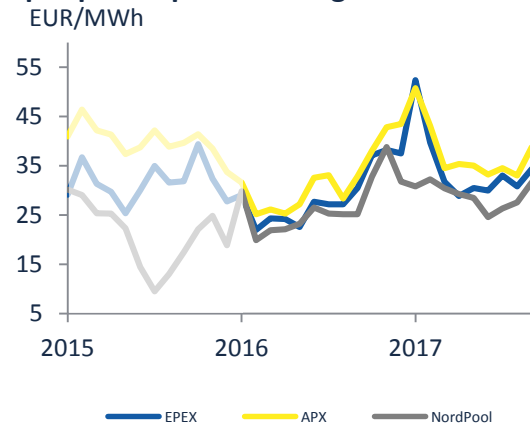
1) Figures for 2016 excluding divested lignite operations

2) Last 12-month value

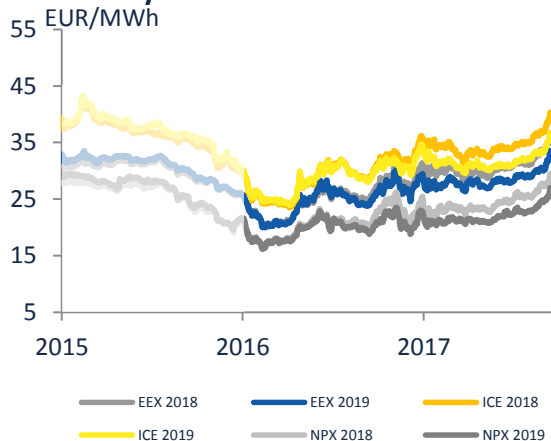
IMPROVED PRICE DEVELOPMENT DRIVEN BY STRONGER FUEL PRICES

- Nordic spot prices 13% higher vs. Q3 2016, despite a higher hydrological balance
- German and Dutch spot prices were 16% and 12% higher respectively vs. Q3 2016
- Higher electricity futures as a result of recovery in fuel prices
- 31% price increase in coal, mainly due to stronger Euro vs US dollar, higher demand of imported coal in China
- Prices for CO₂ allowances rose with 30% vs. Q3 2016, gas prices slightly higher vs. Q3 2016

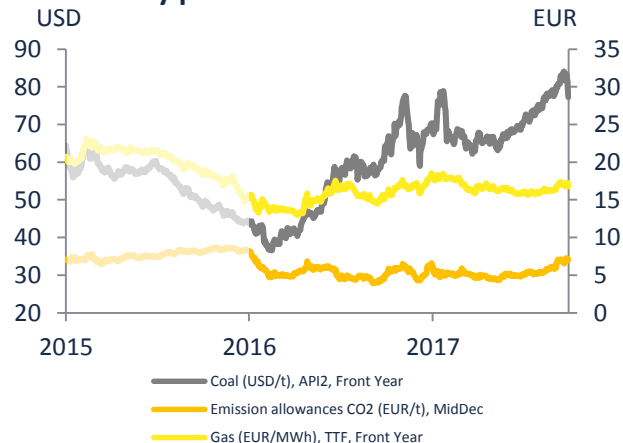
Spot power prices average



Electricity futures



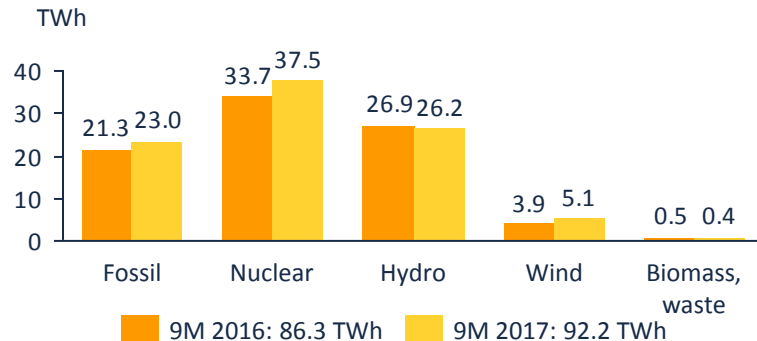
Commodity prices



INCREASE IN GENERATION AND COMPETITIVE PRESSURE IN SALES

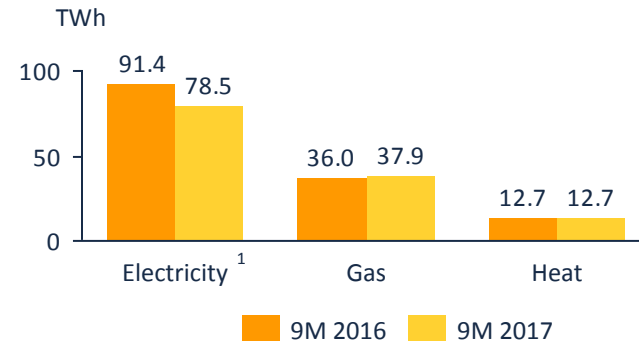
Generation increased by 5.9 TWh to 92.2 TWh

- Strong increase in nuclear power generation due to high availability
- New assets increase wind power generation
- Slightly lower hydro generation



Decrease in sales due to lower electricity sales

- Electricity sales decreased due to lower sales in Germany and France
- Gas volumes increased due to increased customer base in Germany
- Unchanged heat sales



GROWTH IN DECENTRALISED SOLUTIONS

Declining costs for solar and batteries together with a strengthened political framework enable new customer offerings



Launch of Vattenfall InHouse, SE

Launch of **InHouse**, to tenant-owner housing associations and property owners

- InHouse Heating
- InHouse Electricity
- InHouse Charging
- InHouse Smart



Launch of solar panels for tenant customers, DE & NL

New offering to tenant customers in Berlin and Hamburg to install solar panels on the roofs for self consumption → remaining demand from micro CHP



Launch of solar panels for private customers, NL & DE

Private customers to lease or buy solar panels for personal consumption through new offering



Joined the EV100 initiative

Vattenfall joined the initiative EV100 together with 9 other multinational companies → to exchange the entire car fleet, 3500 cars, to electrical vehicles within the next five years

LEVERAGING DIGITALISATION ACROSS THE VALUE CHAIN OF VATTENFALL



Centralised
production



Grids



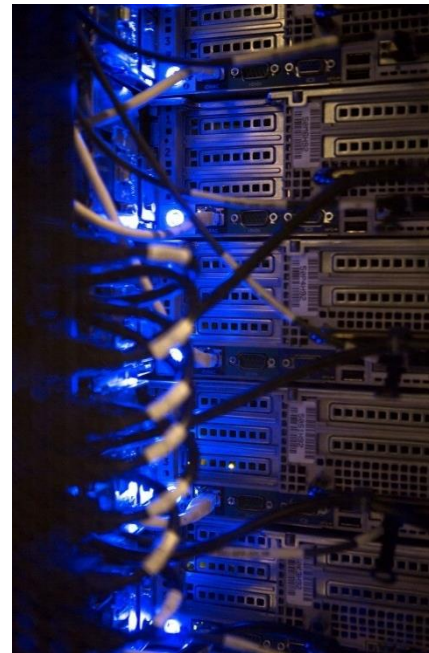
Wholesale
markets



Sales of energy and
energy solutions

Sample initiatives ongoing in the third quarter

- Analytics platform (big data) for optimising O&M in Wind
- Virtual reality applications for advanced O&M in Nuclear
- Digitalised and predictive maintenance
- Mobile solution for field personnel
- Pilot blockchain peer-to-peer OTC trading platform (Enerchain)
- Automated model-based trading
- Automated back-office processes
- New CRM, billing solution and meter value management for Heat
- Automated customer interaction, e.g. AI/Chatbots
- Digital platform for managing installation/service of decentralised solutions



RENEWABLES GROWTH ON TRACK – STRENGTHENING THE ONSHORE PIPELINE

Key developments in Q3

Wieringermeer + extension, 295MW

- Final investment decision for Wieringermeer
 - 180 MW
 - 50 turbines
 - Commissioning 2019
- Acquired Wieringermeer extension
 - 115 MW
 - 32 turbines
 - Commissioning 2019

Pen y Cymoedd, 228 MW

- Inauguration of Pen y Cymoedd
 - 228 MW
 - 76 turbines
 - Vattenfall's largest onshore windfarm to date



Pen y Cymoedd, UK

LONG TERM COMMITMENT TO SWEDISH NUCLEAR

Q3 highlights and current focus

- ✓ 90% reduction of the nuclear capacity tax effective as of July 1, 2017
- ✓ 2017 revisions concluded
- ✓ Operational performance according to plan – with a strong safety & cost-efficiency focus
- ✓ Nuclear recruitment campaign to secure future competence

Regulatory topics

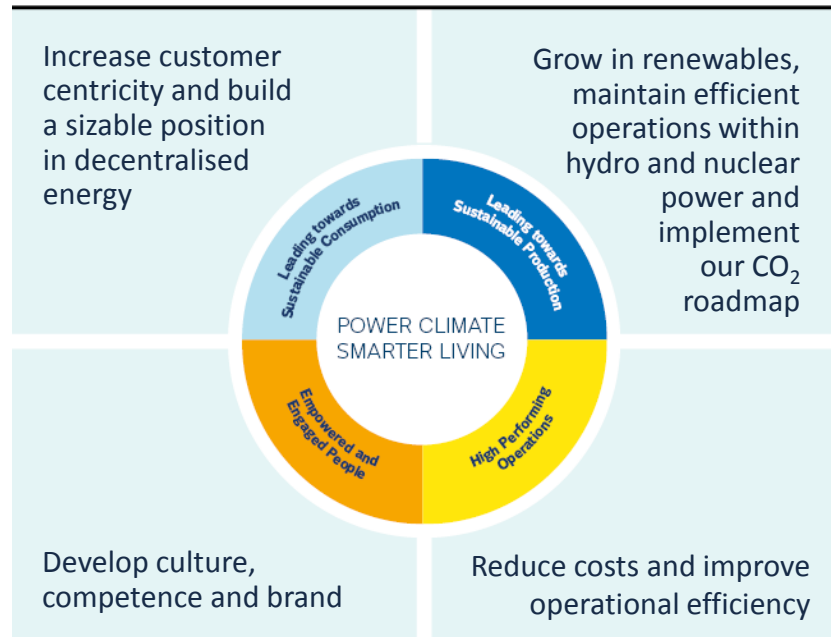
- Nuclear waste fee: proposal from the Swedish Radiation Safety Authority to the Government in October 2017
 - Forsmark: decrease by 0.6 öre/kWh to 3.3 öre/kWh
 - Ringhals: increase by 1.0 öre/kWh to 5.2 öre/kWh
 - Government decision expected before year-end
- Final repository: main hearings in the Land and Environmental Court
 - Statement to the Government expected in the beginning of 2018



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

		30 Sept. 2017
1	Customer engagement, Net Promotor Score (NPS) relative +2	+5
2	Aggregated commissioned new renewables capacity 2016-2020: $\geq 2,300$ MW	652
3	Absolute CO ₂ emissions, pro rata, continuing operations: ≤ 21 Mtonnes	16.3
4	ROCE: $\geq 9\%$ (continuing operations)	4.2
5	Safety as LTIF (Lost Time Injury Frequency): ≤ 1.25	1.2
6	Employee Engagement Index: $\geq 70\%$ ¹	...

1) Only updated on an annual basis

TO POWER CLIMATE SMARTER LIVING



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

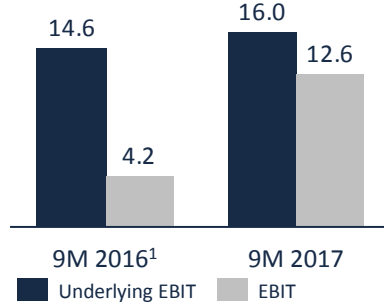


FINANCIALS

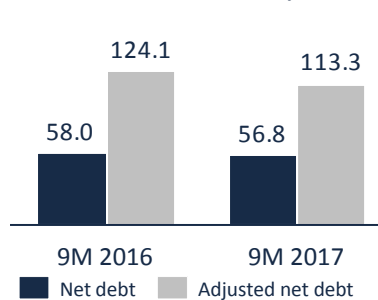
Stefan Dohler, CFO

9M 2017 FINANCIAL HIGHLIGHTS

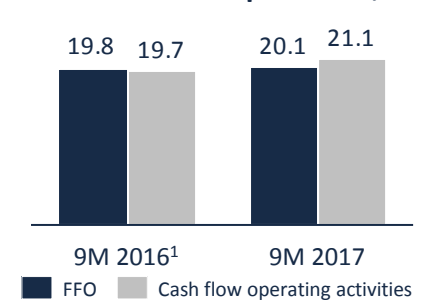
Increasing underlying EBIT, SEK bn



Reduced debt levels, SEK bn



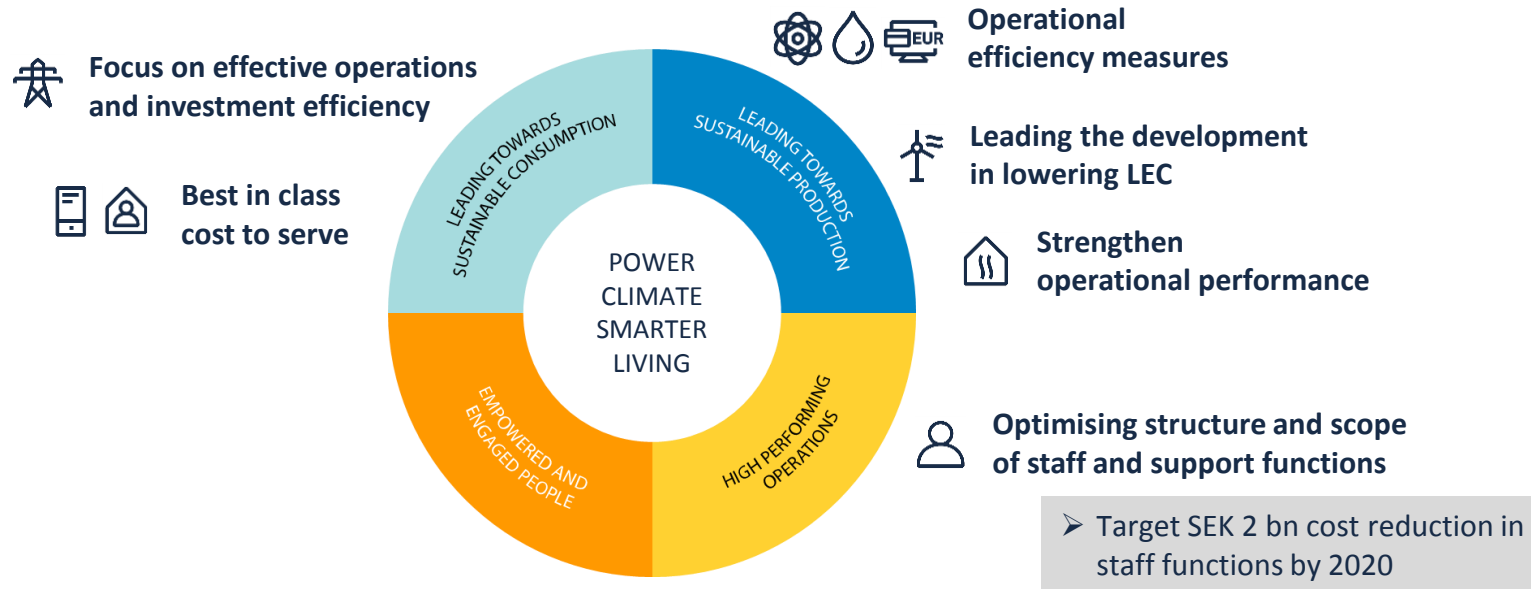
Stable funds from operations, SEK bn



- Underlying EBIT increased by SEK 1.4 bn to SEK 16.0 bn due to increased earnings in heat, distribution and power generation
- Program launched to increase efficiency in staff functions (SEK 2 bn cost reduction target by 2020)
- FFO and debt levels stable, with FFO/adjusted net debt at 24.0%, above target of 22%
- Adjusted net debt improved with SEK 10.8 bn, mainly due to positive cash flow after investment, decrease in pension provisions and refund of nuclear fuel tax from the German government

1) Excluding divested lignite operations

COST REDUCTIONS ARE AN INTEGRAL PART OF OUR STRATEGY



9M AND Q3 2017 FINANCIAL OVERVIEW

Underlying operating profit is increasing owing to higher earnings mainly in heat, distribution and power generation

SEK bn	9M 2017 ¹	Q3 2017 ¹
Net Sales	96.8 (101.4)	27.4 (29.7)
EBITDA	24.4 (23.9)	5.9 (5.9)
Underlying operating profit (EBIT)	16.0 (14.6)	2.8 (2.6)
EBIT	12.6 (4.2)	2.2 (2.3)
Financial items, net	-3.4 (-4.4)	-1.3 (-1.9)
Profit for the period	6.7 (1.8)	0.8 (0.8)
Funds from Operations (FFO)	20.1 (19.8)	5.0 (5.2)
Cash flow operating activities	21.1 (17.5)	15.5 (8.9)
Net debt	56.8 (58.0)	56.8 (58.0)
Adjusted net debt	113.3 (124.1)	113.3 (124.1)
FFO/adjusted net debt (%) ²	24.0 (23.9)	24.0 (23.9)
Adjusted net debt/EBITDA (times) ²	4.1(3.9)	4.1 (3.9)

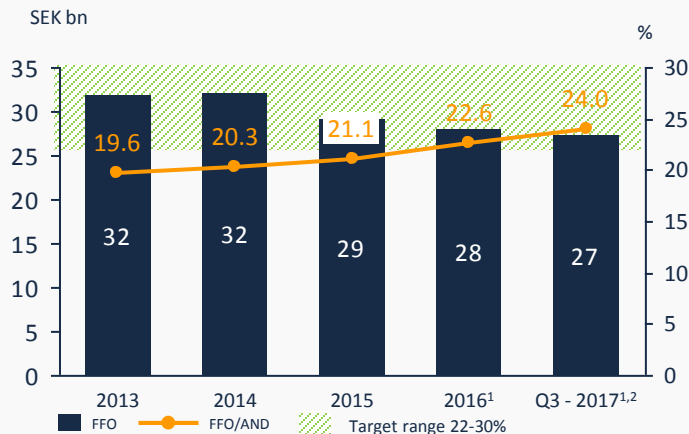
1) 2016 figures excluding divested lignite operations

2) Last 12-month values

A STABLE FINANCIAL PERFORMANCE ENABLES OUR TARGETED RENEWABLES GROWTH

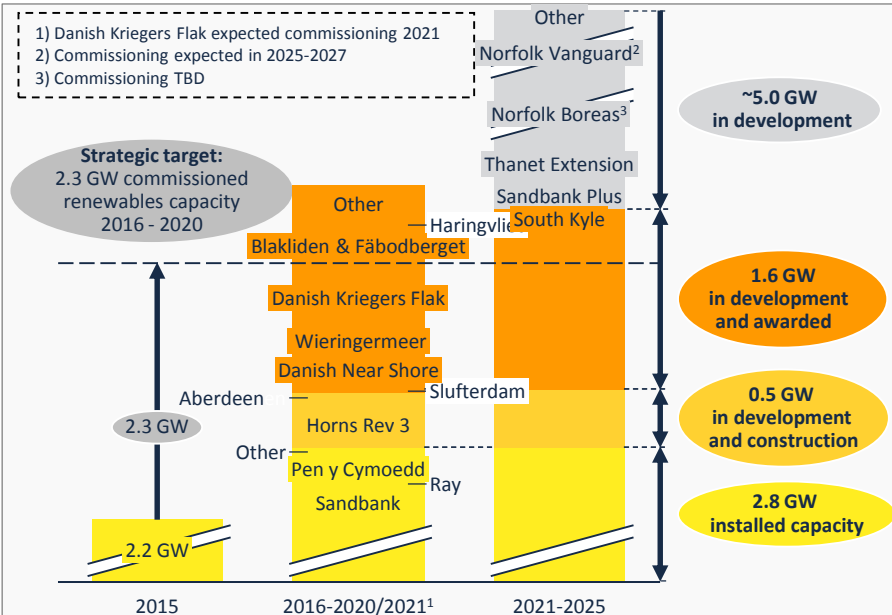
Stabilised FFO after the drop mainly due to weakening market conditions

- FFO/AND at 24.0% is now above target level of 22%
- Enabling further investments in renewables
 - Strategic target of 2.3 GW commissioned renewables capacity 2016-2020



1) FFO/AND excluding lignite operations
2) Last 12-month values

Renewables target



Vattenfall markets more than 4.4 GW as a service provider with the ambition to expand further. Latest contract was a direct marketing contract for Deutsche Bucht.

Service provider

ITEMS AFFECTING COMPARABILITY

SEK bn	9M 2017	Q3 2017
Capital gains	0.6 (2.1)	0.0 (0.0)
Capital losses	-0.0 (-0.1)	-0.0 (-0.0)
Impairment losses	-0.4 (-9.1)	- (-0.1)
Reversed impairment losses	0.0 (-)	0.0 (-)
Provisions	-0.6 (0.1)	- (0.1)
Unrealised changes in the fair value of energy derivatives	-3.7 (-3.4)	-0.6 (-0.1)
Unrealised changes in the fair value of inventories	-0.2 (0.6)	0.4 (-0.0)
Restructuring costs	-0.3 (-0.3)	-0.2 (-0.0)
Other items affecting comparability	1.2 (-0.4)	-0.2 (-0.3)
Total	-3.4 (-10.4)	-0.6 (-0.4)

- Unrealised changes in the fair value of energy derivatives and inventories SEK -3.9 bn
- Capital gains of SEK 0.6 bn mainly due to sale of shares in Waste incineration plants
- Provisions of SEK -0.6 bn mainly because of change of discount rate for Ringhals
- Other items refer mainly to the refund of nuclear fuel tax (SEK 1.8 bn)

UNDERLYING EBIT PER OPERATING SEGMENT

SEK bn	9M 2017 ²	Q3 2017 ²
Customers & Solutions	1.2 (1.4)	0.2 (0.3)
Power Generation	8.1 (7.5)	2.5 (2.1)
Wind	0.8 (0.5)	-0.3 (-0.1)
Heat	2.4 (1.7)	-0.3 (-0.5)
Distribution	4.5 (3.7)	1.1 (1.0)
Other ¹	-0.8 (-0.1)	-0.3 (-0.2)
Eliminations	-0.2 (-0.2)	-0.1 (-0.1)
Total	16.0 (14.6)	2.8 (2.6)

- Customer & Solutions: decrease by SEK 0.2 bn due to lower margins
- Power Generation: increase by SEK 0.6 bn mainly due to higher realised results from trading
- Wind: increase by SEK 0.3 bn following new capacity added (Sandbank, Pen y Cymoedd, Ray)
- Heat: increase by SEK 0.7 bn in subsidy for gas fired CHP plants incl. retroactive compensation in 2017 for 2016
- Distribution: underlying operating profit increased by SEK 0.7 bn 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) 2016 figures excluding divested lignite operations

FINANCIAL TARGETS

On an underlying basis Vattenfall meets its financial targets

Financial metric	Target ²	9M 2017	9M 2016 ³
Return on Capital Employed (ROCE) ¹ (ROCE excl. items affecting comparability)	9%	4.2 9.8	3.1 8.4
FFO/adjusted net debt ¹	22-30%	24.0	23.9
Net debt/equity	50-90%	62.4	66.8
Dividend policy (% of the year's profit after tax)	40-60%	-	-

1) Last 12-months value

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

3) Excluding divested lignite operations

CONTINUED STRONG LIQUIDITY POSITION

Group liquidity	SEK bn
Cash and cash equivalents	12.4
Short term investments	21.8
Reported cash, cash equivalents & short term investments	34.2
Unavailable liquidity ¹	-7.1
Available liquidity	27.0

Committed credit facilities	Facility size	SEK bn
RCF (maturity Dec 2021)	EUR 2.0 bn	19.3
Total undrawn		19.3

Debt maturities ²	SEK bn
Within 90 days	4.0
Within 180 days	4.2

- SEK 17.2 bn have been paid out to the German nuclear energy fund, and the available liquidity amount to SEK 27.0 bn
- Despite the large payment, the liquidity of Vattenfall remains strong

1) German nuclear "Solidarvereinbarung" 3.3 SEK bn, Margin calls paid (CSA) 2.9

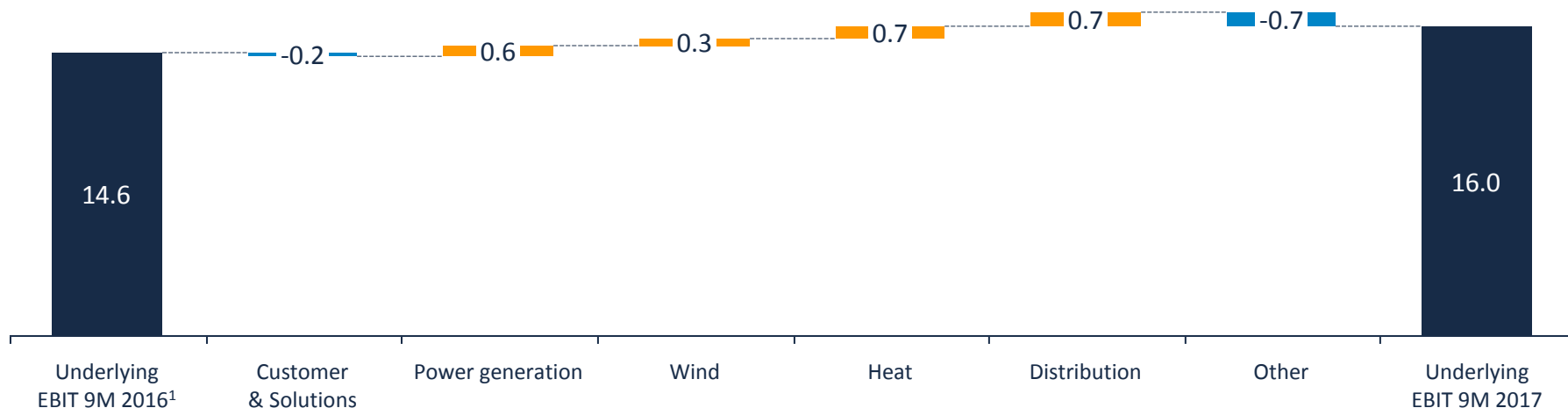
SEK bn, Insurance "Provisions for claims outstanding" 1.0 SEK bn

2) Excluding loans from minority owners and associated companies

DEVELOPMENT OF UNDERLYING EBIT 9M 2017

Improvement following higher contribution mainly from heat, power generation and distribution operations

SEK bn

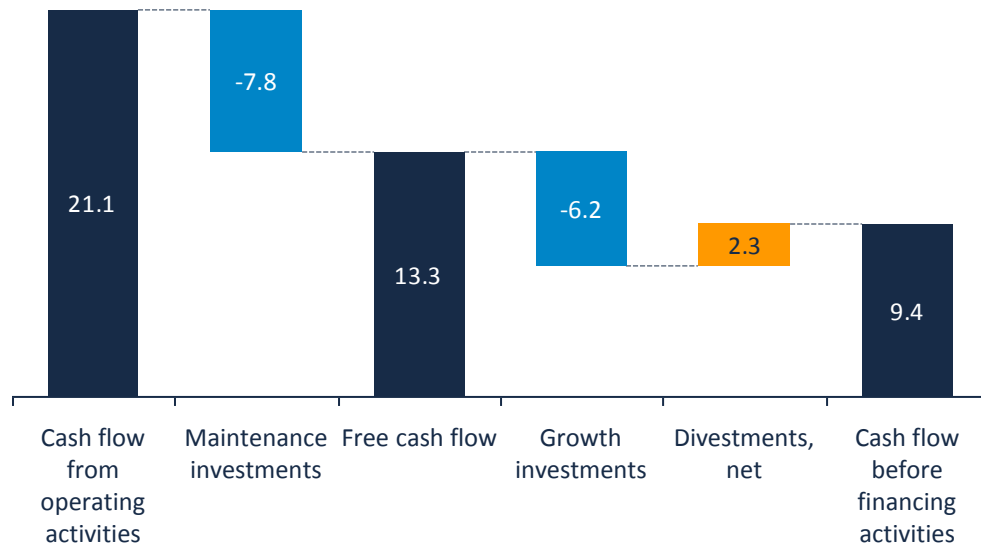


1) Excluding divested lignite operations

CASH FLOW DEVELOPMENT 9M 2017

Positive cash flow from operating activities

SEK bn



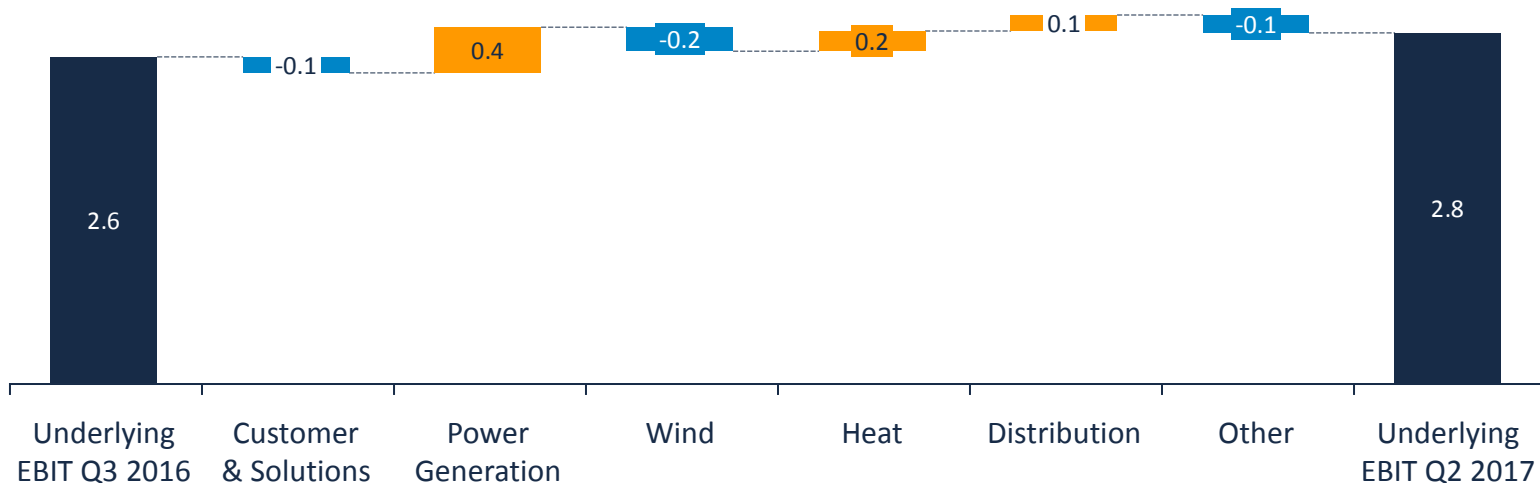
- Increase in FFO by SEK 0.3 bn to SEK 20.1 bn
- Cash flow from operating activities is SEK 21.1 bn, working capital has a positive impact by SEK 1.0 SEK
- Growth investments mainly related to renewables

APPENDIX

DEVELOPMENT OF UNDERLYING EBIT Q3 2017

Power generation and heat are the main contributors to the small positive development

SEK bn

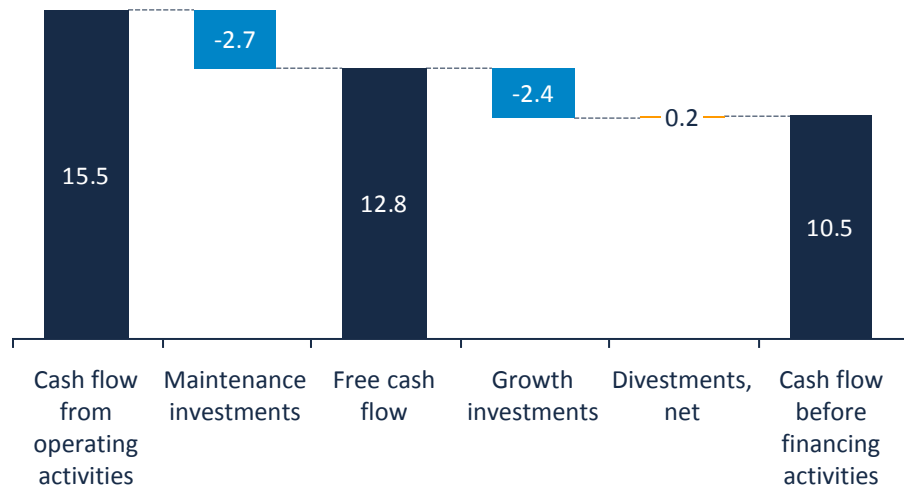


1) Excluding divested lignite operations

CASH FLOW DEVELOPMENT Q3 2017

Healthy cash flow from operating activities, supported by positive changes in working capital

SEK bn



- FFO decreased by SEK 0.1 bn due to higher tax paid in 2017
- Changes in working capital have a positive impact by SEK 10.5 bn on cash flow from operating activities mainly due to changes in margin calls, lower receivables in BA Customer & Solutions and BA Heat
- Net cash flow from investing activities is SEK -4.9 bn
- Adjusted net debt decreases following positive cash flow before financing activities

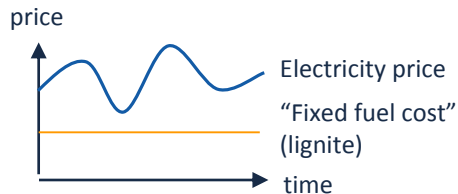
IMPAIRMENT HISTORY 2009 – 9M 2017

SEK bn		2009	2010	2011	2012	2013	2014	2015	2016	9M 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	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	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

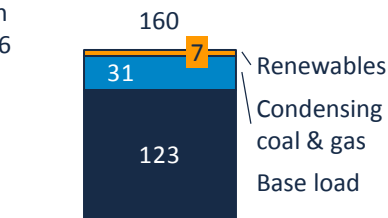
1) Impairment of goodwill
2) Impairment of assets and goodwill

ADAPTING THE HEDGE STRATEGY TO CHANGING POWER PRICE EXPOSURE

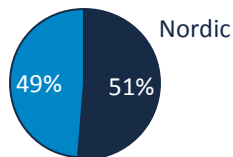
Before lignite divestment



TWh 2016

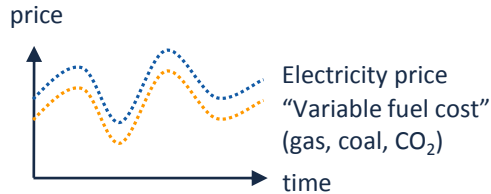


TWh 2016

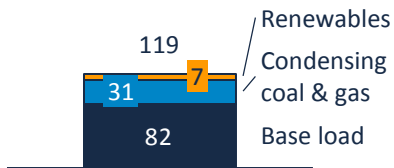


Continental/UK

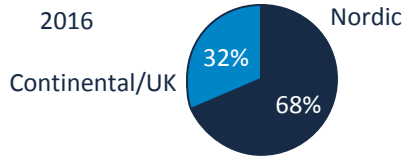
After lignite divestment



TWh 2016



TWh 2016



VATTENFALL 

From fixed fuel to variable fuel dominated in Germany

Group base load production hours reduced by ~33%

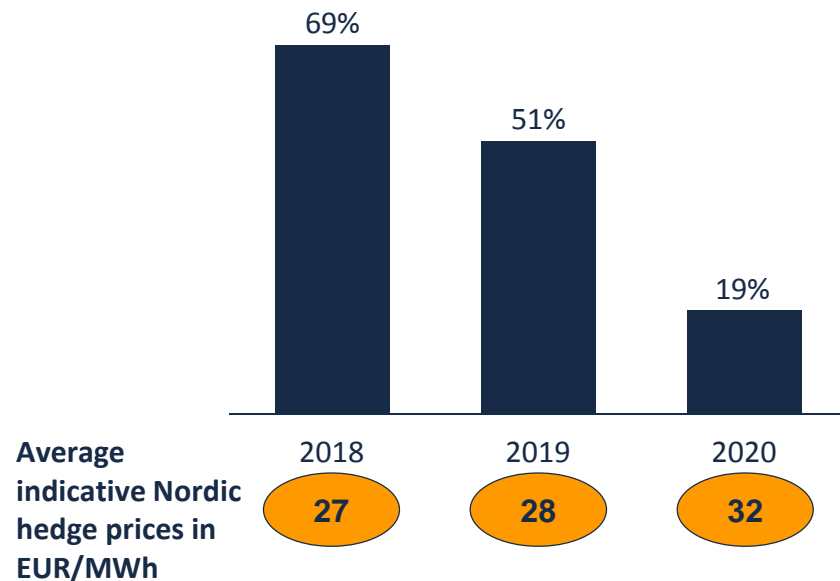
C/UK power production share reduced from 49% to 32%

- 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

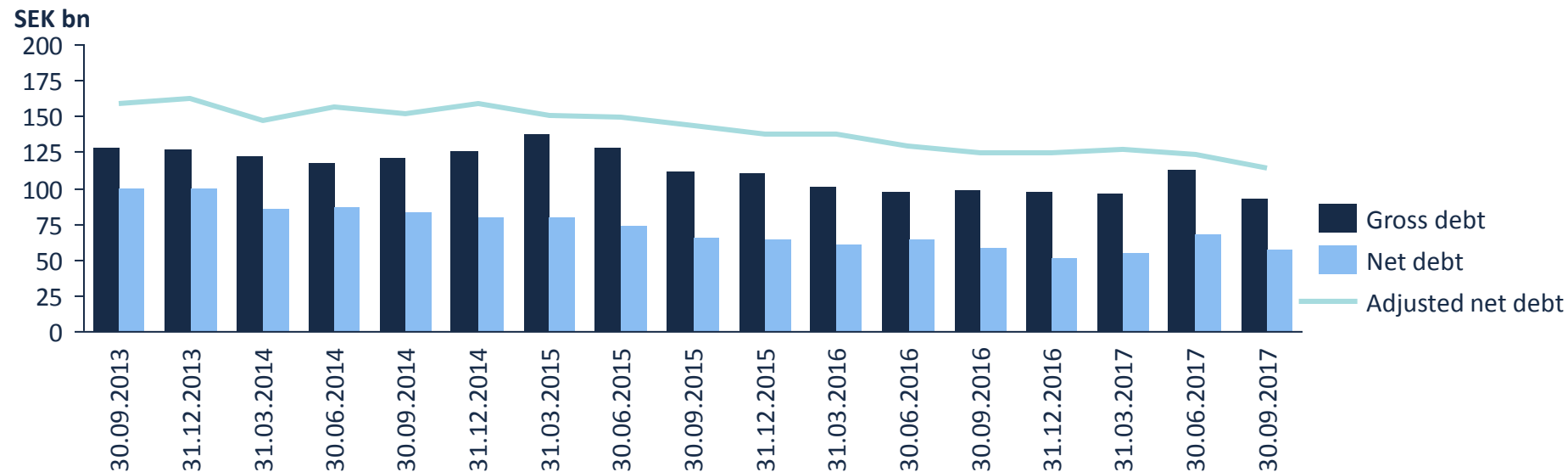
Market quoted	+/- 10% price impact on future profit before tax, MSEK ³			Observed yearly volatility
	2018	2019	2020	
Electricity	+/- 789	+/- 1084	+/- 1084	20% - 26%
Coal	-/+ 286	-/+ 269	-/+ 257	28% - 31%
Gas	-/+ 678	-/+ 572	-/+ 565	15% - 27%
CO ₂	-/+ 117	-/+ 125	-/+ 152	53% - 54%

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

DEBT DEVELOPMENT

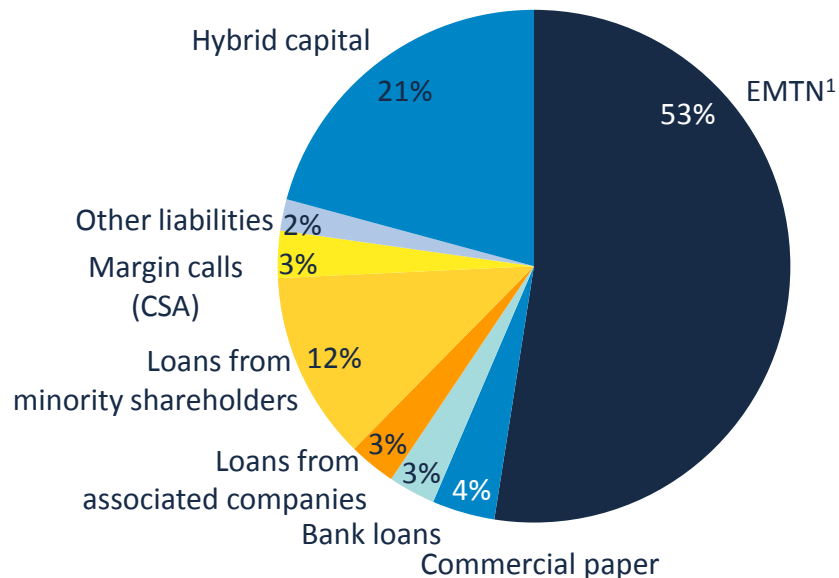


Net debt increased by SEK 6.1 bn compared with the level at 31 Dec. 2016. Adjusted net debt improved by SEK 11.5 bn, compared with the level at 31 Dec. 2016. For the calculation of adjusted net debt, see slide 32.

BREAKDOWN OF GROSS DEBT

Total debt: SEK 91.9bn (EUR 9.5bn)

External market debt: SEK 78.6bn (EUR 8.1bn)

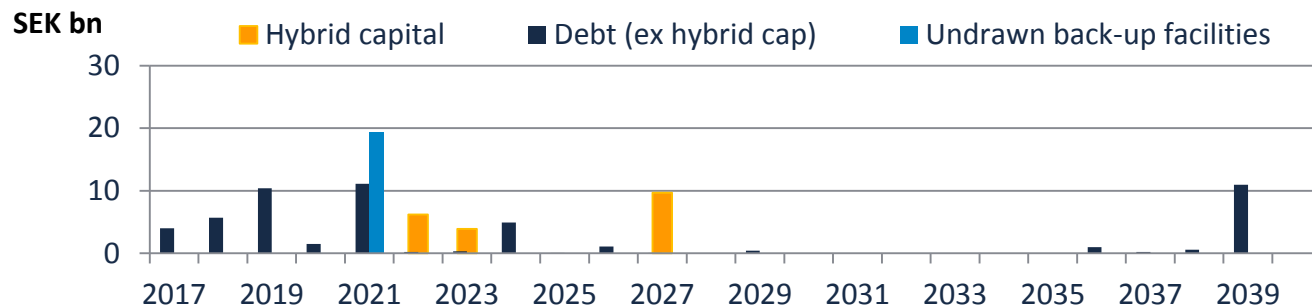


Debt issuing programmes	Size (EUR bn)	Utilisation (EUR bn)
EUR 10bn Euro MTN	10.0	4.6
EUR 2bn Euro CP	2.0	0.7
SEK 15bn Domestic CP	1.6	0
Total	13.6	5.3

- 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

DEBT MATURITY PROFILE¹



	30 Sep. 2017	31 Dec. 2016
Duration (years)	5.1	5.6
Average time to maturity (years)	7.8	8.5
Average interest rate (%)	4.5	4.4
Net debt (SEK bn)	56.8	50.7
Available group liquidity (SEK bn)	27.0	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.

REPORTED AND ADJUSTED NET DEBT

Reported net debt (SEK bn)	30 Sep. 2017	31 Dec. 2016
Hybrid capital	-18.9	-19.2
Bond issues and commercial papers and liabilities to credit institutions	-54.7	-55.8
Liabilities to associated companies	-2.6	-2.8
Liabilities to minority shareholders	-10.6	-10.1
Other liabilities	-5.1	-8.8
Total interest-bearing liabilities	-91.9	-96.7
Reported cash, cash equivalents & short- term investments	34.2	43.3
Loans to minority owners of foreign subsidiaries	0.9	2.7
Net debt	-56.8	-50.7

- 1) Of which: German nuclear "Solidarvereinbarung" 3.3
Margin calls paid (CSA) 2.9
Insurance "Provisions for claims outstanding" 1.0

Adjusted net debt (SEK bn)	30 Sep. 2017	31 Dec. 2016
Total interest-bearing liabilities	-91.9	-96.7
50% of Hybrid capital	9.5	9.6
Present value of pension obligations	-39.6	-40.6
Wind & other environmental provisions	-5.4	-4.4
Provisions for nuclear power (net)	-25.4	-41.9
Margin calls received	3.1	4.0
Liabilities to minority owners due to consortium agreements	9.5	9.0
= Adjusted gross debt	-140.3	-161.0
Reported cash, cash equivalents & short-term investments	34.2	43.3
Unavailable liquidity	-7.1 ¹	-7.0 ¹
= Adjusted cash, cash equivalents & short-term investments	27.0	36.3
= Adjusted net debt	-113.3	-124.7

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: 27.0	Total Ringhals: 27.0¹	
Forsmark 1	984	1980	66.0			
Forsmark 2	1,120	1981	66.0			
Forsmark 3	1,170	1985	66.0	Total Forsmark: 23.4	Total Forsmark: 15.4	
Total Sweden	6,974	-		50.5²	42.6²	32.1³
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	-	-	17.4	17.6	
Total SE & DE	11,141			67.9	60.2	

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

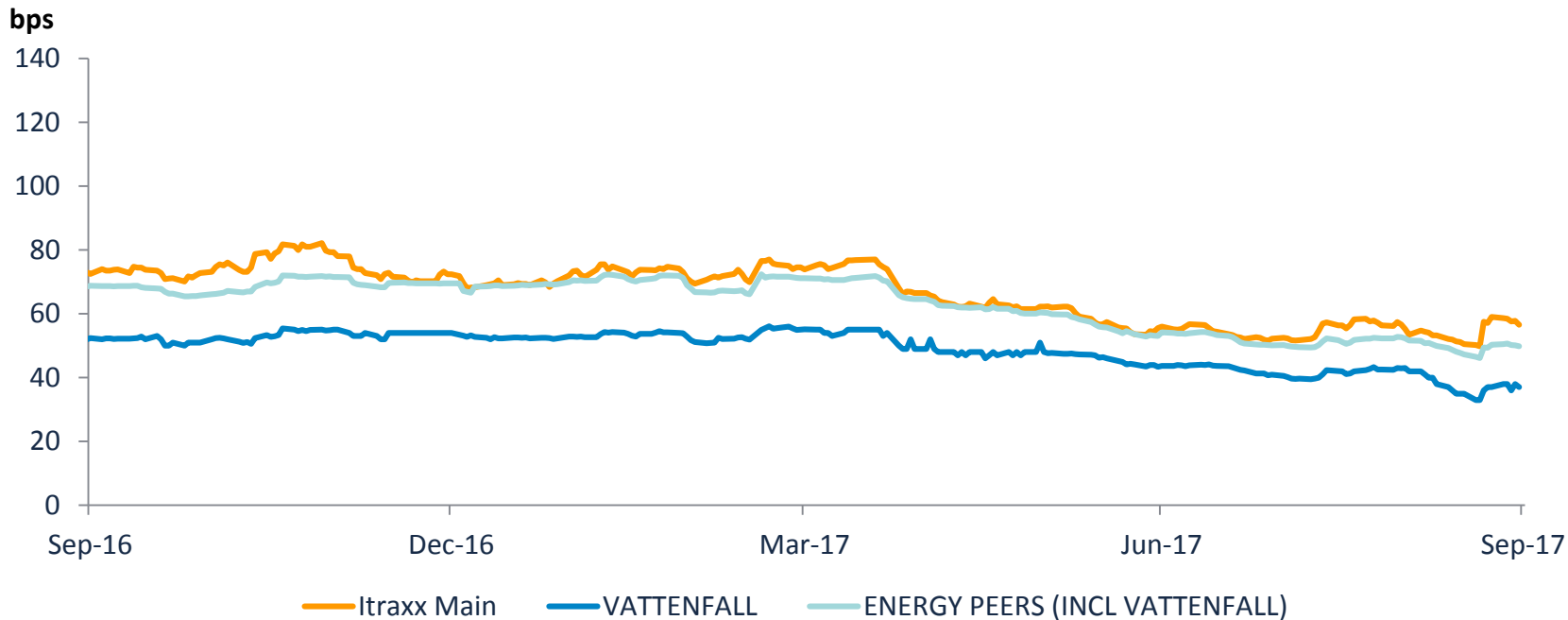
2) Total provisions in Sweden (IFRS accounting) include provisions of SEK 0.2 bn related to Ågesta

3) Vattenfall's share of the Nuclear Waste Fund (book value). IFRS consolidated value is SEK 38.3 bn.

4) Stade is being dismantled

STABLE CDS SPREAD DEVELOPMENT

CDS spread 5-years



DECREASED PENSION PROVISIONS

	30 Sept 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 bn

CAPITAL EXPENDITURES

Continuing operations SEK bn	9M 2017	Q3 2017	FY 2016
Electricity generation	5.9 (9.4)	1.8 (4.9)	13.1
CHP/Heat	1.7 (1.7)	0.6 (0.7)	3.1
Electricity networks	3.2 (3.0)	1.1 (1.1)	5.2
Other	3.2 (0.3)	1.6 (0.0)	0.5
Total	14.0 (14.4)	5.1 (6.7)	21.9
- of which maintenance and replacement	7.8 (6.5)	2.7 (2.3)	10.4
- of which growth	6.2 (7.8)	2.4 (4.4)	11.5

KEY DEVELOPMENTS IN CORE MARKETS

Overall

- Increase in underlying EBIT
- Launch of efficiency program within staff functions

United Kingdom

- Inauguration of Pen y Cymoedd

The Netherlands

- FID for Wieringemeer 180MW
- Acquisition Wieringemeer extension 115MW
- Private customers can now lease solar panels for private consumption

Sweden

- Launch of InHouse

Germany

- HausStrom initiated, offering tenant customers in Berlin and Hamburg to install solar panels on their roof for self consumption
- Private customers can now lease or buy solar panels for private consumption

WIND - INSTALLED CAPACITY (MW¹) Q3 2017

	Onshore ²	Offshore	Total
United Kingdom	396	590	986
Denmark	245	158	403
The Netherlands	241	108	349
Sweden	255	121	376
Germany	19	636	655
Total (MW)	1,156	1,613	2,769



Onshore



Offshore

% Vattenfall ownership

United Kingdom – ROC scheme	
■ Thanet	300
■ Ormonde (51%)	150
■ Kentish Flats	90
■ Kentish Flats Extension	50
■ Pen Y Cymoedd	228
■ Ray	54
■ Edinbane	41
■ Clashindarroch	37
■ Swinford	22
■ Parc Cynog incl. Solar ²	9
■ Pendine	5
Installed capacity (MW)	986

Sweden – certificate scheme	
■ Lillgrund	111
■ Utgrunden	10
■ Stor-Rotliden	78
■ Högabjär-Kärsås (50%)	38
■ Höge Våg (50%)	38
■ Hjuleberg (50%)	36
■ Juktan (50%)	29
■ Östra Herrestad	16
■ Näsudden	11
■ Hedekoga	6
■ Other assets ³	3
Installed capacity (MW)	376

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	17
■ Hollandsbjerg	17
■ Bajlum (89%)	15
■ DræbyFed	9
■ Ryå	8
■ Ejsing (97%)	7
■ Nordjyllandsværket	6
■ Lyngmose	5
■ Vellingmærsk	1
Installed capacity (MW)	403

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(+)	
■ NoordzeeWind (50%)	108
■ Prinses Alexia	122
■ Eemmeerdijk	17
■ Irene Vorrink	17
■ Jaap Rodenburg	17
■ Windpoort (40%)	13
■ Hoofdplaatpolder (70%)	10
■ Reyndersweg (50%)	9
■ Echteld	8
■ De Bjirmen	6
■ Oom Kees (12%)	6
■ Oudendijk	5
■ Mariapolder	5
■ Hiddum Houw	4
■ Enkhuizen	2
Installed capacity (MW)	349

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

	Country	Name	No. of Turbines	Capacity (MW) ¹	Support scheme	Awarded	Duration of support	Owner-ship (%)	Commissioning	Current status
In 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
	NL	Slufterdam	8	29	SDE+	X	15yrs	100	2018	Under construction
Total 528 MW										
	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	15 yrs	100	2019	Investment decision taken
	NL	Wieringermeer ext.	32	~115	SDE+	X	15 yrs	100	2019	Procurement
	SE	Blakliden + Fäbodberget	84	~350	Certs	N/A	15 yrs	100	2021	Procurement, preparing for grid investment decision
	NL	Moerdijk	7	~28	SDE+	X	15 yrs	100	2019	Procurement
	NL	Haringvliet	6	~21	SDE+	X	15 yrs	100	2019	Procurement
	DE	Forst Briesnig	5	16	FIT (old EEG)	X	20 yrs	100	2018	Procurement
	NL	Nieuwe Hemweg	6	~20	SDE+		15 yrs	100	2020	Applied for subsidy
	UK	South Kyle	~50	~170	None	N/A	N/A	100	2021	Preparing for procurement
	DK	NK II	40	~120	None	N/A	N/A	100	2020	EIA expected in March 2018
	SE	Velinga	12	~40	Certs	N/A	15 yrs	100	2021	Procurement H1 2018
	NL	Hollandse Kust	90	756	FIT		20 yrs		2023	Awaiting final tender rules
	DK	Danish Near Shore	41	344	FIT	X	50.000hrs	100	2020	Tender won & concession signed
	DK	Danish Kriegers Flak	72	605	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 ~7GW										

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

PIPELINE OF SOLAR AND BATTERIES

	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
In construction	NL	Battery @ Alexia	3	Primary Control Reserve (PCR)	weekly		100	2018	Preparing for commissioning
	UK	Battery @ PyC	22	Enhanced Frequency response (EFR) and Capacity Mechanism (CM)	X	1-4 yrs EFR 5-15 CM	100	2018	Construction
In development	UK	Ray	10	Enhanced Frequency response (EFR) and Capacity Mechanism (CM)	X	1-4 yrs EFR 5-15 CM	100	2019	Development ongoing, permit received
	NL	Velsen	2,0	SDE+	X	Full-load yrs	100	2018	Preparing for investment decision
	NL	Eemshaven	5,5	SDE+	X	Full-load yrs	100	2018	Preparing for investment decision
	NL	Hemweg	2,3	SDE+	X	Full-load yrs	100	2018	Preparing for investment decision
	NL	Haringvliet	36	SDE+		Full-load yrs	100	2019	Permit received, preparing for bid
	NL	Floriade	4	SDE+		Full-load yrs	100	2018 / 2019	Preparing for bid
	NL	Wieringermeer	28	SDE+		Full-load yrs	100	2019	Early development, preparing for permit
	NL	Oudendijk	20	SDE+		Full-load yrs	100	2019	Early development, preparing for permit

Total 132,8

 Solar PV

 Battery