



# Vattenfall FY and Q4 Results 2017

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Press Conference 7 February 2018



# VATTENFALL 2017 – A STRONGER AND MORE RESILIENT COMPANY

## Highlights

- Returning to profit on the bottom line
  - Profit for the period 9.6 SEK bn
  - Underlying EBIT 23.3 SEK bn
- Resilient capital structure with FFO/AND at 21.5%
- Large investments towards climate neutral growth despite years of market challenges
- Strong production across the Nordic hydro and nuclear fleet
- Increased contribution from wind following commissioning of new assets
- Growth of decentralised solutions and electric vehicle charging
- Continued investments in Distribution to increase quality of delivery
- Phase-out of coal-fired power generation to natural gas in Berlin

## Key data

SEK bn	FY 2017	FY 2016 <sup>1</sup>	Δ
Net Sales	135.3	139.2	-3.9
Underlying EBIT	23.3	21.7	1.7
EBIT	18.6	1.3	17.3
Profit for the period	9.6	-2.2	11.8
ROCE, %	7.7	0.5	7.2
ROCE excl. IAC, %	9.7	8.7	1
FFO/adj net debt, %	21.5	21.6	-0.1
TWh	FY 2017	FY 2016 <sup>1</sup>	Δ
Electricity generation	127.3	119.0	8.3
Customer sales, electricity	108.8	123.2	-14.4
Customer sales, heat	18.8	20.3	-1.5
Customer sales, gas	56.4	54.8	1.6

<sup>1</sup> Continuing operations (excluding divested lignite operations)

# VATTENFALL IS WELL ON TRACK TO MEET ITS STRATEGIC TARGETS UNTIL 2020

## Our strategic objectives and prioritised areas

Increase customer centricity and build a sizable position in decentralised energy

Grow in renewables, maintain efficient operations within hydro and nuclear power and implement our CO<sub>2</sub> roadmap



Develop culture, competence and brand

Reduce costs and improve operational efficiency

## Strategic targets to 2020

- 1 Customer engagement, Net Promoter Score relative to peers (NPS relative) +2
- 2 Aggregated commissioned new renewables capacity 2016-2020: ≥2,300 MW
- 3 Absolute CO<sub>2</sub> emissions, pro rata, continuing operations: ≤21 Mtonnes
- 4 Return on Capital Employed (ROCE), last 12 months: ≥8%
- 5 Safety as LTIF (Lost Time Injury Frequency): ≤1.25
- 6 Employee Engagement Index: ≥70%<sup>1</sup>

FY 2017

FY 2016

Comments

+2



+7

Continued improvement at lower pace

652 MW



297 MW

Strong continuous growth

23.1 Mt<sup>1</sup>



23.2 Mt<sup>1</sup>

CO<sub>2</sub> roadmap continues

7.7%



0.5%

Significant improvement towards adjusted target

1.5



2.0

Core focus

64%



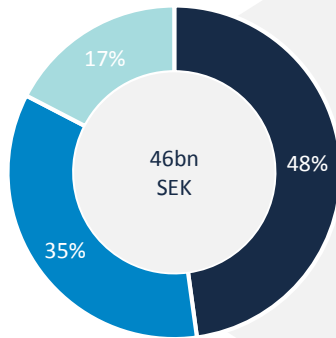
57%

Improved but not satisfactory

1) Consolidated values for 2017. Consolidated emissions are approximately 0.5 Mt higher than pro rata values, corresponding to Vattenfall's share of ownership.

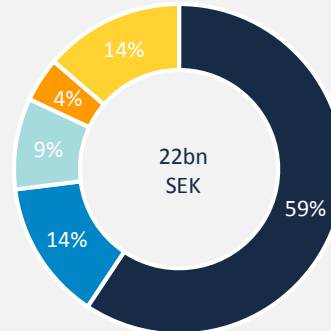
# LARGE INVESTMENTS TOWARDS CLIMATE NEUTRAL GROWTH DESPITE YEARS OF MARKET CHALLENGES

Total capex  
2018-2019



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

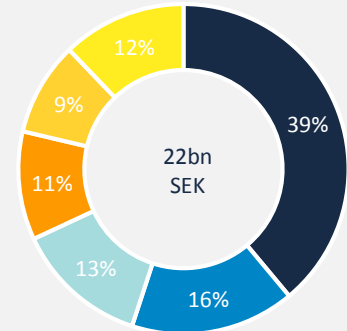
Growth capex per technology  
2018-2019



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

\* Mainly decentralised solutions, energy storage and e-mobility

Growth capex per country  
2018-2019



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

# POWER GENERATION – A YEAR OF STRONG PRODUCTION ACROSS OUR MAJOR NORDIC UNITS

## Highlights

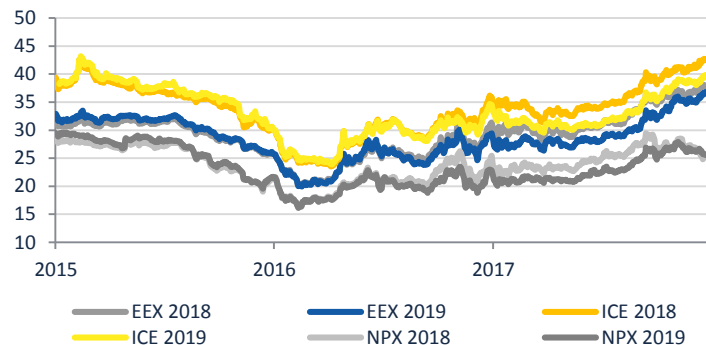
SEK bn	FY 2017	FY 2016
Net sales	94.4	99.0
Underlying operating profit	10.8	11.4

- Nuclear capacity tax fully abolished as of Jan 1, 2018
- Independent Core Cooling investment decision for Ringhals (Forsmark decided in 2016)
- Increase in payments to Swedish nuclear fund 2018-2020 from avg. 0,04 SEK/kWh to 0,05 SEK/kWh meaning a total of approx. SEK 200 mn p.a.
- Higher nuclear production (+5 TWh<sup>1</sup>) as a result of high availability (85%) and restart of Ringhals 2
- The underlying operating profit decreased due to lower gross margin resulting from hedging activities
- Land and Environmental Court recommends further assessment before decision on final nuclear storage in Sweden
- Strong hydro balance and more favourable market environment benefitted our hydro business (+0.8 TWh)<sup>2</sup>

## Nuclear Improvement Program

Target	Indicator	AC 2016	AC 2017	KPI 2021
<i>Safe and available</i>	Availability	75%	85%	>90%
<i>Cost effectiveness</i>	Cost/kWh <sup>3,4</sup>	35 öre	24 öre	19 öre
<i>Capital Discipline</i>	Total Capex	SEK 2 bn	SEK 2 bn	SEK 1 bn

## Price development – Electricity futures (EUR/MWh)



<sup>1</sup> Nuclear production - 2017: 51.9 TWh; 2016: 46.9 TWh

<sup>2</sup> Hydro production - 2017: 35.6 TWh; 2016: 34.8 TWh

<sup>3</sup> Cost of purchase, O&M cost, depreciation, financing cost, capacity tax 4 öre/kWh in 2017 and 7 öre/kWh in 2016

<sup>4</sup> 29 öre/kWh in 2016 excl. IAC, incl. capacity tax

# WIND – CONTINUED RENEWABLES GROWTH POSITIVELY IMPACTS VATTENFALL'S RESULT DEVELOPMENT

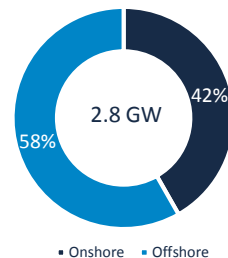
## Highlights

SEK bn	FY 2017	FY 2016
Net sales	9.4	6.7
Underlying operating profit	2.1	0.9

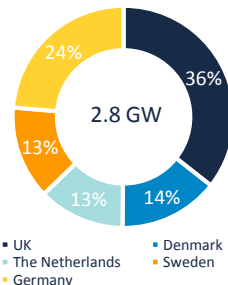
- Wind Power more than doubled its result, mainly due to further growth in operating assets. Production increased by 1.8 TWh<sup>1</sup> and availability was 97%<sup>2</sup>
  - ✓ Completion of the Sandbank offshore wind farm (288 MW) in Germany
  - ✓ Pen y Cymoedd (228 MW), which is our largest onshore wind farm in the UK, started operating at full capacity
- Construction start of Horns Rev III (406 MW) in Denmark. Last foundation was piled in place in January
- In the development pipeline, the final investment decision and complementary acquisition around Wieringermeer in the Netherlands (all together 295 MW) should be noted
- Vattenfall decided to participate in the offshore wind tender for Hollandse Kust Zuid, the first non-subsidized tender in the world

## Operating assets

### Split by type of generation



### Split by geography



## Under construction and pipeline

>700 MW	Wind projects under construction
~6 GW	Wind projects in development
375 MW	Large scale solar pipeline
17 MW	Decentral solar pipeline
37 MW	Batteries pipeline

<sup>1</sup> Wind production - 2017: 7.6 TWh; 2016: 5.8 TWh

<sup>2</sup> Wind availability - 2017: 97%; 2016: 97%

# CUSTOMERS AND SOLUTIONS – STABLE DEVELOPMENT IN A COMPETITIVE LANDSCAPE

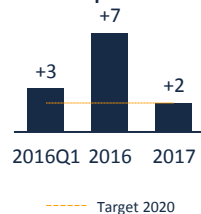
## Highlights

SEK bn	FY 2017	FY 2016
Net sales	69.1	69.2
Underlying operating profit	1.9	1.8

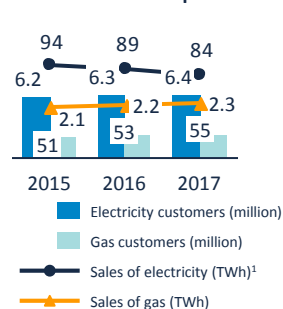
- Growing customer base despite competitive pressure with lower sold volumes mainly in the B2B segment for Germany and France
- Continue to outperform peer average in Net Promoter Score (NPS)
- Strong focus on lowering cost to serve contributed to lower operating expenses and increased underlying operating profit in spite of decrease in net sales
- Market entry into the UK through iSupplyEnergy
- Expansion of decentralised solutions, e.g. Vattenfall InHouse (SE), solar lease for house owners (NL) and acquisition of platform solution Trianel (DE)

## Key data

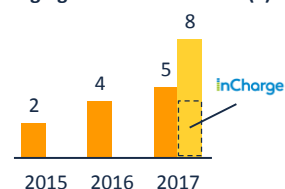
### Net Promoter Score (NPS) relative to peers



### Retail sales development



### Charging for electric vehicles (k)



<sup>1</sup> Adjusted for re-allocation of resellers in 2016 to Power Generation

<sup>2</sup> Data collection initiated in 2017

# DISTRIBUTION – POSITIVE RESULT DEVELOPMENT SUPPORTS REQUIRED NETWORK UPGRADES

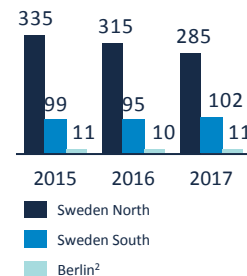
## Highlights

SEK bn	FY 2017	FY 2016
Net sales	21.5	19.7
Underlying operating profit	6.1	4.9

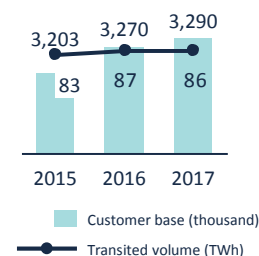
- Adjusted tariffs in Sweden support continued investments and major upgrades in the network
- New network prices in Sweden applied from 1 January 2018
- Adjusted tariffs in Germany reflecting higher upstream costs
- Swedish revenue frames for 2016-2019 settled with WACC at 5.85%
- Concession process in Berlin not finalised

## Key data

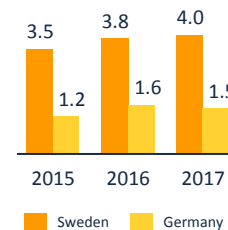
Service level (SAIDI, min)<sup>1</sup>



Customers and volumes



Investments (SEK bn)



<sup>1</sup> Excl. storms and other major weather related outages (SE North 2015: 199min, 2016: 224min; SE South 2015: 64min)

<sup>2</sup> Significantly lower SAIDI in Berlin as a result of being a city grid. Vattenfall's Swedish grid covers both urban areas and large rural areas.



# HEAT – DELIVERING ON THE PHASE OUT OF COAL

## Highlights

SEK bn	FY 2017	FY 2016
Net sales	30.7	28.4
Underlying operating profit	3.4	3.2

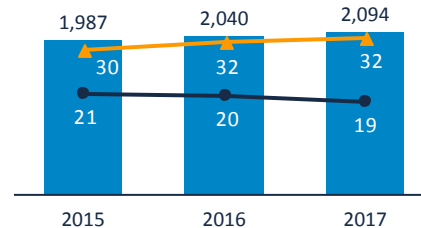
- Positive sales and result development mainly related to higher electricity production and subsidies for gas-fired CHPs<sup>1</sup>
- Supporting Berlin's target of coal phase out by 2030
  - ✓ Klingenberg (590 MWth) conversion
  - ✓ Marzahn (230 MWth) construction start
  - ! Reuter C (331 MWth) to be closed
  - ! Investment decision to build power-to-heat asset (120 MWth) and gas-fired heat-only boilers in Spandau
- Investment decision to convert a heat only boiler peat-fired plant in Uppsala (120 MWth) to biomass
- New decentralised product launches, e.g. on-site solar production and micro CHPs

<sup>1</sup> CHP = Combined Heat and Power Plant

<sup>2</sup> CSS NL with 50% efficiency, CDS DE with 38% efficiency

## Key data

### Sales and production



■ Customer base (thousand)   
 ▲ Electricity generation (TWh)   
 ● Heat sales (TWh)<sup>1</sup>

### Spreads<sup>2</sup> (EUR/MWh)



— Clean Spark Spread NL   
 — Clean Dark Spread DE

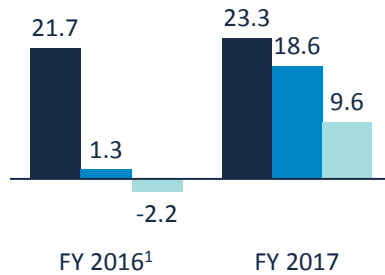


# FINANCIALS

Anna Borg, CFO

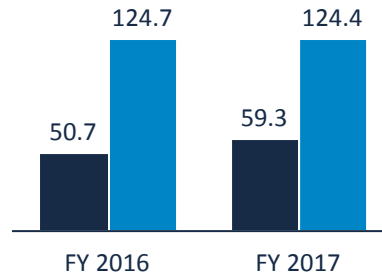
# FY 2017 FINANCIAL HIGHLIGHTS

## Increased earnings, SEK bn



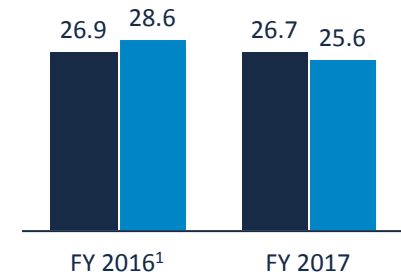
■ Underlying EBIT ■ EBIT ■ Profit for the year

## Stable debt levels, SEK bn



■ Net debt ■ Adjusted net debt

## Stable funds from operations, SEK bn



■ FFO ■ Cash flow operating activities

- Underlying EBIT increased by SEK 1.6 bn to SEK 23.3 bn due to increased earnings in wind and distribution
- EBIT increased by SEK 17.3 bn to SEK 18.6 bn and Profit for the year by SEK 11.7 bn to SEK 9.6 bn. 2016 was affected by impairments
- Decrease in cash flow operating activities by SEK 3 bn to SEK 25.6 bn mainly related to changes in working capital
- FFO and debt levels stable, with FFO/adjusted net debt at 21.5%, below target of 22%
- Net debt increased by SEK 8.5 bn vs. 31 December 2016, mainly due to reclassification from nuclear provisions into debt. Adjusted net debt remain in line with last year

<sup>1</sup> Continuing operations (excluding divested lignite operations)

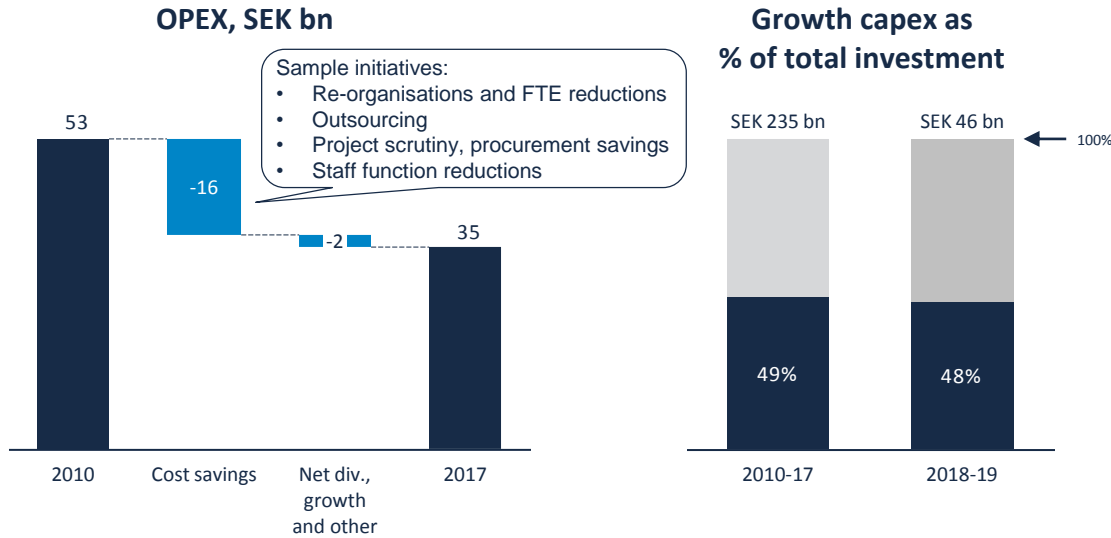
# IMPROVING OUTCOME VS. FINANCIAL TARGETS

Financial objectives	New target	Old target	Outcome 2017	Outcome 2016
Profitability	Return on capital employed: >8%	Return on capital employed: >9%	7.7% (9.7%) <sup>2</sup>	0.5% <sup>1</sup> (8.7%) <sup>2</sup>
Capital Structure	FFO/Adjusted net debt: 22-27%	FFO/Adjusted net debt: 22-30%	21.5%	21.6% <sup>1</sup>
Capital structure	N/A	Net debt/equity ratio: 50-90%	63.0%	60.5%
Dividend policy	Dividend: 40%-70% of the year's profit after tax	Dividend: 40%-60% of the year's profit after tax	SEK 2 bn dividend proposal	-

<sup>1</sup> Continuing operations (excluding divested lignite operations)

<sup>2</sup> Excluding Items Affecting Comparability (IAC)

# DELIVERING ON COST CONTROL



## Key cost reduction measures

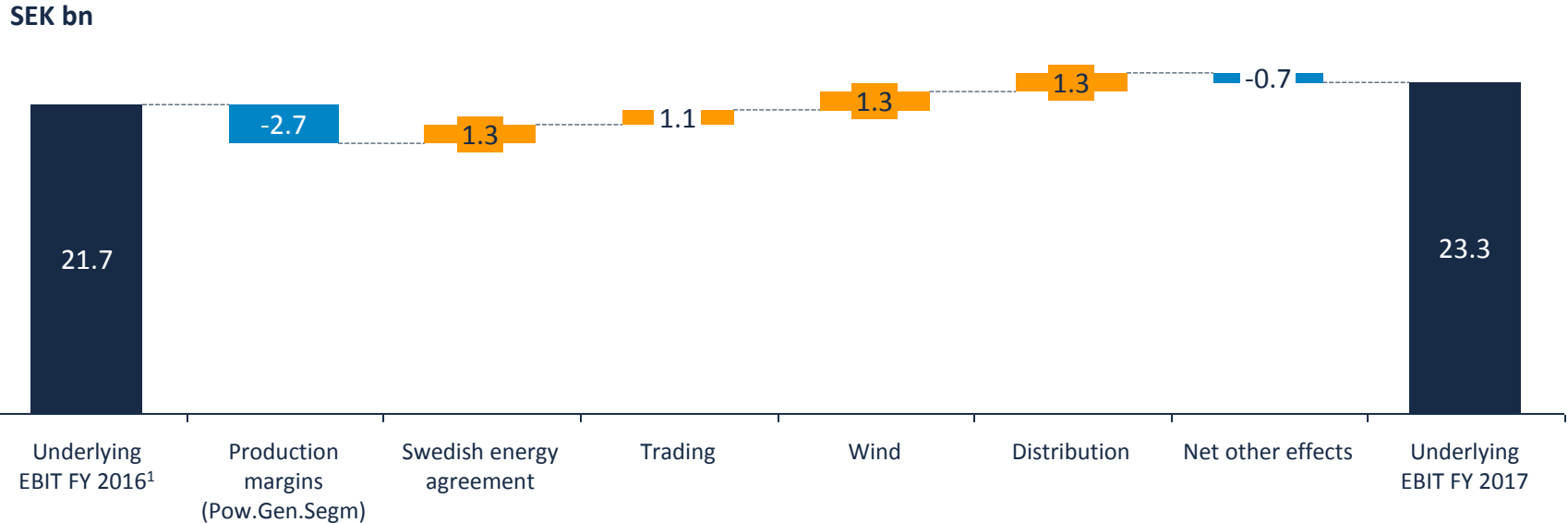
- Optimising structure and scope of staff and support functions, SEK 2 bn
- Operational efficiency measures
- Leading the development in lowering LEC
- Best in class cost to serve
- Focus on effective operations and investment efficiency
- Strengthen operational performance

- Significantly decreased cost base in our existing businesses. Never compromising on safety.
- Maintained headroom for growth investments is largely attributable to cost saving measures, mitigating the effect of decreased market prices
- Cost reductions are an integral part of our strategy with several initiatives ongoing both in the business as well as for overhead and IT

<sup>1</sup> Continuing operations (excluding divested lignite operations)

# DEVELOPMENT OF UNDERLYING EBIT FY 2017

Improvement following higher contribution mainly from distribution and wind operations



<sup>1</sup> Continuing operations (excluding divested lignite operations)

# FY AND Q4 2017 FINANCIAL OVERVIEW

Underlying operating profit is increasing owing to higher earnings mainly in wind and distribution

SEK bn	FY 2017 <sup>1</sup>	Q4 2017 <sup>1</sup>
Net Sales	135.3 (139.2)	38.5 (37.8)
EBITDA	34.5 (27.2)	10.1 (3.3)
Underlying operating profit (EBIT)	23.3 (21.7)	7.3 (7.1)
EBIT	18.6 (1.3)	6.0 (-2.8)
Financial items, net	-5.8 (-6.4)	-2.3 (-2.0)
Profit for the period	9.6 (-2.2)	2.9 (-4.0)
Funds from Operations (FFO)	26.7 (26.9)	6.6 (7.1)
Cash flow operating activities	25.6 (28.6)	4.5 (11.1)
Net debt	59.3 (50.7)	59.3 (50.7)
Adjusted net debt	124.4 (124.7)	124.4 (124.7)
FFO/adjusted net debt (%) <sup>2</sup>	21.5 (21.6)	21.5 (21.6)
Adjusted net debt/EBITDA (times) <sup>2</sup>	3.6 (4.6)	3.6 (4.6)

<sup>1</sup> 2016 figures continuing operations (excluding divested lignite operations)

<sup>2</sup> Last 12-month values

# ITEMS AFFECTING COMPARABILITY

SEK bn	FY 2017 <sup>1</sup>	Q4 2017 <sup>1</sup>
Capital gains	0.7 (2.2)	0.1 (0.1)
Capital losses	-0.1 (-0.4)	-0.1 (-0.3)
Impairment losses	-0.4 (-12.4)	-0.0 (-3.3)
Reversed impairment losses	0.0 (0.9)	- (0.9)
Provisions	-1.8 (-8.2)	-1.2 (-8.4)
Unrealised changes in the fair value of energy derivatives	-3.6 (-2.4)	0.1 (1.0)
Unrealised changes in the fair value of inventories	0.0 (1.0)	0.2 (0.4)
Restructuring costs	-0.3 (-0.8)	-0.1 (-0.5)
Other items affecting comparability	0.9 (-0.3)	-0.3 (0.1)
<b>Total</b>	<b>-4.7 (-20.4)</b>	<b>-1.3 (-9.9)</b>

## Highlights 2017

- Capital gains of SEK 0.7 bn mainly due to sale of shares in Waste incineration plants T.A Lauta and Rüdersdorf
- Provisions of SEK -1.8 bn mainly because of change of discount rate for Ringhals
- Unrealised changes in the fair value of energy derivatives and inventories SEK -3.6 bn

<sup>1</sup> 2016 figures continuing operations (excluding divested lignite operations)



# UNDERLYING EBIT PER OPERATING SEGMENT

SEK bn	FY 2017 <sup>2</sup>	Q4 2017 <sup>2</sup>
Customers & Solutions	1.9 (1.8)	0.7 (0.4)
Power Generation	10.8 (11.4)	2.7 (3.9)
Wind	2.1 (0.9)	1.4 (0.4)
Heat	3.4 (3.2)	1.0 (1.5)
Distribution	6.1 (4.9)	1.7 (1.1)
Other <sup>1</sup>	-1.0 (-0.5)	-0.2 (-0.4)
Eliminations	-0.1 (-0.0)	0.1 (0.2)
<b>Total</b>	<b>23.3 (21.7)</b>	<b>7.3 (7.1)</b>

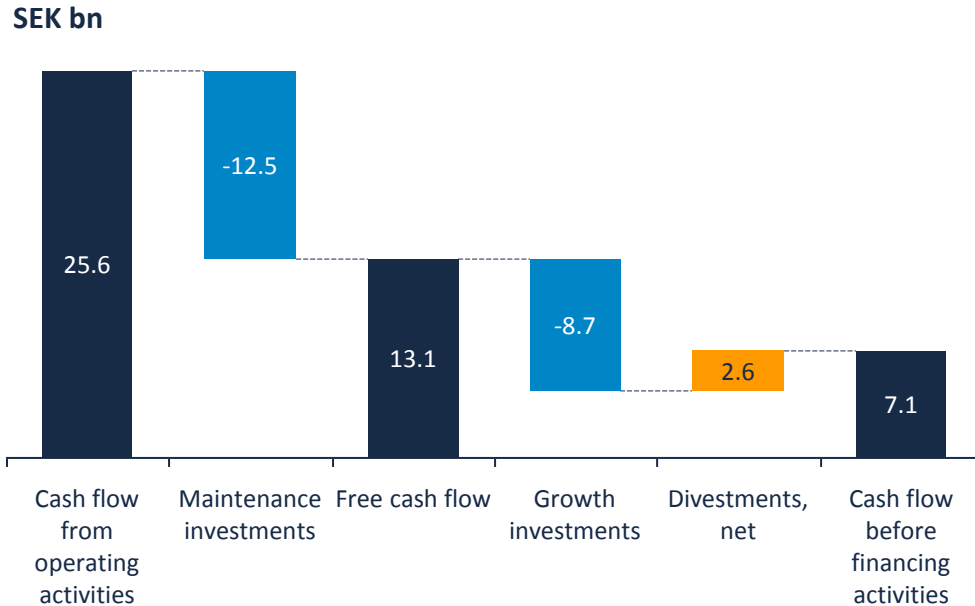
## Highlights 2017

- Customer & Solutions: increase by SEK 0.1 bn mainly explained by lower operational expenses
- Power Generation: decrease by SEK 0.6 bn mainly due to lower gross margin offset by lower operating expenses
- Wind: increase by SEK 1.3 bn following new capacity added
- Heat: increase by SEK 0.1 bn mainly due to retroactive compensation in 2017 for 2016
- Distribution: underlying operating profit increased by SEK 1.3 bn as a result of a higher gross margin in Sweden and lower operating expenses in Germany

<sup>1</sup> "Other" pertains mainly to all Staff functions, including Treasury and Shared Service Centres

<sup>2</sup> 2016 figures continuing operations (excluding divested lignite operations)

# CASH FLOW DEVELOPMENT FY 2017



## Highlights

- Decrease in FFO by SEK 0.2 bn to SEK 26.7 bn, higher operating result was offset by higher taxes paid and higher interest paid in 2017 as a result of partial repurchase of a bond maturing in 2039
- Cash flow from operating activities are SEK 25.6 bn, change in working capital has a negative impact by SEK 1.1 bn mainly due to net changes in operating receivables and operating liabilities, offset by net changes in margin calls
- Growth investments mainly related to renewables

# APPENDIX

# CONTINUED STRONG LIQUIDITY POSITION

Group liquidity	SEK bn
Cash and cash equivalents	8.8
Short term investments	18.1
<b>Reported cash, cash equivalents &amp; short term investments</b>	<b>26.9</b>
Unavailable liquidity <sup>1</sup>	-7.0
<b>Available liquidity</b>	<b>19.9</b>

Committed credit facilities	Facility size	SEK bn
RCF (maturity Dec 2021)	2.0 EUR bn	19.7
Total undrawn		19.7
Debt maturities <sup>2</sup>		SEK bn
Within 90 days		4.4
Within 180 days		9.4

- SEK 17.3 bn have been paid out to the German nuclear energy fund in 2017, and the available liquidity amount to SEK 19.9 bn
- Despite the large payment, the liquidity of Vattenfall remains strong

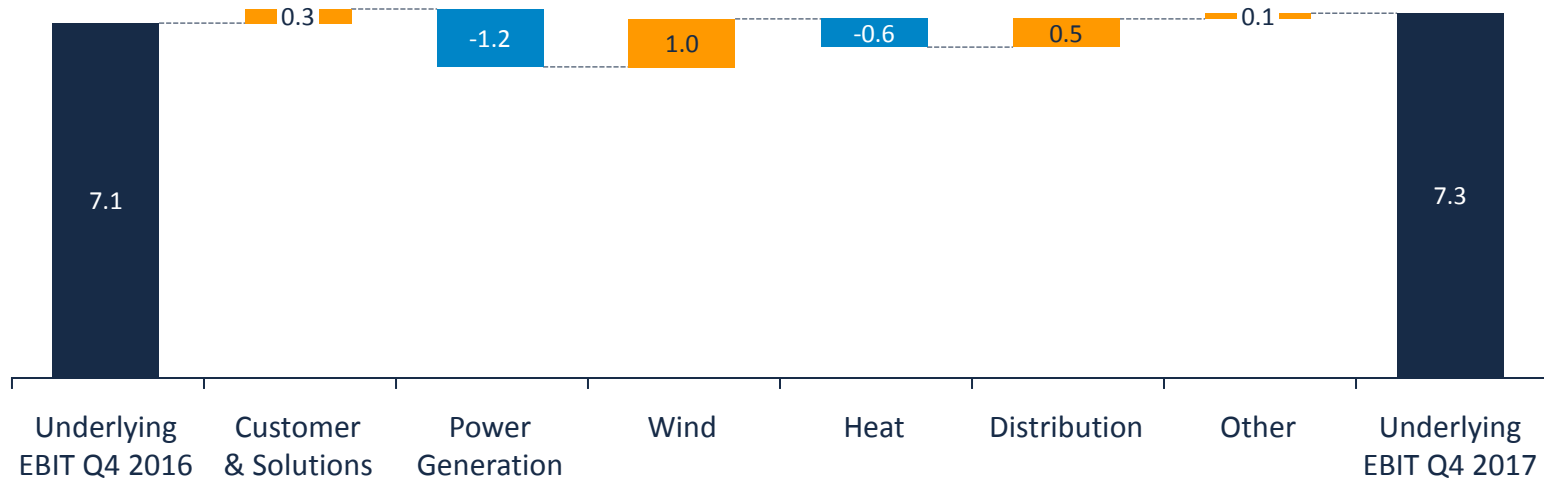
<sup>1</sup> German nuclear "Solidarvereinbarung" 3.4 SEK bn, Margin calls paid (CSA) 2.7 SEK bn, Insurance "Provisions for claims outstanding" 0.9 SEK bn

<sup>2</sup> Excluding loans from minority owners and associated companies

# DEVELOPMENT OF UNDERLYING EBIT Q4 2017

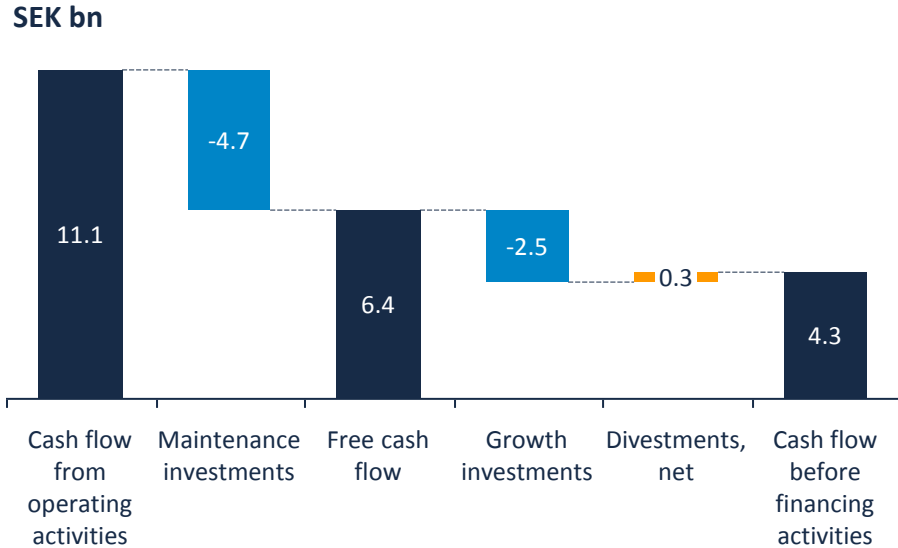
Wind and distribution are the main contributors to the small positive development

SEK bn



1) Excluding divested lignite operations

# CASH FLOW DEVELOPMENT Q4 2017



## Highlights

- FFO decreased by SEK 0.5 bn due to higher tax paid in 2017 and interest paid as a result of partial repurchase of bond maturing 2039
- Changes in working capital have a negative impact by SEK 2.1 bn on cash flow from operating activities mainly due to changes in margin calls, increase in inventory lower receivables in BA Customer & Solutions following the seasonal pattern
- Net cash flow from investing activities is SEK -6.9 bn

# IMPAIRMENT HISTORY 2009 – FY 2017

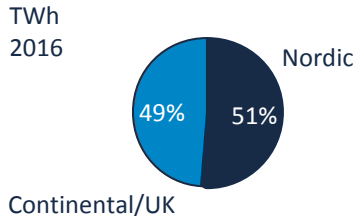
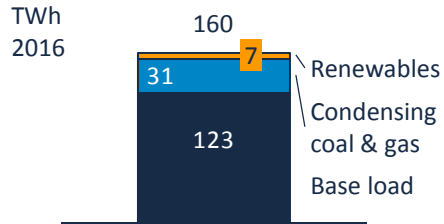
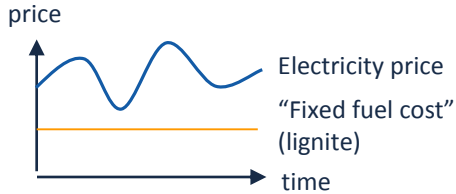
SEK bn	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
The Netherlands	Thermal assets		4.3 <sup>1</sup>	0.4 <sup>2</sup>	8.6 <sup>2</sup>	14.7	2.6		2.8	33.4
	Trading					6.5 <sup>1</sup>	10.0 <sup>1</sup>		0.7	17.2
	Other	1.2	1.2			1.5 <sup>2</sup>	1.9			5.8
Germany	Thermal assets			0.3		4.3	5.7	19.2	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
<b>Impairments</b>	<b>5.5</b>	<b>11.1</b>	<b>11.3</b>	<b>12.3</b>	<b>30.1</b>	<b>23.8</b>	<b>36.8</b>	<b>33.8</b>	<b>0.4</b>	<b>165.1</b>
Reversed impairment losses	-1.3	-1.3	-0.4	0.0	0.0	0.0	-0.5	-0.9	0.0	-4.4
<b>Impairments (net)</b>	<b>4.2</b>	<b>9.8</b>	<b>10.9</b>	<b>12.3</b>	<b>30.1</b>	<b>23.8</b>	<b>36.3</b>	<b>32.9</b>	<b>0.4</b>	<b>160.7</b>

1) Impairment of goodwill

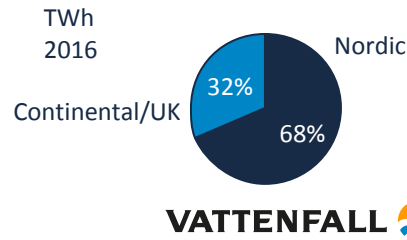
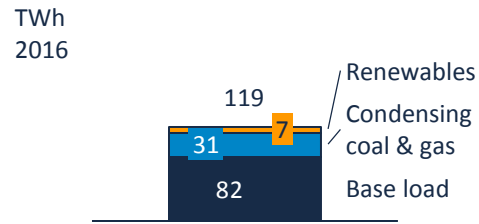
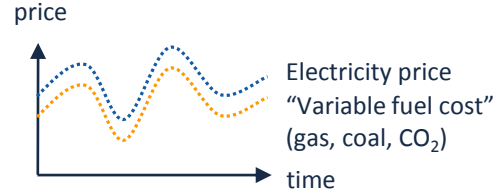
2) Impairment of assets and goodwill

# 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%

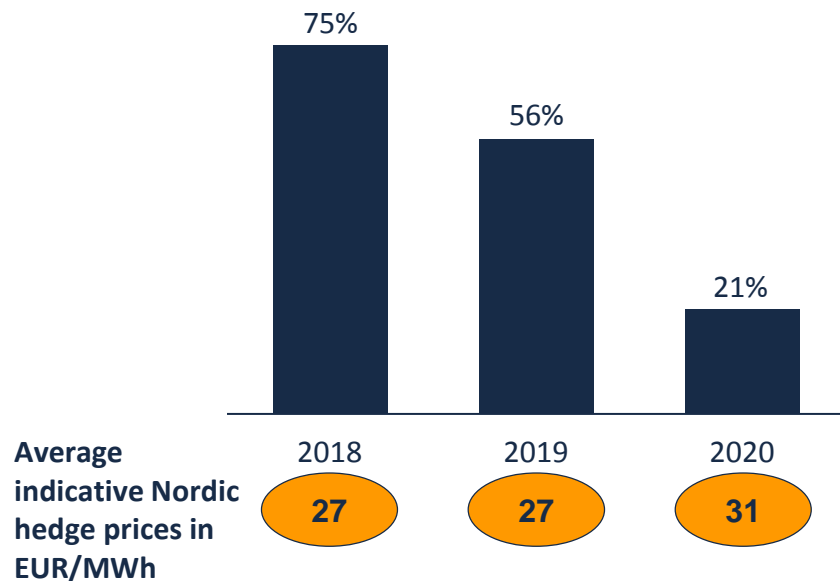
- Lower hedge ratio
- Hedging primarily Nordic exposure
- Hedging closer to delivery



# 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 Nordic<sup>1</sup> hedge ratio (%) and indicative prices



## Sensitivity analysis – Continental<sup>2</sup> portfolio

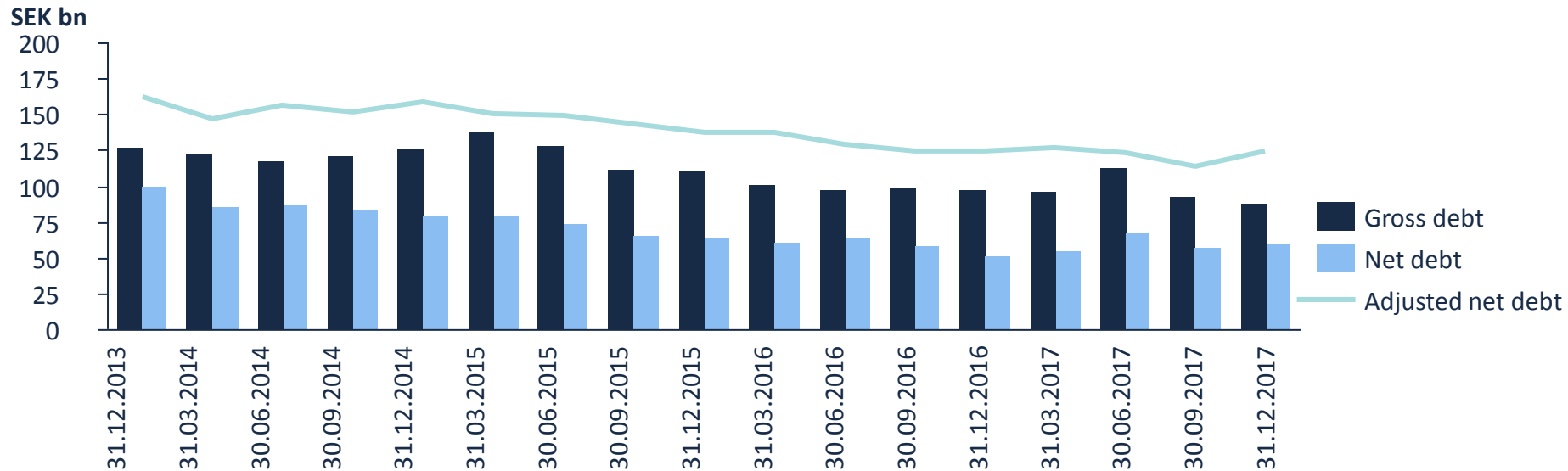
Market quoted	+/- 10% price impact on future profit before tax, MSEK <sup>3</sup>			Observed yearly volatility
	2018	2019	2020	
Electricity	+/- 749	+/- 1315	+/- 1194	18% - 26%
Coal	-/+ 320	-/+ 350	-/+ 275	22% - 31%
Gas	-/+ 658	-/+ 651	-/+ 577	14% - 27%
CO <sub>2</sub>	-/+ 130	-/+ 158	-/+ 167	47% - 62%

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

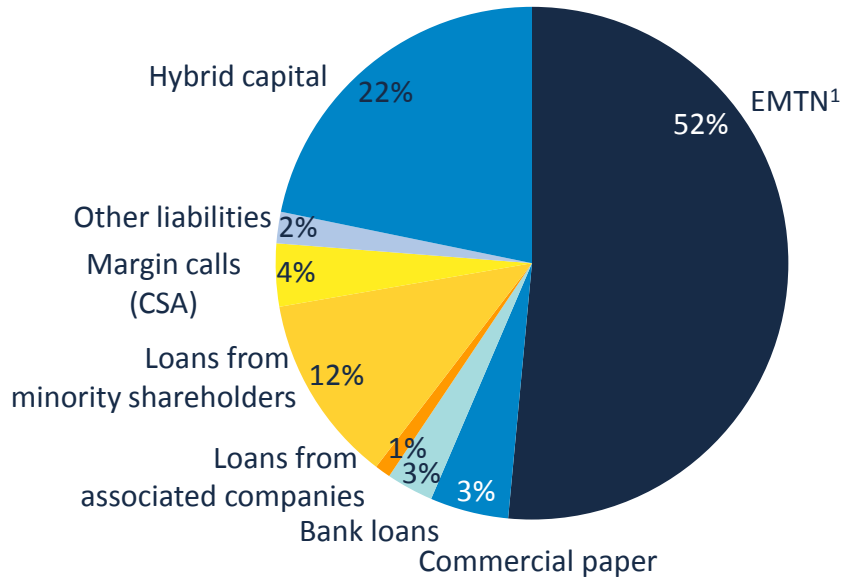


Net debt increased by SEK 8.5 bn compared with the level at 31 Dec. 2016. Adjusted net debt remains in line with 31 Dec. 2016 at SEK 124.4 bn. For the calculation of adjusted net debt, see slide 30.

# BREAKDOWN OF GROSS DEBT

Total debt: SEK 87.2bn (EUR 8.9bn)

External market debt: SEK 76.3bn (EUR 7.8bn)

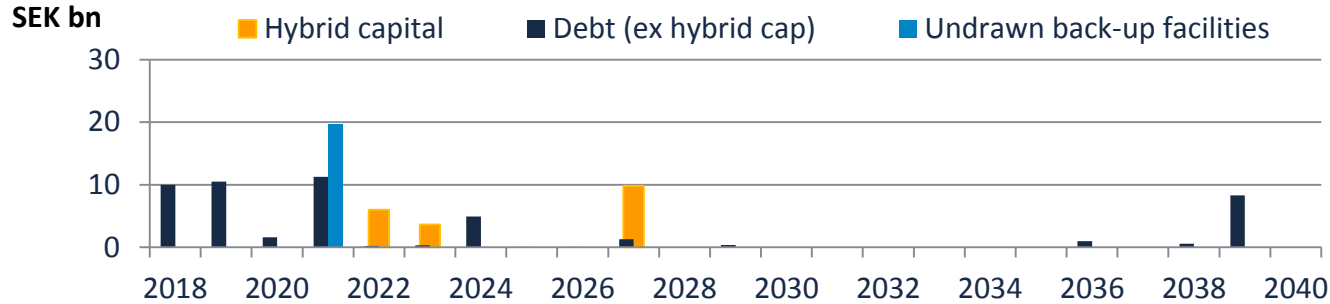


Debt issuing programmes	Size (EUR bn)	Utilization (EUR bn)
EUR 10bn Euro MTN	10.0	4.3
EUR 2bn Euro CP	2.0	0.7
SEK 15bn Domestic CP	1.5	0.1
<b>Total</b>	<b>13.5</b>	<b>5.1</b>

- 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 PROFILE<sup>1</sup>



	31 Dec. 2017	31 Dec. 2016
Duration (years)	4.3	5.6
Average time to maturity (years)	6.9	8.5
Average interest rate (%)	4.4	4.4
Net debt (SEK bn)	59.3	50.7
Available group liquidity (SEK bn)	19.9	36.3
Undrawn committed credit facilities (SEK bn)	19.7	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)	31 Dec. 2017	31 Dec. 2016
Hybrid capital	-19.1	-19.2
Bond issues and commercial papers and liabilities to credit institutions	-52.1	-55.8
Liabilities to associated companies	-0.5	-2.8
Liabilities to minority shareholders	-10.4	-10.1
Other liabilities	-5.1	-8.8
<b>Total interest-bearing liabilities</b>	<b>-87.2</b>	<b>-96.7</b>
Reported cash, cash equivalents & short-term investments	26.9	43.3
Loans to minority owners of foreign subsidiaries	1.0	2.7
<b>Net debt</b>	<b>-59.3</b>	<b>-50.7</b>

Adjusted net debt (SEK bn)	31 Dec. 2017	31 Dec. 2016
Total interest-bearing liabilities	-87.2	-96.7
50% of Hybrid capital	9.6	9.6
Present value of pension obligations	-42.0	-40.6
Wind & other environmental provisions	-6.5	-4.4
Provisions for nuclear power (net)	-30.7	-41.9
Margin calls received	3.3	4.0
Liabilities to minority owners due to consortium agreements	9.2	9.0
<b>= Adjusted gross debt</b>	<b>-144.3</b>	<b>-161.0</b>
Reported cash, cash equivalents & short-term investments	26.9	43.3
Unavailable liquidity	-7.0 <sup>1</sup>	-7.0 <sup>1</sup>
<b>= Adjusted cash, cash equivalents &amp; short-term investments</b>	<b>19.9</b>	<b>36.3</b>
<b>= Adjusted net debt</b>	<b>-124.4</b>	<b>-124.7</b>

- 1) Of which: German nuclear "Solidarvereinbarung" 3.3  
Margin calls paid (CSA) 2.7  
Insurance "Provisions for claims outstanding" 0.9

# 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	<b>Total Ringhals: 29.0</b>	<b>Total Ringhals: 29.0<sup>1</sup></b>	
Forsmark 1	984	1980	66.0			
Forsmark 2	1,120	1981	66.0			
Forsmark 3	1,170	1985	66.0	<b>Total Forsmark: 24.6</b>	<b>Total Forsmark: 16.3</b>	
<b>Total Sweden</b>	<b>6,974</b>	<b>-</b>		<b>53.8<sup>2</sup></b>	<b>45.5<sup>2</sup></b>	<b>32.4<sup>3</sup></b>
Brunsbüttel	771	1977	66.7	11.4	7.6	
Brokdorf	1,410	1986	20.0	0	2.9	
Krümmel	1,346	1984	50.0	6.6	6.6	
Stade <sup>4</sup>	640	1972	33.3	0	0.9	
<b>Total Germany</b>	<b>4,167</b>	<b>-</b>	<b>-</b>	<b>18.0</b>	<b>18.1</b>	
<b>Total SE &amp; DE</b>	<b>11,141</b>			<b>71.9</b>	<b>63.6</b>	

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

# INCREASED PENSION PROVISIONS

	<b>31 Dec 2017</b>	<b>30 June 2017</b>	<b>Impact (SEK bn)</b>
Sweden	2.50%	2.75%	+0.5
Germany	1.75%	2.00%	+1.3

## Highlights

- Following the decrease in market rates, the discount rate for both Swedish and German pension provisions is decreased by 25bp
- Leading to a total increase of provisions by SEK 1.8 bn

# CAPITAL EXPENDITURES

Continuing operations SEK bn	FY 2017	Q4 2017
Electricity generation	9.1 (13.1)	3.2 (3.7)
CHP/Heat	3.5 (3.1)	1.8 (1.4)
Electricity networks	5.3 (5.2)	2.1 (2.2)
Other	3.3 (0.5)	0.1 (0.2)
<b>Total</b>	<b>21.2 (21.9)</b>	<b>7.1 (7.6)</b>
- of which maintenance and replacement	12.5 (10.4)	4.7 (3.8)
- of which growth	8.7 (11.6)	2.5 (3.8)



# KEY DEVELOPMENTS IN MAIN MARKETS Q4 2017

## Overall

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

## United Kingdom

- Granted licence to operate distribution networks

## The Netherlands

- Participation in the first non-subsidised tender for offshore wind in the Netherlands
- Ten-year wind power supply contract with Microsoft

## Sweden

- Investment decision for independent core cooling for the Ringhals 3 and 4 reactors

## Denmark

- All foundations for Horns Rev 3 (406 MW) offshore wind farm were installed in January 2018

## Germany

- Vattenfall subsidiary Stromnetz Berlin won contract for public lighting in Berlin
- Feasibility study on coal phase-out in Berlin

# WIND - INSTALLED CAPACITY (MW<sup>1</sup>) Q4 2017

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

■ 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 <sup>2</sup>	9
■ Pendine	5
<b>Installed capacity (MW)</b>	<b>986</b>

## 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
■ Hedeskoga	6
■ Other assets <sup>3</sup>	3
<b>Installed capacity (MW)</b>	<b>376</b>

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
<b>Installed capacity (MW)</b>	<b>403</b>

## Germany – EEG scheme

■ DanTysk (51%)	288
■ Sandbank (51%)	288
■ alpha ventus (26%)	60
■ Jänschwalde	12
■ Westküste (20%)	7
<b>Installed capacity (MW)</b>	<b>655</b>

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
<b>Installed capacity (MW)</b>	<b>349</b>

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) <sup>1</sup>	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
Construction	UK	Aberdeen	11	92	ROC	X	20 yrs	100	2018	Under construction
	DK	Horns Rev 3	49	406	FIT	X	50.000hrs	100	2019	Under construction
	NL	Slufterdam	8	29	SDE+	X	15yrs	100	2019	Under construction
	NL	Wieringermeer	50	180	SDE+	X	15yrs	100	2020	Under construction
<b>Total 707 MW</b>										

	Country	Name	No. of Turbines	Capacity (MW) <sup>1</sup>	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
Development	NL	Wieringermeer ext.	32	~118	SDE+	X	15 yrs	100	2019	Procurement
	SE	Blakliden + Fäbodberget	84	~354	Certs	N/A	15 yrs	100	2022	Procurement, preparing for FID in Feb 2018
	NL	Moerdijk	7	~27	SDE+	X	15 yrs	100	2020	Procurement
	NL	Haringvliet	6	~21	SDE+	X	15 yrs	100	2020	Procurement
	NL	Nieuwe Hemweg	6	~20	SDE+		15 yrs	100	2020	Applied for subsidy
	UK	South Kyle	~50	~200	None	N/A	N/A	100	2021	Preparing for procurement
	DK	NK II	40	~120	None	N/A	N/A	100	2021	EIA expected in March 2018
	SE	Velinga	12	~40	Certs	N/A	15 yrs	100	2021	Procurement H1 2018
	DK	Danish Near Shore	41	344	FIT	X	50.000hrs	100	2021	Tender won & concession signed
	DK	Danish Kriegers Flak	72	602	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	272	CFD		15 yrs	100	2024	Concept/Early planning
	UK	Norfolk Vanguard	120-180	1,800	CFD		15 yrs	100	2027	Concept/Early planning
UK	Norfolk Boreas	120-180	1,800	CFD		15 yrs	100	2028	Concept/Early planning	
<b>Total ~6GW</b>										

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

# PIPELINE OF SOLAR & BATTERIES

## LARGE SCALE SOLAR PIPELINE

	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Owner-ship (%)	Commissioning	Current status
Construction	NL	Velsen	2.3	SDE+	X	Full-load yrs	100	2018	Preparing for construction
	NL	Eemshaven	5.5	SDE+	X	Full-load yrs	100	2018	Preparing for construction
	NL	Hemweg	2.4	SDE+	X	Full-load yrs	100	2018	Preparing for construction
	NL	Haringvliet	36	SDE+		Full-load yrs	100	2019	Permit received, waiting for SDE approval
	NL	Floriade	4	SDE+		Full-load yrs	100	2018	Permit received, waiting for SDE approval
Development	NL	Wieringermeer	28	SDE+		Full-load yrs	100	2019	Preparing for permit and bid submission
	NL	Oudendijk	15	SDE+		Full-load yrs	100	2019	preparing for permit and bid submission
	NL	Echteld1	5	SDE+		Full-load yrs	100	2019	preparing for permit and bid submission
	NL	Diemen	1.9	SDE+		Full-load yrs	100	2019	preparing for permit and bid submission
	NL	TGO projects	200	SDE+		Full-load yrs	100	>2019	Early development, preparing for permit
	UK	TGO projects	75	n.a.		Full-load yrs	100	TBD	Early development, preparing for permit

**Total 375**

# PIPELINE OF SOLAR & BATTERIES

## DECENTRAL SOLAR PIPELINE

	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
<b>Construction</b>	DE	PV@VF sites	Max. 5.6 MW	EEG (small scale)	X	15 years	100	2018	FID for program / not all sites permitted yet
	DE	Tenant electricity/ Mieterstrom	1.2	EEG / Tenant electricity	X	15 years	100	2018	FID / BA Heat will be asset owner
	DE	B2B customers – direct sale	Max. 2 MW	EEG / own consumption	X	15 years	0	2018	FID for program / not all contracts signed yet
	DE	B2B customers – roof rent	Max. 2 MW	EEG / own consumption	X	15 years	100	2018	FID for program / not all contracts signed yet
	NL	B2B customers – direct sale / Leasing	Max 6.6 MW	SDE+		Full-load yrs	0	2019	In cooperation with Feenstra
<b>Development</b>	DE	Tenant electricity/ Mieterstrom		EEG / Tenant electricity	X	15 years	100	2018	Product sales
	DE	B2B customers – direct sale		EEG / own consumption	X	15 years	0	2018	Product sales
	DE	B2B customers – roof rent		EEG / own consumption	X	15 years	100	2018	Product sales
	NL	B2B customers – direct sale / Leasing		SDE+		Full-load yrs	0	2019	Product sales

Total ~17 MW

# PIPELINE OF SOLAR & BATTERIES

## BATTERIES PIPELINE

	Country	Name	Capacity (MW)	Support scheme	Awarded	Duration of support	Ownership (%)	Commissioning	Current status
<b>Construction</b>	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	Preparing for commissioning
	DE	Hafenbatterie	1	Cooperation with BMW and Bosch; Primary Control Reserve (PCR)	weekly				Preparing for commissioning
	DE	NEW 4.0	1	Funding in R&D operation and Primary Control Reserve (PCR)	Weekly for PCR	1-3 yrs funding 4-15 yrs PCR			FID taken; construction to be started
	DE	Decentral - Pilot project	0,26	No support scheme → Peak shaving				2018	FID taken, Procurement process finalized
<b>Development</b>	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
	DE	Decentral		No support scheme → Peak shaving				2018 / 2019	Sales of product

Total 37