



# Vattenfall Full Year Results 2016

Magnus Hall, CEO and Stefan Dohler, CFO

Press Conference 7 February 2017



# HIGHLIGHTS AND KEY FIGURES

## Swedish energy agreement

- A deal enabling the future energy system and a prerequisite for a responsible transition towards a 100% renewable system
- Enabling strategic investments in independent core cooling in nuclear

## Lignite divestment

- Reshaping the portfolio to concentrate on investments in sustainable energy production

## German nuclear

- Transferring long-term responsibility for interim and final storage to the government along with financing

## Renewables growth

- Construction start of Horns Rev 3 (400 MW), FID Aberdeen (92 MW), tender won and concession signed for Danish Near Shore (350 MW) and Danish Kriegers Flak (600 MW), commissioning of first large scale solar project and acquired development project Global Tech 2

## Customer growth

- Entering the Danish consumer market, inaugurated first wireless bus stop charging in the Nordic region, launching of inCharge – a partner-based charging network in northern Europe

| SEK bn                   | Continuing operations<br>FY 2016 | Total Vattenfall<br>FY 2016 |
|--------------------------|----------------------------------|-----------------------------|
| Net Sales                | 139.2 (143.6)                    | 152.7 (164.5)               |
| Underlying EBIT          | 21.7 (20.5)                      | 21.7 (20.5)                 |
| EBIT                     | 1.3 (-5.1)                       | -21.2 (-23.0)               |
| Profit for the year      | -2.2 (-5.2)                      | -26.0 (-19.8)               |
| ROCE, %                  | 0.5 (-1.8)                       | -8.5 (-8.2)                 |
| ROCE excl. IAC, %        | 8.7 (7.3)                        | 8.7 (7.4)                   |
| FFO/adjusted net debt, % | 21.6 (19.5)                      | 22.6 (21.1)                 |

# STRATEGIC TARGETS

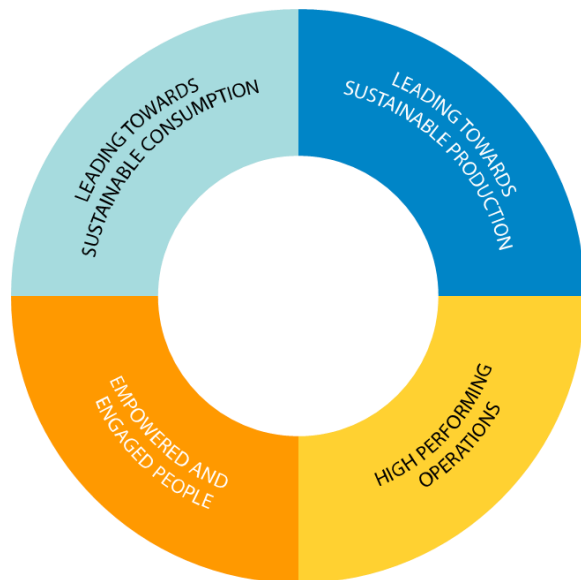


## Our strategic focus areas

## Strategic targets to 2020

FY 2016

FY 2015

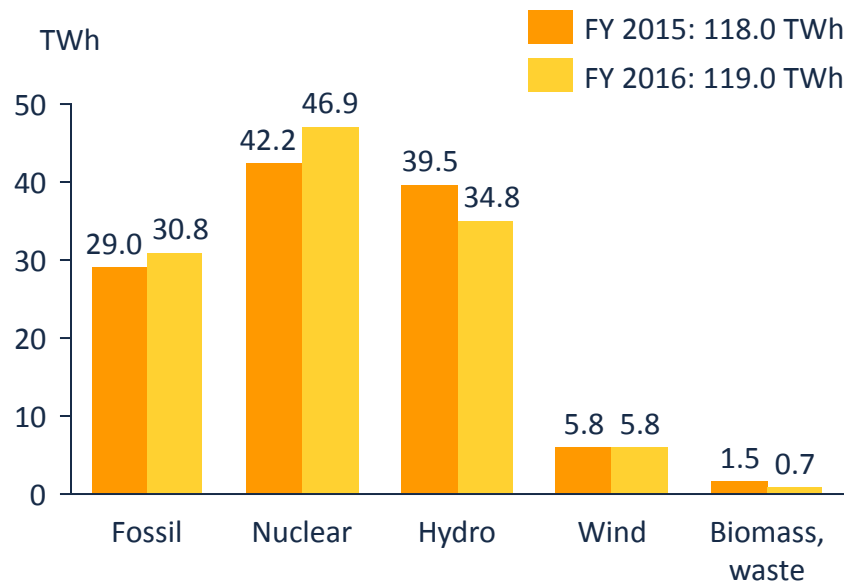


|    |                                                                                        |      |      |
|----|----------------------------------------------------------------------------------------|------|------|
| 1. | Customer engagement, NPS +2<br>(Net Promoter Score)                                    | +7   | -    |
| 2. | Commissioned renewables capacity: $\geq 2,300$ MW                                      | 297  | 375  |
| 3. | Absolute CO <sub>2</sub> emissions, pro rata, continuing operations: $\leq 21$ Mtonnes | 23.1 | 23.6 |
|    | Absolute CO <sub>2</sub> emissions, pro rata, Total Vattenfall:                        | 67.6 | 83.8 |
| 4. | ROCE: $\geq 9\%$ (continuing operations)                                               | 0.5  | -1.8 |
|    | ROCE: $\geq 9\%$ (Total Vattenfall)                                                    | -8.5 | -8.2 |
| 5. | Safety as LTIF (Lost Time Injury Frequency): $\leq 1,25$                               | 2.0  | 2.3  |
| 6. | Employee Engagement Index: $\geq 70\%$                                                 | 57   | 59   |

# STABLE ELECTRICITY GENERATION



## Electricity generation for continuing operations

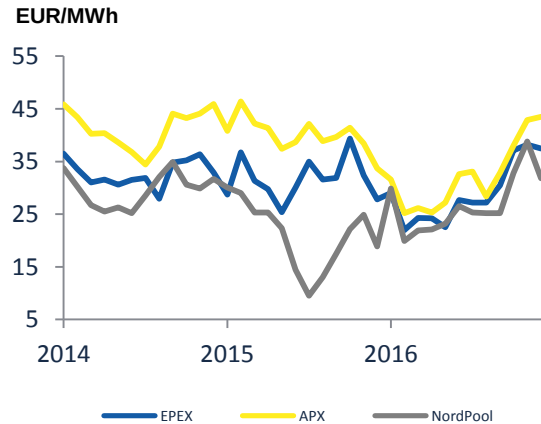


- Stable electricity generation for continuing operations, i.e. excluding lignite operations.
- Hydro power generation decreased as a result of lower reservoir levels. Nordic reservoir levels were 52% (74%) of capacity at the end of the year, which is 5 percentage points below normal.
- Nuclear power generation increased owing to higher availability. The Ringhals 2 reactor (R2) was restarted during the fourth quarter.
- Wind power generation at the same level as in 2015. Less favourable wind conditions offset by commissioning of new wind farms in 2016.
- Electricity generation for Total Vattenfall, including lignite operations, amounted to 159.8 TWh (172.7) for FY 2016.

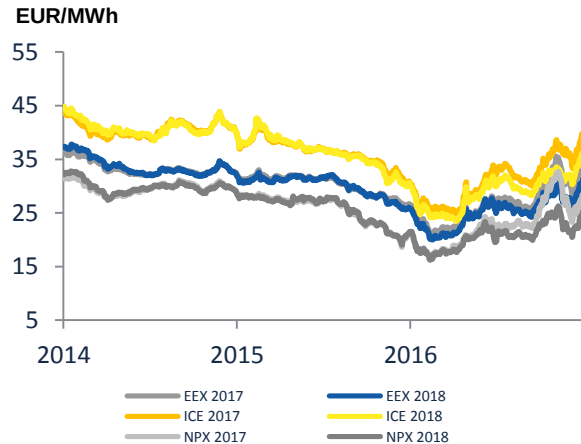
# INCREASED NORDIC SPOT PRICES BUT LOWER ELECTRICITY FUTURE PRICES



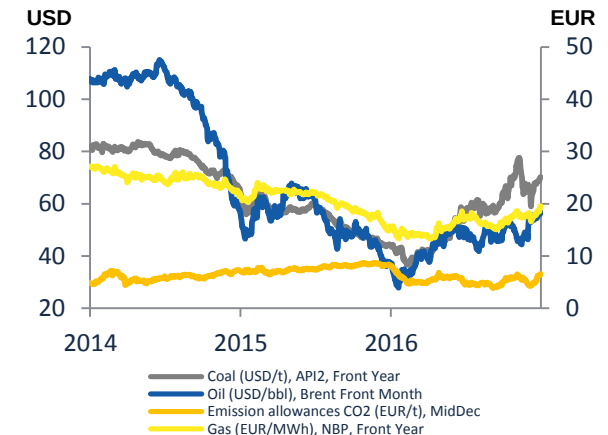
## Spot power prices average



## Electricity futures



## Commodity prices



- Nordic spot prices 28% higher vs. FY 2015 mainly owing to weaker hydrological balance
- German and Dutch spot prices approx. 8% and 19% lower respectively vs. FY 2015
- Electricity futures prices lower in all of Vattenfall's markets but trending upwards
- Lower prices on oil (Brent crude), coal, gas and CO<sub>2</sub> allowances

# ELECTRIFICATION IS AN ENABLER FOR SOLVING THE CLIMATE ISSUE



Vattenfall aims to play a leading role given our strong position in heating, renewable generation and our “Nordic” heritage coming from a low-emitting region

## Electrification of the transport sector



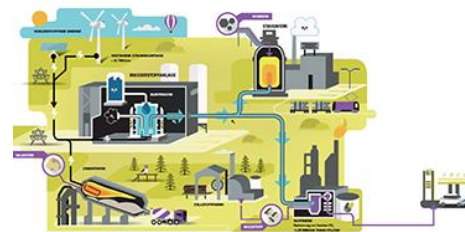
- Supports e-mobility growth with resulting reduction of CO<sub>2</sub> as well as solving pollution and noise issues

## Electrification of heating



- Energy efficiency achieved by switching from gas, oil or electric boilers to heat pumps or district heating
- Power to heat is an attractive solution to reduce the cost of heating

## Electrification of the industry



- Greater use of electricity by industry can lead to fossil free steel, green concrete and boost the production of non-fossil diesel

# ELECTRIFICATION OF THE TRANSPORT SECTOR



Electric vehicles (EV) can not only reduce CO<sub>2</sub> emissions, but also have the potential to transform our urban environments by solving pollution and noise issues - strong government support in Vattenfall's core countries. We are also switching our whole car fleet (>3500 vehicles) to EVs.



## Sweden

### Government ambition:

- 70% reduction in emissions from the transport sector by 2030

### Key achievements in 2016:

- 408 charging solutions sold
- 0.5 GWh delivered through established units
- Launched "InCharge" and gained Göteborg Energi as a first partner
- Grew the Vattenfall Fast charging network to 30 stations
- Established ownership and operations of an inductive end-stop bus charger in Södertälje



## Germany

### Government ambition:

- 6 million EV's by 2025

### Key achievements in 2016:

- Sale of charging solutions ramping up
- First sales successes with real estate companies



## The Netherlands

### Government ambition:

- 1 million EV's by 2025

### Key achievements in 2016:

- 1,911 charging solutions sold
- 6.0 GWh delivered
- Enlarged our operations with 2,000 charging points, primarily in cities and with B2B customers
- 95% of charging points generate recurring revenues

# ELECTRIFICATION OF HEATING



In the heating sector, energy efficiency can be achieved by switching from gas, oil or electric boilers to heat pumps or district heating. With more renewable electricity in the system, heating can become virtually fossil-free.



## Power to heat

### Concept

- Using excess electricity during periods of low/negative spot market prices to generate heat

### Growth Potential

- Attractive solution to capitalize on periods of low electricity prices to reduce cost of heat generation
- In a more favorable regulatory environment, excess electricity from Renewables sources can be used for local Heat production

### Objectives

- Scaling up capacity over time
- Cornerstone for reaching CO<sub>2</sub> reduction targets in the long-term



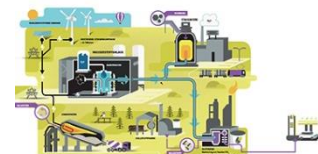
## Heat pumps

- Using a small amount of electricity to deliver heat and cooling
- Gradually replacing the gas/oil boiler mass market on the continent and potential of being the preferred solution within future new builds
- Mature market in Sweden with replacement growth potential
- Attend to customer needs and convenience in all markets, scale up business in DE and NL, benefit from cross-selling potential

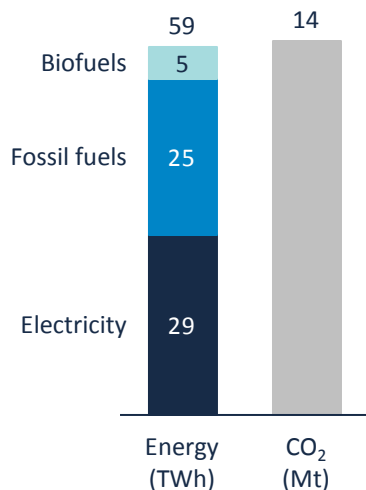
# ELECTRIFICATION OF THE INDUSTRY



Electrification can eliminate climate impact of production processes. In Sweden CO<sub>2</sub> emissions could drop by 15 Mtonnes per year. Vattenfall aims to contribute to increase the steel and cement industry's production of non-fossil diesel.



## Climate impact today



**Steel:** Hydrogen is replacing coal  
Fossil carbon reduction: 5.25 Mtonnes/year

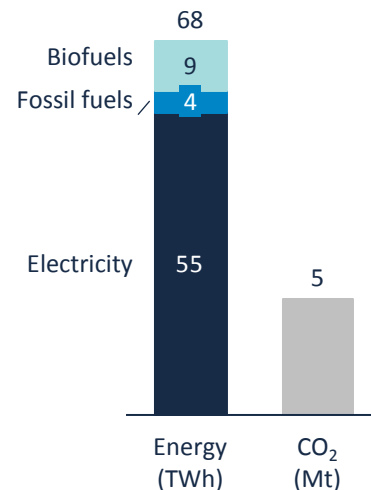


**Cement:** The use of green electricity in the furnace reduces CO<sub>2</sub> emissions by 40%  
Fossil carbon reduction: 2.35 Mtonnes/year



**Refineries:** Green hydrogen instead of natural gas in the production of non-fossil diesel  
Fossil carbon reduction: 1.25 Mtonnes/year

## Climate impact 2030-2045



# DIGITALIZATION WILL BE KEY TO DELIVER ON OUR TARGETS



## Opportunities



CUSTOMER  
EXPERIENCE



OPERATIONAL  
EXCELLENCE



NEW BUSINESS  
MODELS

## Examples

- InCharge
- Alltid
- O&M optimization
- Predictive maintenance
- Power peers
- Micro grids

DIGITAL TALENT AND UTILITY KNOWLEDGE

## Enablers

CULTURE and GOVERNANCE

DIGITAL PLATFORM

# A RESPONSIBLE TRANSITION TOWARDS A RENEWABLES BASED SYSTEM



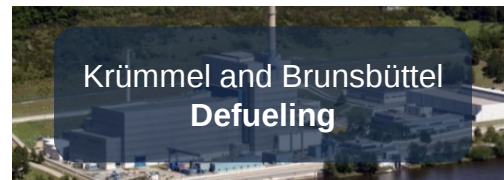
## Regulatory clarity

- ✓ **Swedish energy agreement** – The elimination of the nuclear capacity tax (~SEK 3bn p.a.) and substantial reduction of the real-estate tax for hydro power plants (~SEK 2bn p.a.) are essential for future competitiveness.
- ✓ **German law on nuclear waste** – liability for interim and final storage to be transferred to the state. Law passed by German parliament, EU approval pending.

## Key focus areas

- **Continued safe, reliable and efficient** nuclear and hydro power. Focus on operational excellence across the fleet. Continue modernization program in hydro.
- **Increase flexibility** in the power plants.
- **Responsible decommissioning and dismantling** of R1 (2020) and R2 (2019) and German nuclear (all German reactors to be closed by 2022).

## Highlights 2016



# SIGNIFICANT WIND GROWTH AND STRENGTHENING OF THE PIPELINE

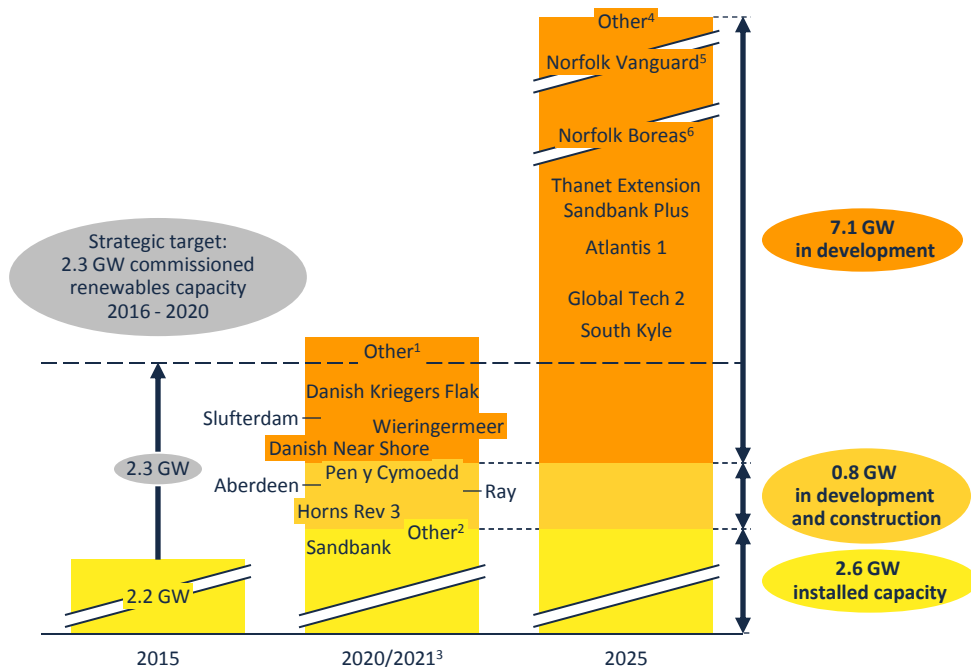


## Key developments 2016

- Tender won and concession signed for Danish Near Shore (350 MW) and Danish Kriegers Flak (600 MW)
- Construction start of Horns Rev 3 (400 MW)
- FID Aberdeen (92 MW)
- Commissioning of first large scale solar project
- Acquired development project Global Tech 2

- 1) Blakliden, Forst Briesnig and Fäbodberget
- 2) Högabjär-Kärsås, Höge Väg and solar farm adjacent to Park Cynog
- 3) Danish Kriegers Flak expected commissioning 2021
- 4) Bruzaholm and Aultmore
- 5) Commissioning expected in 2025-2027
- 6) Commissioning TBD

## Continued growth ambitions



# CO<sub>2</sub> REDUCTIONS REMAIN IN FOCUS



## Portfolio transformation

*Major shift in 2016 following lignite divestment*

## Continued CO<sub>2</sub> phase out

*Ongoing initiatives support the targeted ambition*

## & Supporting our partners

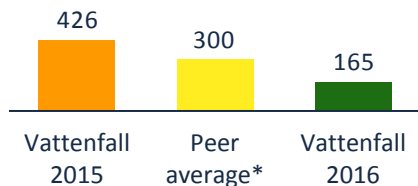
*Enabling customers to reach climate targets*

From 50% fossil power

To

Climate neutrality 2050  
Climate neutrality Nordic 2030

### Specific CO<sub>2</sub> (g/kWh)



- Phase out of coal, e.g. Klingenberg conversion
- Efficient gas-fired CHPs
- New smart energy and heat solutions

- Electrification of industrial processes and transport
- Life Cycle Analysis and Environmental Performance Declarations
- Cooperate with partners, cities and customers to set joint CO<sub>2</sub> targets

Preliminary numbers for 2016 (incl. heat). Vattenfall absolute CO<sub>2</sub> 2015: 84 MT, 2016: 23 MT

\*Source: company reports 2015 - RWE, Enel, E.ON, EDP, EnBW, Iberdrola, DONG, Fortum, Centrica, EDF, Statkraft

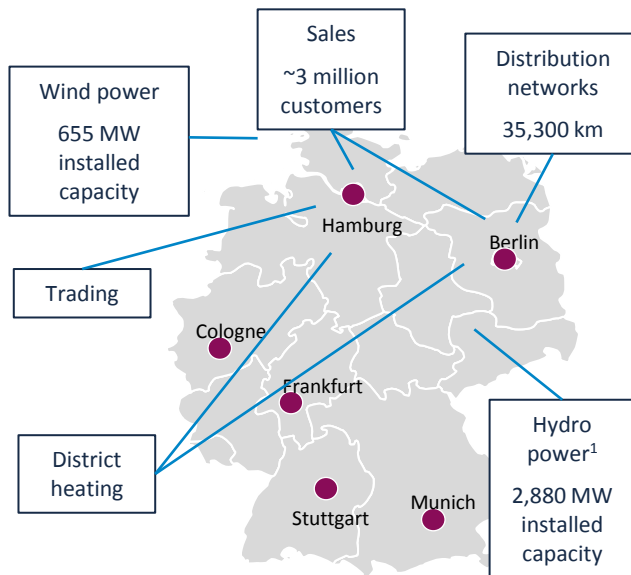
# MARZAHN - INVESTING IN CHP NEW BUILD IN BERLIN



## Marzahn project facts

- Base-load power plant for the district heating areas in the Eastern part of Berlin.
- Ensuring a climate-efficient and reliable district heating supply for the coming decades.
- 260 MW electrical and 230 MW thermal capacity. High efficiency of approx. 90%.
- Investment of 325 MEUR.
- Estimated running hours: between 6,000 and 8,000 hours/year.
- Construction start planned in April. Start of operation planned for summer 2020.

## Sustainable growth of Vattenfall's German portfolio in 2016



1) Pump storage power plants.

### ✓ Strong customer growth

Retail +105,000  
Gas +112,000  
Distribution +16,000  
Heat +30,000

### ✓ Commissioning of Sandbank offshore wind farm

### ✓ Consolidation of continental trading in Hamburg

### ✓ Marzahn new build CHP

# FINANCIALS

Stefan Dohler, CFO

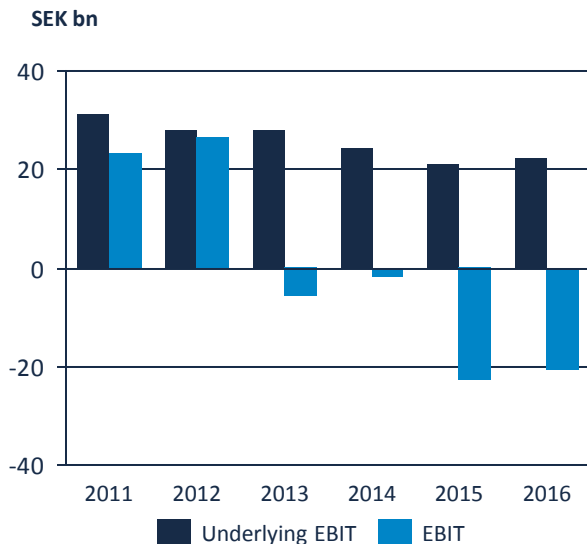
# FY 2016 MAIN MESSAGE

- Improved capital structure and FFO/adjusted net debt within target range
- Impairments negatively impacting ROCE
- Lower merchant risk following the lignite divestment
- Successful implementation of cost reduction programme and continued focus on restructuring measures
- Recalculation of nuclear provisions
- New investment plan for 2017-2018

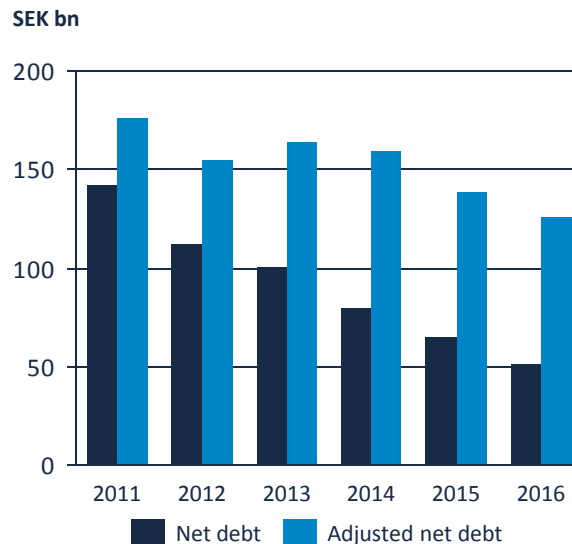
# IMPROVEMENT IN UNDERLYING EBIT AND DEBT REDUCTION

Reduction in net debt and adjusted net debt mainly attributable to positive cash flow after investments.  
Increase in provisions having a negative impact on adjusted net debt.

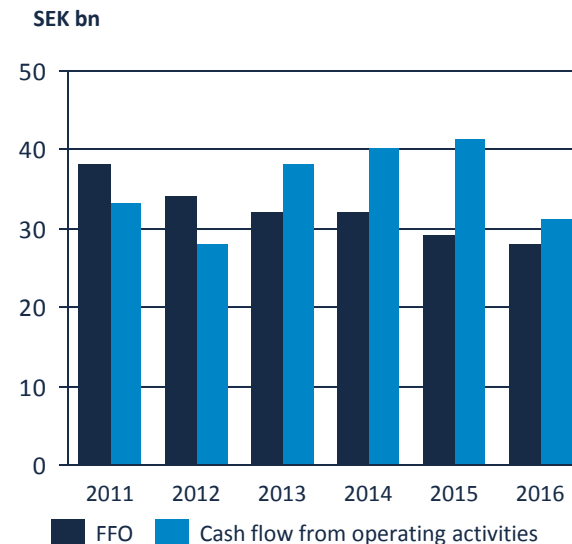
## Underlying EBIT development<sup>1</sup>



## Debt reduction



## Positive cash flow<sup>1</sup>



1) Pertains to Total Vattenfall

# FY 2016 FINANCIAL HIGHLIGHTS

| SEK bn                           | Continuing operations<br>FY 2016 | Continuing operations<br>FY 2015 |
|----------------------------------|----------------------------------|----------------------------------|
| Net Sales                        | 139.2                            | 143.6                            |
| EBITDA                           | 27.2                             | 30.6                             |
| Underlying EBIT                  | 21.7                             | 20.5                             |
| EBIT                             | 1.3                              | -5.1                             |
| Financial items, net             | -6.4                             | -4.8                             |
| Profit for the year              | -2.2                             | -5.2                             |
| Cash flow (FFO)                  | 26.9                             | 26.8                             |
| Cash flow operating activities   | 28.6                             | 43.1                             |
| Net debt                         | 50.7                             | 64.2                             |
| Adjusted net debt                | 124.7                            | 137.6                            |
| FFO/adjusted net debt (%)        | 21.6                             | 19.5                             |
| Adjusted net debt/EBITDA (times) | 4.6                              | 4.5                              |

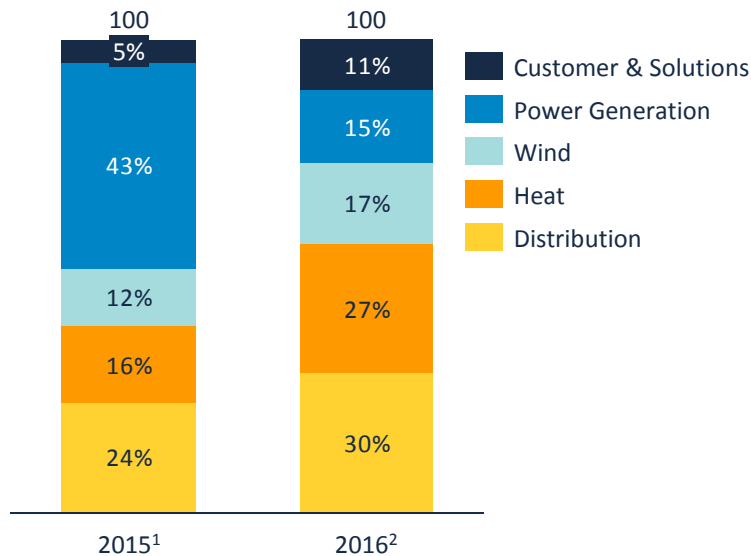
# FINANCIAL TARGETS

| Financial metric                                                                                        | Target | FY 2016       | FY 2015       |
|---------------------------------------------------------------------------------------------------------|--------|---------------|---------------|
| Return on Capital Employed (ROCE) – continuing operations<br>(ROCE excl. items affecting comparability) | 9%     | 0.5<br>(8.7)  | -1.8<br>(7.3) |
| Return on Capital Employed – Total Vattenfall<br>(ROCE excl. items affecting comparability)             | 9%     | -8.5<br>(8.7) | -8.2<br>(7.4) |
| FFO/adjusted net debt – continuing operations                                                           | 22-30% | 21.6          | 19.5          |
| FFO/adjusted net debt – Total Vattenfall                                                                | 22-30% | 22.6          | 21.1          |
| Net debt/equity                                                                                         | 50-90% | 60.5          | 55.4          |
| Dividend policy (% of the year's profit after tax)                                                      | 40-60% | -             | -             |

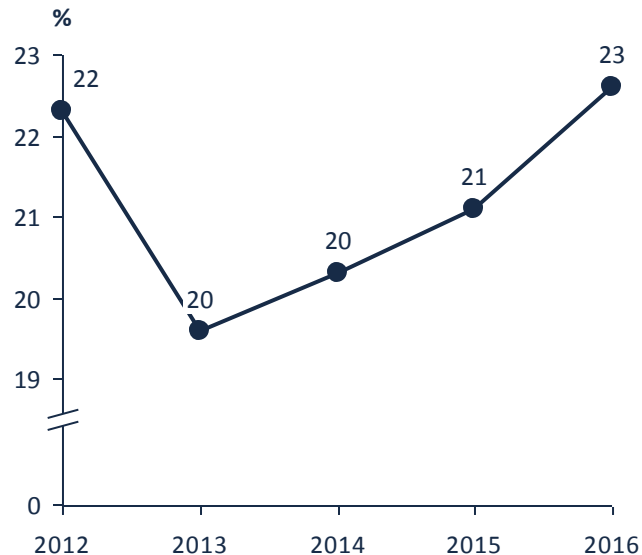
# IMPROVED FINANCIAL CONDITIONS

A new Vattenfall is taking shape, both from a strategic and financial perspective

EBITDA split per segment



FFO/adjusted net debt<sup>1</sup>



1) Total Vattenfall  
2) Continuing operations

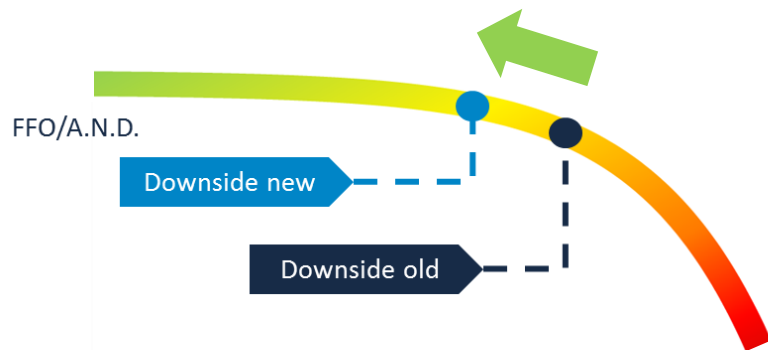
# IMPROVED RISK PROFILE

The new Vattenfall is financially more resilient with a lower downside risk

## Key contributing factors in 2016

- ✓ **Lignite divestment**
  - Reduced exposure to power prices, fossil generation and CO<sub>2</sub>
- ✓ **German nuclear fund**
  - Regulatory clarity on the externalisation of liabilities for interim and final storage of nuclear waste
- ✓ **Swedish energy agreement**
  - Pending law change, capacity tax on nuclear to be abolished (~SEK 3bn EBITDA effect) and real-estate tax on hydro to be significantly reduced (~SEK 2bn EBITDA effect)

## Risk on FFO/adjusted net debt (illustrative)

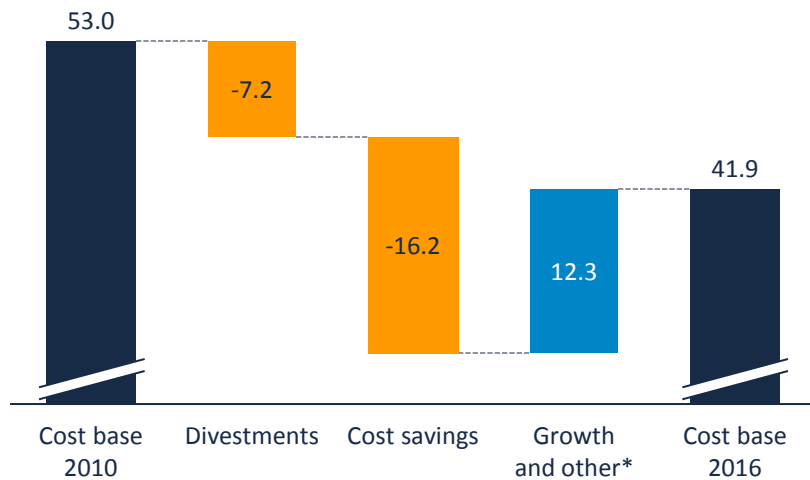


- The improved risk profile leads to a less utilized risk-bearing capability
- This allowed for a more risk tolerant hedge strategy implemented in autumn 2016, reducing cost and complexity

# FURTHER IMPROVE COSTS AND IMPROVE OPERATIONAL EFFICIENCY

The cost savings programme of SEK 2.5bn for 2015-2016 has been completed

## Cost reductions 2016 vs. 2010 of SEK 16.2bn (31%)



\* Including costs for growth, exchange rate effects and restructuring costs

## Vattenfall will continuously improve efficiency to further reduce costs

- Continue with outsourcing and overhead cost reductions, e.g., outsourcing of administration and IT operations and outsourcing of customer services in Germany
- Improvement of operational efficiency at Swedish nuclear for a lower generation cost, while maintaining high availability and a high level of safety
- Use of digitalisation across the company as an enabler for reducing costs and improving efficiency
- Automation of processes not only lower costs, but will also reduce process time and improve service quality for customers

# LIABILITY FOR NUCLEAR WASTE COSTS IN GERMANY

## Background

- Nuclear power operators to shift their liability for nuclear waste costs through payment into a public fund
- Approved law by German parliament
- EU approval of the law expected in Q2 2017
- Payment will happen once the fund has been implemented, not earlier than 1 July 2017
- Unrelated to the arbitration proceeding at the International Centre for Settlement of Investment Disputes (ICSID), where a decision is expected in mid 2017

## Financial consequences for Vattenfall

- Expected transfer of EUR 1.8bn (SEK 17.0bn)
  - Base amount EUR 1.3bn (SEK 12.3bn)
  - Risk premium + interest EUR 0.5bn (SEK 4.7bn)

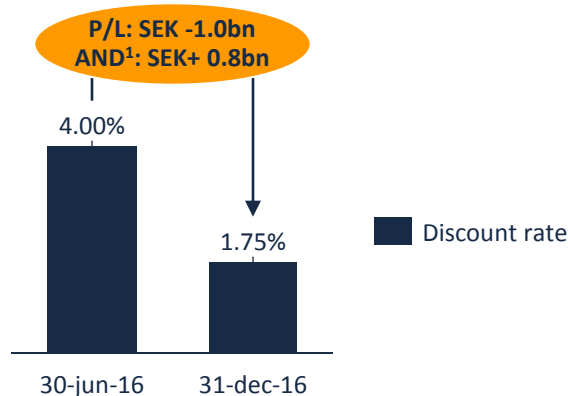
## Impact in Vattenfall's accounts in Q4

- Negative impact on earnings of SEK 5.4bn<sup>1</sup>, relating to the risk premium and interest
- Adjusted net debt increased by SEK 4.7bn<sup>1</sup>

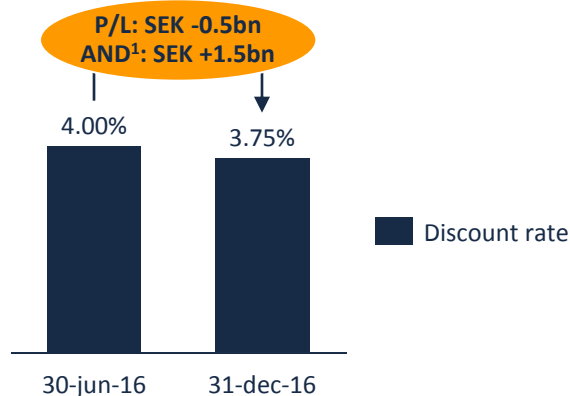


# DISCOUNT RATES USED IN CALCULATION OF PROVISIONS<sup>2</sup> AS OF DECEMBER 2016

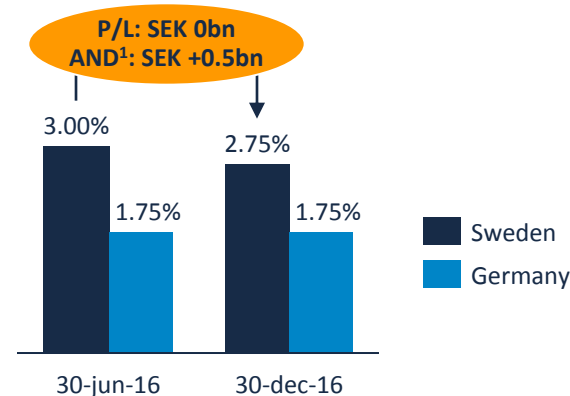
## Nuclear provisions Germany



## Nuclear provisions Sweden



## Pension provisions



- Nuclear fund solution triggers new discount rate – remaining nuclear obligations in Germany have a duration of approx. 15 years rather than up to 80 years as previously
- Due to declined market rates
- Discount rate based on calculations by external actuaries in Q2 and Q4
- Impact on provision recognised directly in equity (other comprehensive income)

1) AND: Adjusted net debt

2) Only related to nuclear and pension provisions

# ITEMS AFFECTING COMPARABILITY

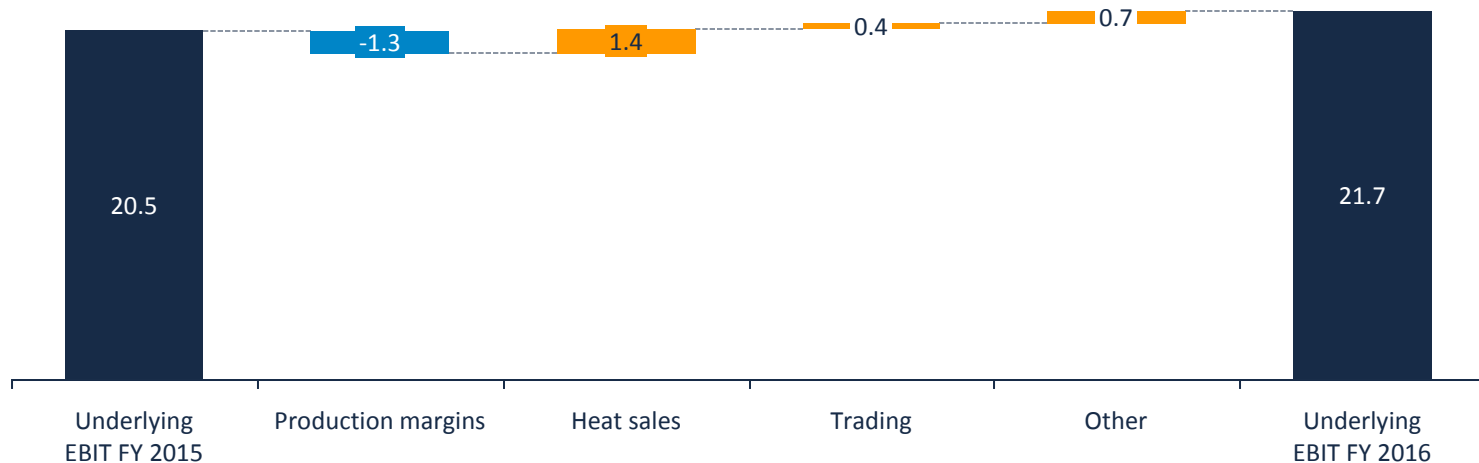
| Continuing operations SEK bn                               | FY<br>2016   | FY<br>2015   | Q4<br>2016  | Q4<br>2015  |
|------------------------------------------------------------|--------------|--------------|-------------|-------------|
| Capital gains                                              | 2.2          | 0.2          | 0.1         | 0.1         |
| Capital losses                                             | -0.4         | -0.4         | -0.3        | -0.1        |
| Impairment losses                                          | -12.4        | -21.5        | -3.3        | -0.3        |
| Reversed impairment losses                                 | 0.9          | 0.5          | 0.9         | 0.0         |
| Provisions                                                 | -8.2         | -3.5         | -8.4        | -2.2        |
| Unrealised changes in the fair value of energy derivatives | -2.4         | 1.6          | 1.0         | 0.5         |
| Unrealised changes in the fair value of inventories        | 1.0          | -0.7         | 0.4         | -0.4        |
| Restructuring costs                                        | -0.8         | -1.1         | -0.5        | -0.0        |
| Other items affecting comparability                        | -0.3         | -0.8         | 0.1         | -0.4        |
| <b>Total</b>                                               | <b>-20.4</b> | <b>-25.6</b> | <b>-9.9</b> | <b>-2.8</b> |

- Impairment losses of SEK -12.4bn in FY 2016 pertain mainly to:
  - Moorburg power plant Hamburg
  - Hydro power assets Germany
  - Fossil-based assets in the Netherlands
  - Shareholdings in the German nuclear power plants Brokdorf and Stade
- Increased provisions in 2016 pertain mainly to higher provisions for nuclear power in Germany (SEK -5.6bn) and Sweden (SEK -2.1bn)

# DEVELOPMENT OF UNDERLYING EBIT FY 2016

Lower production margins fully offset by contribution from the heat and trading business.  
Underlying EBIT increased by SEK 1.2bn

Continuing operations, SEK bn



# UNDERLYING EBIT PER OPERATING SEGMENT

| Continuing operations SEK bn | FY 2016     | FY 2015     |
|------------------------------|-------------|-------------|
| Customers & Solutions        | 1.8         | 1.4         |
| Power Generation             | 11.4        | 12.4        |
| Wind                         | 0.9         | 1.5         |
| Heat                         | 3.2         | 1.8         |
| Distribution                 | 4.9         | 5.5         |
| Other <sup>1</sup>           | -0.5        | -1.9        |
| Eliminations                 | -0.0        | -0.0        |
| <b>Total</b>                 | <b>21.7</b> | <b>20.5</b> |

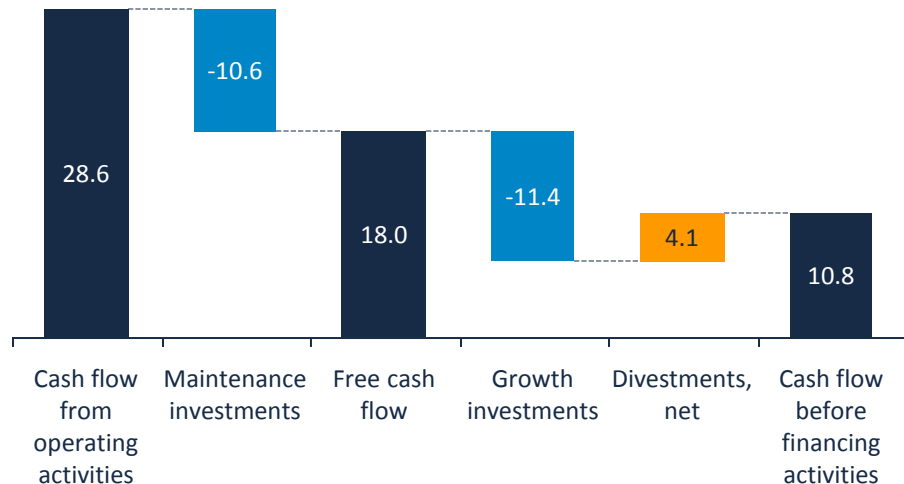
- Customer & Solutions: Lower sales and administration costs
- Power Generation: Lower production margins resulting from average lower prices achieved
- Wind: Lower net sales from existing assets combined with higher depreciation and higher OPEX
- Heat: Higher gross margin mainly explained by lower fuel costs
- Distribution: Change in underlying EBIT impacted by the divested network operation in Hamburg

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

# CASH FLOW DEVELOPMENT FY 2016

Cash flow before financing activities amounts to SEK 10.8bn from continuing operations

## Continuing operations, SEK bn

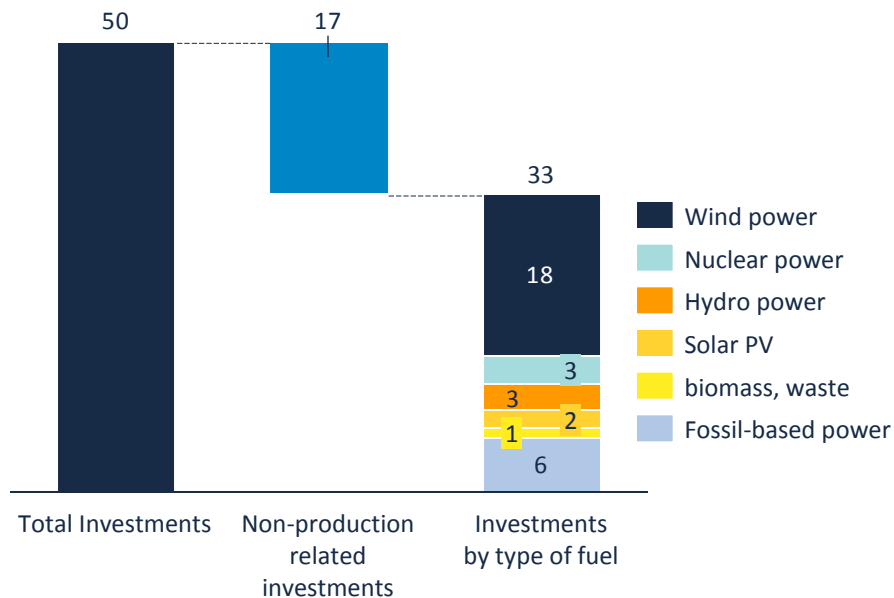


- Growth investments, mainly attributable to investments within wind power
- Divestments, mainly attributable to the divestments of network services operation in Hamburg, real estate in Hamburg and Berlin, and the Nordjylland combined heat and power station in Denmark

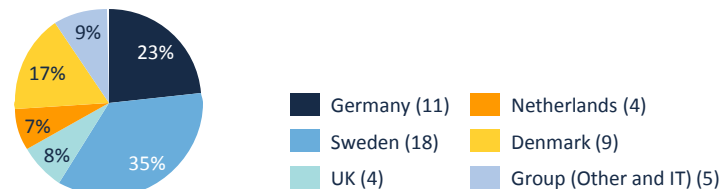
# INVESTMENT PLAN 2017-2018

The investment plan reflects a clear shift in strategy, with the majority of growth investments in wind power, solar PV and distribution grids.

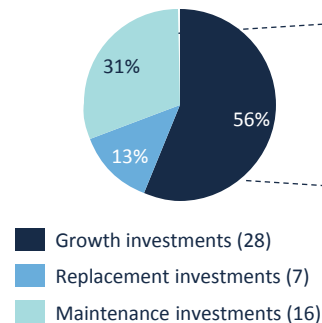
## Total investments 2017-2018: SEK 50bn



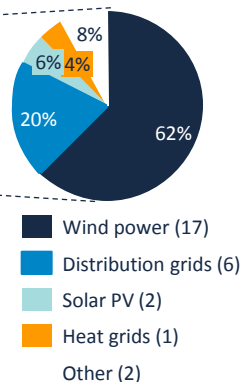
## Geographical split (SEK bn)



## Investment split by type (SEK bn)



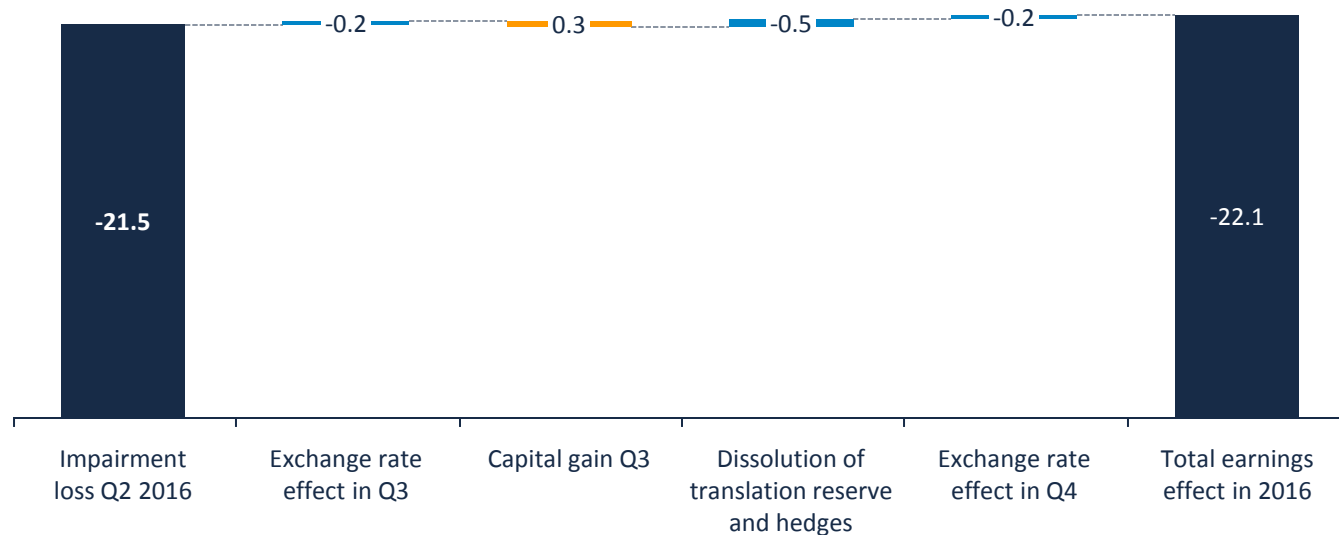
## Growth investment by technology: SEK 28bn



# APPENDIX

# TOTAL EARNINGS EFFECT OF SALE OF LIGNITE OPERATIONS

SEK bn



# IMPAIRMENT HISTORY 2009 - 2016

Impairments in 2016 amounted to SEK 33.8bn, where SEK 21.4bn is attributable to the lignite operations

|                                           |                  | 2009       | 2010             | 2011             | 2012             | 2013             | 2014              | 2015        | 2016        | 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         | 3.8          |
| The Nordic Countries                      | Renewable assets |            |                  |                  |                  |                  | 1.4               |             | 0.1         | 1.5          |
|                                           | Thermal assets   | 4.1        |                  |                  |                  | 3.0              |                   | 0.1         |             | 7.2          |
|                                           | Nuclear assets   |            |                  |                  |                  |                  |                   | 17.0        | 0.4         | 17.4         |
|                                           | Other            |            |                  |                  |                  |                  |                   |             | 0.3         | 0.3          |
| UK                                        | Renewable assets |            |                  |                  |                  |                  | 1.1               | 0.2         |             | 1.3          |
| Not allocated                             |                  | 0.2        | 0.5              | 0.1              |                  |                  |                   |             |             | 0.8          |
| Impairment Liberia                        |                  |            |                  |                  | 1.3              |                  |                   |             |             | 1.3          |
| Impairments; shares in Enea S.A. Poland   |                  |            |                  |                  | 2.4              |                  |                   |             |             | 2.4          |
| Impairments; shares in Brokdorf and Stade |                  |            |                  |                  |                  |                  |                   |             | 1.1         | 1.1          |
| <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>164.7</b> |
| Reversed impairment losses                |                  | -1.3       | -1.3             | -0.4             | 0.0              | 0.0              | 0.0               | -0.5        | -0.9        | -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>160.3</b> |

1) Impairment of goodwill

2) Impairment of assets and goodwill

# FY 2016 AND Q4 FINANCIAL HIGHLIGHTS

| SEK bn                           | Total Vattenfall<br>FY 2016 | Total Vattenfall<br>FY 2015 | Total Vattenfall<br>Q4 2016 | Total Vattenfall<br>Q4 2015 |
|----------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Net Sales                        | 152.7                       | 164.5                       | 37.9                        | 45.5                        |
| EBITDA                           | 28.2                        | 32.8                        | 3.3                         | 8.8                         |
| Underlying EBIT                  | 21.7                        | 20.5                        | 6.9                         | 6.4                         |
| EBIT                             | -21.2                       | -23.0                       | -3.0                        | 3.7                         |
| Financial items, net             | -6.8                        | -5.2                        | -2.0                        | -1.2                        |
| Profit for the period            | -26.0                       | -19.8                       | -4.2                        | 2.5                         |
| Cash flow (FFO)                  | 28.2                        | 29.0                        | 7.2                         | 9.4                         |
| Cash flow operating activities   | 30.8                        | 40.9                        | 11.1                        | 9.6                         |
| Net debt                         | 50.7                        | 64.2                        | 50.7                        | 64.2                        |
| Adjusted net debt                | 124.7                       | 137.6                       | 124.7                       | 137.6                       |
| FFO/adjusted net debt (%)        | 22.6                        | 21.1                        | 22.6 <sup>1</sup>           | 21.1 <sup>1</sup>           |
| Adjusted net debt/EBITDA (times) | 4.4                         | 4.2                         | 4.4 <sup>1</sup>            | 4.2 <sup>1</sup>            |

# Q4 2016 FINANCIAL HIGHLIGHTS

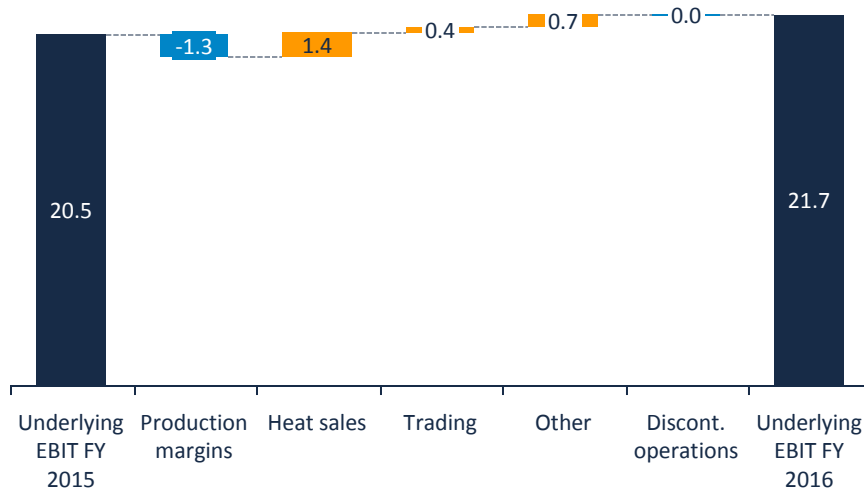
| SEK bn                           | Continuing operations<br>Q4 2016 | Continuing operations<br>Q4 2015 |
|----------------------------------|----------------------------------|----------------------------------|
| Net Sales                        | 37.8                             | 42.4                             |
| EBITDA                           | 3.3                              | 7.7                              |
| Underlying EBIT                  | 7.1                              | 6.4                              |
| EBIT                             | -2.8                             | 3.6                              |
| Financial items, net             | -2.0                             | -1.1                             |
| Profit for the period            | -4.0                             | 4.6                              |
| Cash flow (FFO)                  | 7.1                              | 9.9                              |
| Cash flow operating activities   | 11.1                             | 11.3                             |
| Net debt                         | 50.7                             | 64.2                             |
| Adjusted net debt                | 124.7                            | 137.6                            |
| FFO/adjusted net debt (%)        | 21.6 <sup>1</sup>                | 19.5 <sup>2</sup>                |
| Adjusted net debt/EBITDA (times) | 4.6 <sup>1</sup>                 | 4.5 <sup>2</sup>                 |

1) Last twelve months

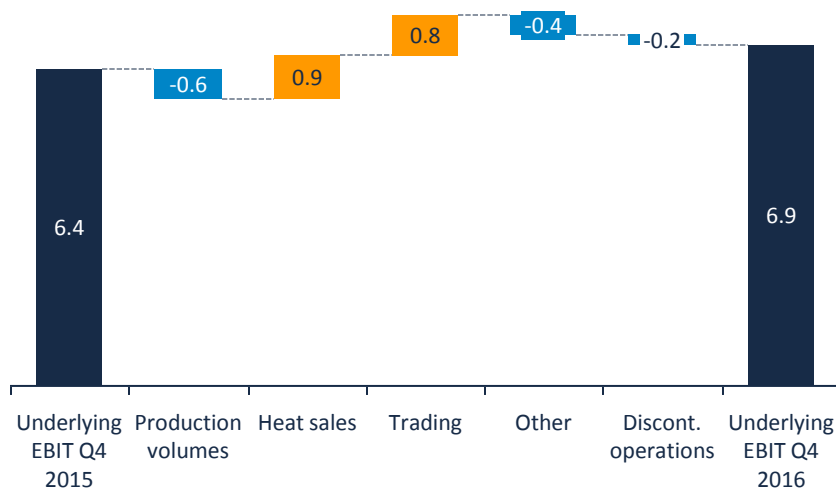
2) Q1 – Q4 2015

# DEVELOPMENT OF UNDERLYING EBIT FY 2016 AND Q4 2016 (TOTAL VF)

Total Vattenfall SEK bn



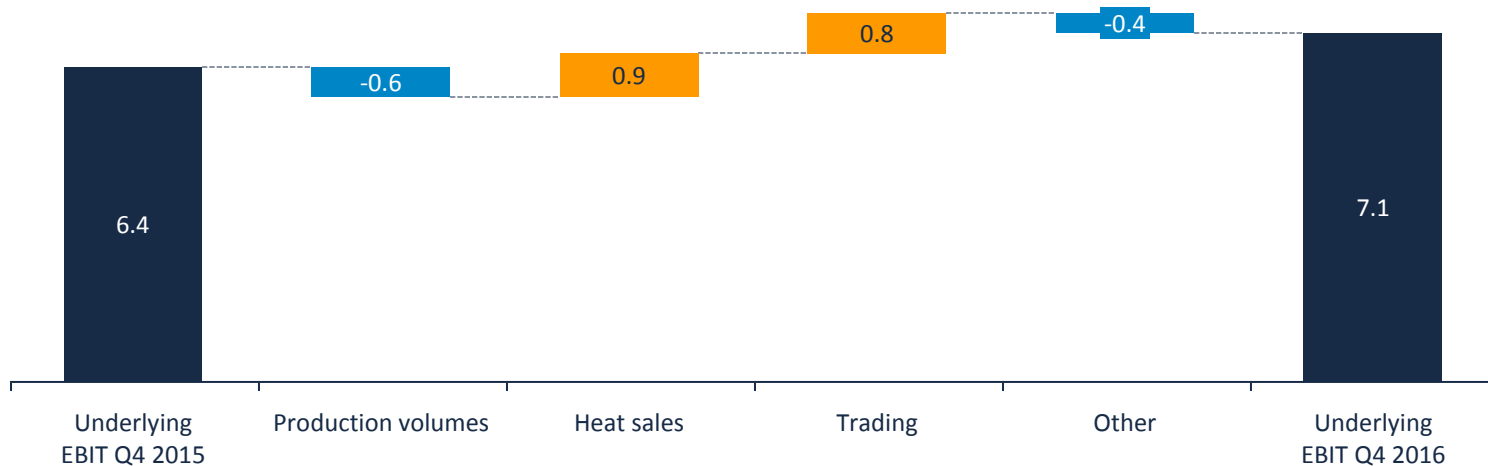
Total Vattenfall SEK bn



# DEVELOPMENT OF UNDERLYING EBIT Q4 2016

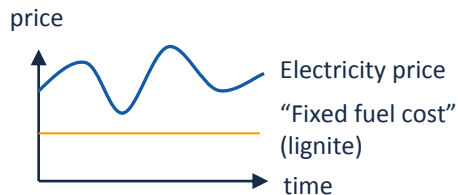
Lower production volumes fully offset by contribution from the heat and trading business.  
Underlying EBIT increased by SEK 0.7bn.

Continuing operations, SEK bn

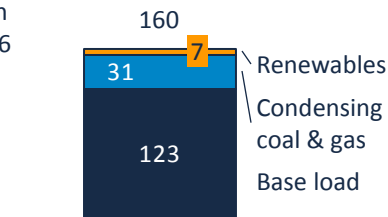


# ADAPTING THE HEDGE STRATEGY TO CHANGING POWER PRICE EXPOSURE

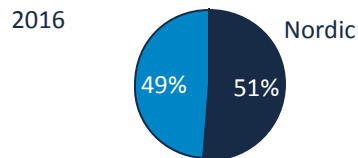
## Before lignite divestment



TWh 2016

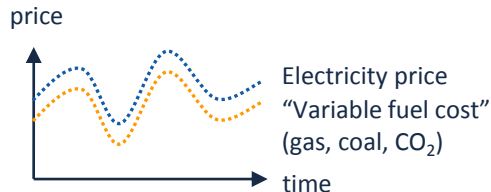


TWh 2016

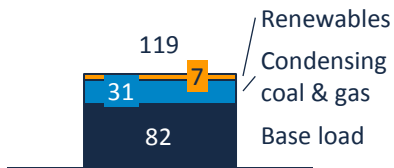


Continental/UK

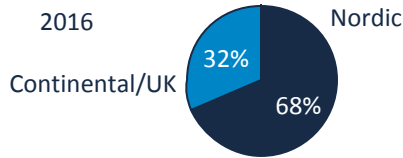
## After lignite divestment



TWh 2016



TWh 2016



VATTENFALL 

From fixed fuel to variable fuel dominated in Germany

Group base load production hours reduced by ~33%

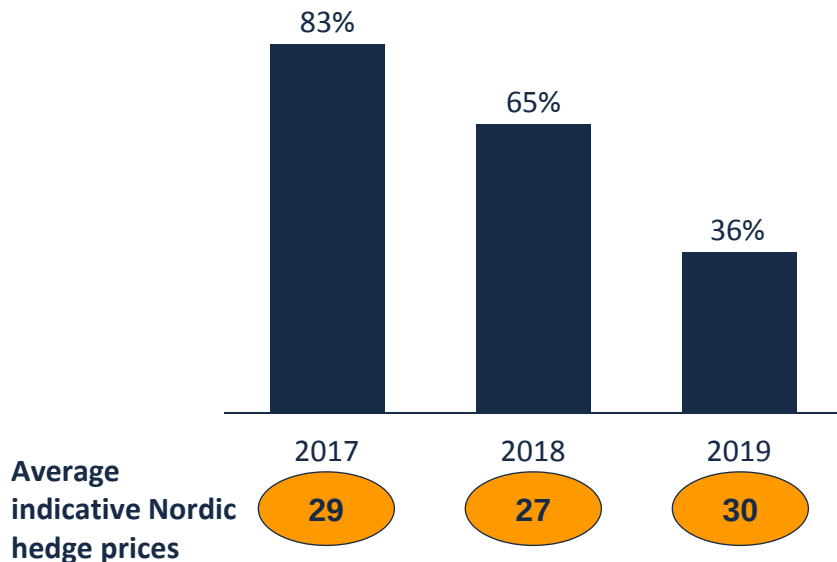
C/UK power production share reduced from 49% to 32%

- 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 Nordic hedge ratio (%) and indicative prices



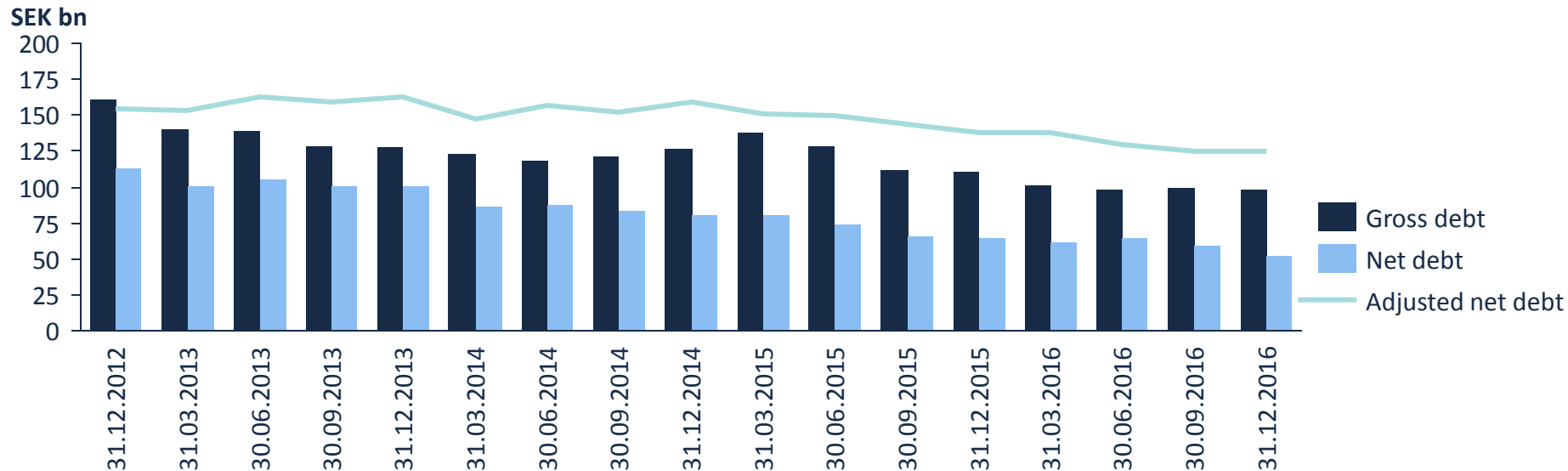
## Sensitivity analysis – Continental portfolio

| Market quoted   | +/- 10% impact on future profit before tax, MSEK <sup>1</sup> |         |         | Observed yearly volatility |
|-----------------|---------------------------------------------------------------|---------|---------|----------------------------|
|                 | 2017                                                          | 2018    | 2019    |                            |
| Electricity     | +/- 399                                                       | +/- 401 | +/- 820 | 22% - 23%                  |
| Coal            | -/+ 11                                                        | -/+ 241 | -/+ 244 | 31% - 32%                  |
| Gas             | -/+ 240                                                       | -/+ 412 | -/+ 412 | 25% - 27%                  |
| CO <sub>2</sub> | -/+ 15                                                        | -/+ 79  | -/+ 94  | 54% - 55%                  |

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

# DEBT DEVELOPMENT

Net debt reduction mainly attributable to a positive cash flow after investments. Adjusted net debt affected by higher nuclear power provisions in both Germany and Sweden.



Net debt decreased by SEK 13.5bn compared with the level at 31 Dec 2015. Adjusted net debt decreased by SEK 12.8bn, compared with the level at 31 Dec 2015. For the calculation of adjusted net debt, see slide 43.

# CONTINUED STRONG LIQUIDITY POSITION

| Group liquidity                                                     | MSEK          |
|---------------------------------------------------------------------|---------------|
| Cash and cash equivalents                                           | 19,995        |
| Short term investments                                              | 23,297        |
| <b>Reported cash, cash equivalents &amp; short term investments</b> | <b>43,292</b> |
| Unavailable liquidity <sup>1</sup>                                  | -6,995        |
| <b>Available liquidity</b>                                          | <b>36,297</b> |

| Committed credit facilities  | Facility size | MSEK   |
|------------------------------|---------------|--------|
| RCF (maturity Dec 2021)      | 2,000 MEUR    | 19,105 |
| Total undrawn                |               | 19,105 |
| Debt maturities <sup>2</sup> |               | MSEK   |
| Within 90 days               |               | 3,652  |
| Within 180 days              |               | 3,813  |

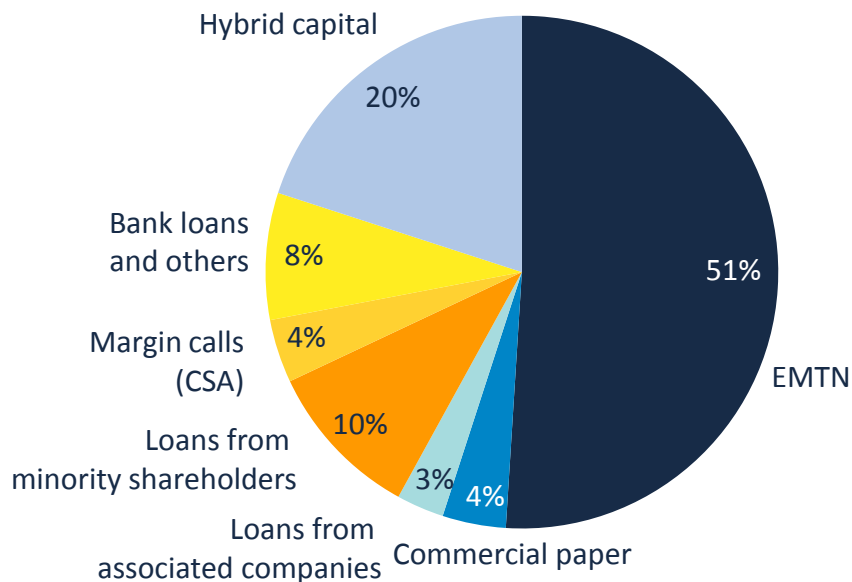
1) German nuclear "Solidarvereinbarung" 3,252 MSEK, Margin calls paid (CSA) 2,541 MSEK, Insurance "Provisions for claims outstanding" 1,202 MSEK

2) Excluding loans from minority owners and associated companies

# BREAKDOWN OF GROSS DEBT

**Total debt: SEK 97bn (EUR 10bn)**

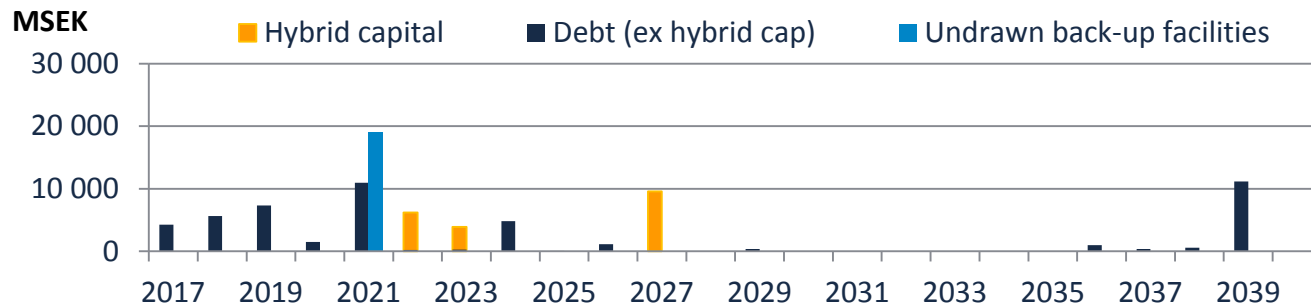
**External market debt: SEK 84bn (EUR 9bn)**



| Debt issuing programmes | Size (MEUR)   | Utilization (MEUR) |
|-------------------------|---------------|--------------------|
| EUR 10bn Euro MTN       | 10,000        | 4,610              |
| EUR 2bn Euro CP         | 2,000         | 377                |
| SEK 15bn Domestic CP    | 1,570         | 0                  |
| <b>Total</b>            | <b>13,570</b> | <b>4,987</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

# DEBT MATURITY PROFILE<sup>1</sup>



|                                            | 31 Dec. 2016 | 31 Dec. 2015 |
|--------------------------------------------|--------------|--------------|
| Duration (years)                           | 5.6          | 3.9          |
| Average time to maturity (years)           | 8.5          | 8.1          |
| Average interest rate (%)                  | 4.4          | 3.9          |
| Net debt (SEK bn)                          | 50.7         | 64.2         |
| Available group liquidity (MSEK)           | 36,297       | 37,443       |
| Undrawn committed credit facilities (MSEK) | 19,105       | 18,379       |

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

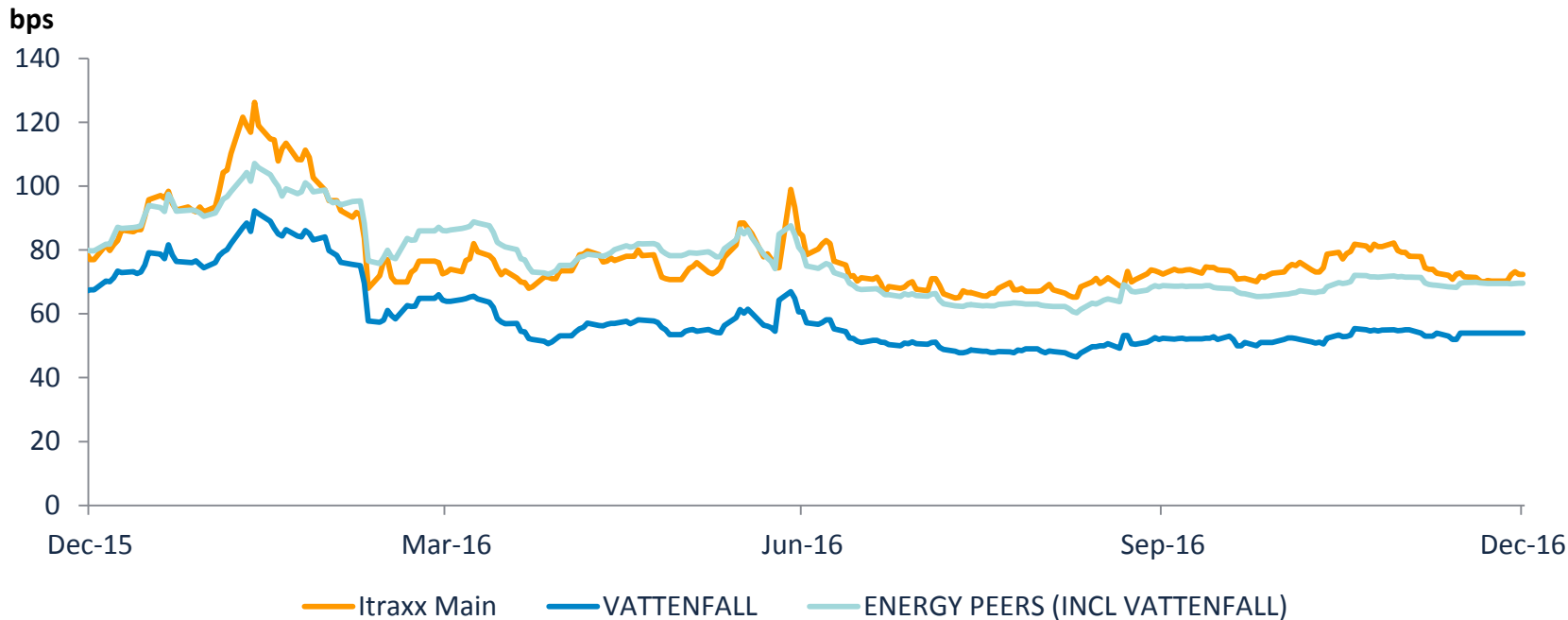
| Reported net debt<br>(SEK bn)                                            | 31 Dec.<br>2016 | 31 Dec.<br>2015 |
|--------------------------------------------------------------------------|-----------------|-----------------|
| Hybrid capital                                                           | -19.2           | -18.5           |
| Bond issues and commercial papers and liabilities to credit institutions | -55.8           | -68.9           |
| Liabilities to associated companies                                      | -2.8            | -2.8            |
| Liabilities to minority shareholders                                     | -10.1           | -13.0           |
| Other liabilities                                                        | -8.8            | -7.3            |
| <b>Total interest-bearing liabilities</b>                                | <b>-96.7</b>    | <b>-110.6</b>   |
| Reported cash, cash equivalents & short-term investments                 | 43.3            | 44.3            |
| Loans to minority owners of foreign subsidiaries                         | 2.7             | 2.1             |
| <b>Net debt</b>                                                          | <b>-50.7</b>    | <b>-64.2</b>    |

1) Of which: German nuclear "Solidarvereinbarung" 3.3, Margin calls paid (CSA) 2.5, Insurance "Provisions for claims outstanding" 1.2

| Adjusted net debt<br>(SEK bn)                                         | 31 Dec.<br>2016   | 31 Dec.<br>2015 |
|-----------------------------------------------------------------------|-------------------|-----------------|
| Total interest-bearing liabilities                                    | -96.7             | -110.6          |
| 50% of Hybrid capital                                                 | 9.6               | 9.3             |
| Present value of pension obligations                                  | -40.6             | -38.9           |
| Wind & other environmental provisions                                 | -4.4              | -19.1           |
| Provisions for nuclear power (net)                                    | -41.9             | -32.9           |
| Margin calls received                                                 | 4.0               | 5.3             |
| Liabilities to minority owners due to consortium agreements           | 9.0               | 11.9            |
| <b>= Adjusted gross debt</b>                                          | <b>-161.0</b>     | <b>-175.0</b>   |
| Reported cash, cash equivalents & short-term investments              | 43.3              | 44.3            |
| Unavailable liquidity                                                 | -7.0 <sup>1</sup> | -6.8            |
| <b>= Adjusted cash, cash equivalents &amp; short-term investments</b> | <b>36.3</b>       | <b>37.4</b>     |
| <b>= Adjusted net debt</b>                                            | <b>-124.7</b>     | <b>-137.6</b>   |

# STABLE CDS SPREAD DEVELOPMENT

CDS spread 5-years



# NUCLEAR PROVISIONS

| Reactor                  | Net capacity (MW) | Start (year) | Vattenfall share (%) | Vattenfall provisions, MSEK (IFRS accounting) | Vattenfall provisions, MSEK (pro rata)    | Sw nuclear waste fund MSEK (Vattenfall pro rata share) |
|--------------------------|-------------------|--------------|----------------------|-----------------------------------------------|-------------------------------------------|--------------------------------------------------------|
| Ringhals 1               | 879               | 1976         | 70.4                 |                                               |                                           |                                                        |
| Ringhals 2               | 809               | 1975         | 70.4                 |                                               |                                           |                                                        |
| Ringhals 3               | 1,070             | 1981         | 70.4                 |                                               |                                           |                                                        |
| Ringhals 4               | 942               | 1983         | 70.4                 | <b>Total Ringhals: 25,545</b>                 | <b>Total Ringhals: 25,545<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: 21,944</b>                 | <b>Total Forsmark: 14,483</b>             |                                                        |
| <b>Total Sweden</b>      | <b>6,974</b>      | <b>-</b>     |                      | <b>47,719<sup>2</sup></b>                     | <b>40,257<sup>2</sup></b>                 | <b>30,353<sup>3</sup></b>                              |
| Brunsbüttel              | 771               | 1977         | 66.7                 | 20,124                                        | 13,416                                    |                                                        |
| Brokdorf                 | 1,410             | 1986         | 20.0                 | 0                                             | 5,630                                     |                                                        |
| Krümmel                  | 1,346             | 1984         | 50.0                 | 13,045                                        | 13,045                                    |                                                        |
| Stade <sup>4</sup>       | 640               | 1972         | 33.3                 | 0                                             | 2,697                                     |                                                        |
| <b>Total Germany</b>     | <b>4,167</b>      | <b>-</b>     | <b>-</b>             | <b>33,169</b>                                 | <b>34,788</b>                             |                                                        |
| <b>Total SE &amp; DE</b> | <b>11,141</b>     |              |                      | <b>80,888</b>                                 | <b>75,045</b>                             |                                                        |

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

2) Total provisions in Sweden (IFRS accounting) include provisions of 230 MSEK related to Ågesta

3) Vattenfall's share of the Nuclear Waste Fund (book value). IFRS consolidated value is 36,199 MSEK.

4) Stade is being dismantled

# CAPITAL EXPENDITURES FY 2016

| Continuing operations SEK bn           | FY 2016     | FY 2015     | Change      |
|----------------------------------------|-------------|-------------|-------------|
| Electricity generation                 | 13.1        | 16.0        | -18%        |
| CHP/Heat                               | 3.1         | 3.3         | -8%         |
| Electricity networks                   | 5.2         | 4.7         | 12%         |
| Other                                  | 0.5         | 1.7         | -70%        |
| <b>Total</b>                           | <b>21.9</b> | <b>25.8</b> | <b>-15%</b> |
| - of which maintenance and replacement | 10.6        | 12.3        | -14%        |
| - of which growth                      | 11.4        | 13.4        | -15%        |

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

|                   | Onshore    | Offshore    | Total       |
|-------------------|------------|-------------|-------------|
| United Kingdom    | 114        | 590         | 703         |
| Denmark           | 245        | 160         | 405         |
| The Netherlands   | 306        | 108         | 414         |
| Sweden            | 255        | 120         | 375         |
| Germany           | 19         | 636         | 655         |
| <b>Total (MW)</b> | <b>939</b> | <b>1614</b> | <b>2553</b> |

 Onshore  
 Offshore  
 % Vattenfall ownership

| United Kingdom                                                                                            |            |
|-----------------------------------------------------------------------------------------------------------|------------|
|  Thanet                  | 300        |
|  Ormonde (51%)           | 150        |
|  Kentish Flats           | 90         |
|  Kentish Flats Extension | 50         |
|  Edinbane                | 41         |
|  Clashindarroch          | 37         |
|  Swinford                | 22         |
|  Parc Cynog <sup>2</sup> | 8          |
|  Pendine                 | 5          |
| <b>Installed capacity (MW)</b>                                                                            | <b>703</b> |

| Sweden                                                                                                      |            |
|-------------------------------------------------------------------------------------------------------------|------------|
|  Lillgrund                 | 110        |
|  Stor-Rotliden             | 78         |
|  Högabjär-Kärsås (50%)     | 38         |
|  Höge Väg (50%)            | 38         |
|  Hjuleberg (50%)           | 36         |
|  Juktan (50%)              | 29         |
|  Östra Herrestad           | 16         |
|  Näsudden                  | 10         |
|  Utgrunden                 | 10         |
|  Hedeskoga                 | 6          |
|  Other assets <sup>3</sup> | 3          |
| <b>Installed capacity (MW)</b>                                                                              | <b>375</b> |

| Denmark                                                                                                 |            |
|---------------------------------------------------------------------------------------------------------|------------|
|  Horns Rev 1 (60%)     | 160        |
|  Klim (98%)            | 67         |
|  Nørrekær Enge 1 (99%) | 30         |
|  Rejsby Hede           | 23         |
|  Hagesholm             | 23         |
|  Nørre Økse Sø         | 18         |
|  Tjæreborg Enge        | 17         |
|  Hollandsbjerg         | 17         |
|  Bajlum (89%)          | 15         |
|  DræbyFed              | 9          |
|  Ryå                   | 8          |
|  Ejsing (97%)          | 7          |
|  Nordjyllandsværket    | 6          |
|  Lyngmose              | 5          |
|  Velling Maersk        | 1          |
| <b>Installed capacity (MW)</b>                                                                          | <b>405</b> |

| Germany                                                                                              |            |
|------------------------------------------------------------------------------------------------------|------------|
|  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                                                                                            |            |
|------------------------------------------------------------------------------------------------------------|------------|
|  Prinses Alexia         | 122        |
|  Egmond aan Zee (50%)   | 108        |
|  Oudelandertocht (50%)  | 20         |
|  Eemmeerdiijk           | 18         |
|  Irene Vorrink          | 17         |
|  Jaap Rodenburg         | 17         |
|  Waterkaaptocht (50%)   | 14         |
|  Windpoort (40%)        | 13         |
|  Groettocht (50%)       | 12         |
|  Hoofdplaatpolder (70%) | 10         |
|  Reyndersweg (50%)      | 9          |
|  Waardtocht (50%)       | 9          |
|  Echteld                | 8          |
|  DE Bjirmen             | 6          |
|  Oom Kees (12%)         | 6          |
|  Ulketocht              | 6          |
|  De Horn (42%)          | 5          |
|  Oudendijk              | 5          |
|  Mariapolder            | 5          |
|  Hiddum Houw            | 4          |
|  Enkhuizen              | 2          |
| <b>Installed capacity (MW)</b>                                                                             | <b>414</b> |

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

2) Including 5 MW solar

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

# PIPELINE OF WIND FARMS

|                                 | Country | Name          | No. of Turbines | Capacity (MW) <sup>1</sup> | Ownership (%) | Commissioning | Current status     |
|---------------------------------|---------|---------------|-----------------|----------------------------|---------------|---------------|--------------------|
| In development and construction | UK      | Pen y Cymoedd | 76              | 228                        | 100           | 2017          | Under construction |
|                                 | UK      | Ray           | 16              | 54                         | 100           | 2017          | Under construction |
|                                 | UK      | Aberdeen      | 11              | 92                         | 100           | 2018          | Under construction |
|                                 | DK      | Horns Rev 3   | 49              | 407                        | 100           | 2019          | Under construction |

**Total 781**

|                | Country | Name                 | No. of Turbines | Capacity (MW) <sup>1</sup> | Ownership (%)    | Commissioning | Current status                         |
|----------------|---------|----------------------|-----------------|----------------------------|------------------|---------------|----------------------------------------|
| In development | NL      | Slufterdam           | 8               | ~25                        | 100              | 2018          | Preparing for investment decision      |
|                | NL      | Wieringermeer        | 50              | 165                        | 100              | 2019          | Preparing for investment decision      |
|                | DE      | Forst Briesnig       | 5               | 16                         | 100              | 2018          | Preparing for investment decision      |
|                | SE      | Fäbodberget          | 34              | 122                        | 100              | 2020          | Preparing for grid investment decision |
|                | SE      | Blakliden            | 50              | 180                        | 100              | 2020          | Preparing for grid investment decision |
|                | SE      | Bruzaholm            | ≤25             | ≤75                        | 100              | 2022          | Permitting activities                  |
|                | UK      | South Kyle           | 50              | 170                        | 100              | 2020-2022     | Permitting activities                  |
|                | UK      | Aultmore             | 13              | ~25                        | 100              | 2020-2022     | Permitting activities                  |
|                | DK      | Danish Near Shore    | 35-44           | 350                        | 100              | 2020          | Tender won & concession signed         |
|                | DK      | Danish Kriegers Flak | 60-75           | 600                        | 100              | 2021          | Tender won & concession signed         |
|                | DE      | Sandbank Plus        | ~15             | <250                       | 100              | 2024          | Preparing for tender                   |
|                | DE      | Atlantis 1           | ≤73             | <600                       | 100 <sup>2</sup> | 2025          | Preparing for tender                   |
|                | DE      | Global Tech 2        | ≤79             | <600                       | 100              | 2025          | Preparing for tender                   |
|                | UK      | Thanet Extension     | 34              | 340                        | 100              | 2021          | Concept/Early planning                 |
|                | UK      | Norfolk Vanguard     | 120-180         | 1,800                      | 100              | 2025-2027     | Concept/Early planning                 |
|                | UK      | Norfolk Boreas       | 120-180         | 1,800                      | 100              | TBD           | Concept/Early planning                 |

**Total >7,000**

Onshore  
Offshore

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

2) Pending closing of transaction