

# Vattenfall Capital Markets Day 2008

Presentation by

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# Key data – Business Group Central Europe

<i>SEK billion</i>	H1 2008	H1 2007	% Change	LTM	FY 2007	FY 2006
<b>Net sales</b>	69.2	61.7	12.1	129.7	122.3	111.0
<b>External net sales *</b>	48.4	43.6	10.9	91.5	86.7	78.9
<b>EBIT *</b>	8.4	9.9	-15.1	14.9	16.5	15.0
<b>Net assets **</b>	81.6	75.1	8.7	n.a.	78.7	70.6
<b>Electr. generation, TWh</b>	36.1	37.7	-4.2	76.8	76.6	79.5
<b>Heat generation, TWh</b>	14.0	13.2	6.1	25.9	25.5	26.7
<b>Employees ***</b>	22 222	22 327	-0.5	n.a.	22 396	22 657

\* Excl. intra group transactions

\*\* At the end of the period

\*\*\* Full time equivalents (FTE)

# Vattenfall in Germany: market positions (1)

## Installed capacity (GW) \*

## Electricity generation (TWh)\*\*

## Transmission Grid\*\*\*

<b>RWE</b>	<b>31,716</b>	<b>22 %</b>
<b>E.ON</b>	<b>26,251</b>	<b>18 %</b>
<b>Vattenf.</b>	<b>15,934</b>	<b>11 %</b>
<b>EnBW</b>	<b>14,963</b>	<b>10 %</b>
<b>Others</b>		<b>~ 40 %</b>

<b>Total Germany</b>	<b>597.3</b>
Public Supply	492.1
Industry	47.3
Private	57.9

<b>RWE</b>	<b>32 %</b>	<b>(11,300 km)</b>
<b>E.ON</b>	<b>30 %</b>	<b>(10,600 km)</b>
<b>Vattenf.</b>	<b>27 %</b>	<b>(9,540 km)</b>
<b>EnBW</b>	<b>10 %</b>	<b>(3,600 km)</b>

**Total**      **143,337\***

\*\*Vattenfall is number 3 in Germany  
with 76.9 TWh (12.9%)

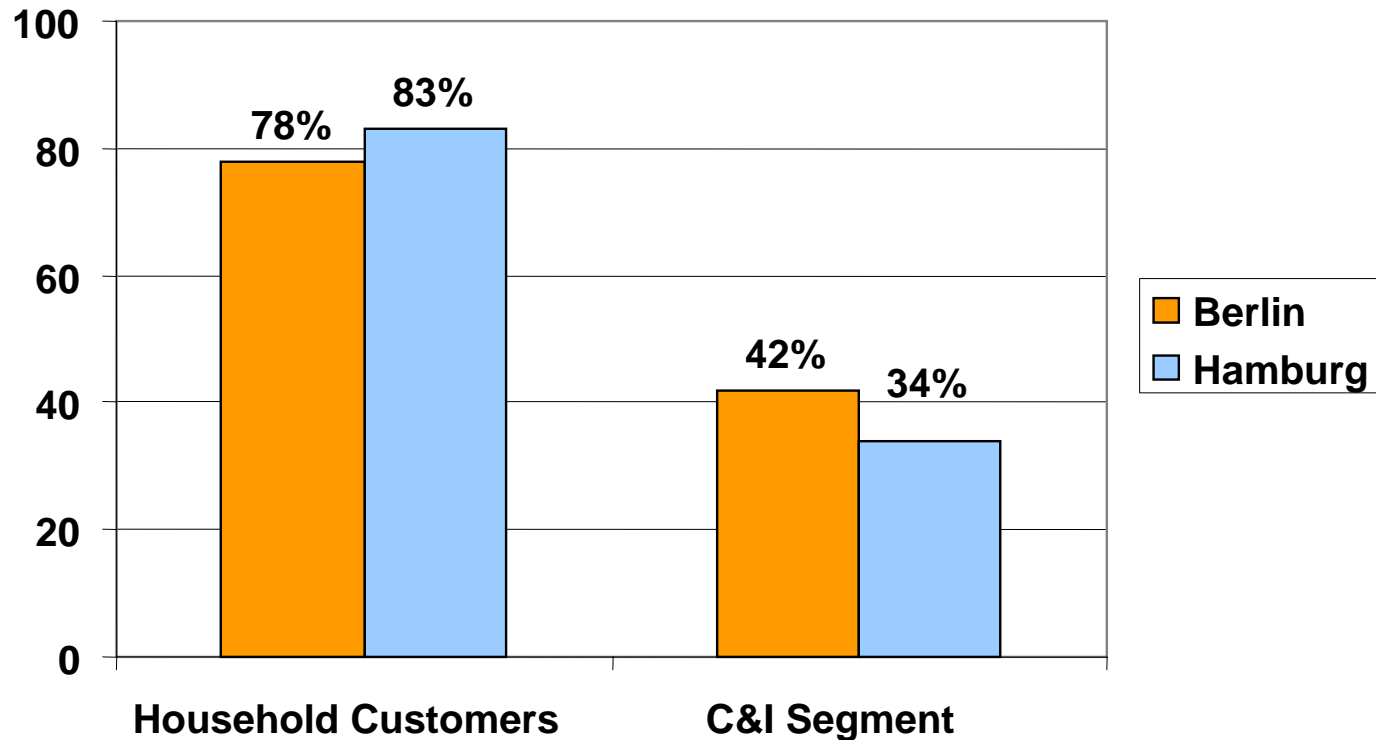
\*) Data and fact publications of utilities

\*\*) BDEW, development of electricity supply in Germany

\*\*\*) Publication of TSO

# Vattenfall in Germany: market positions (2)

Vattenfall's electricity supply market shares in Berlin and Hamburg, July 2008

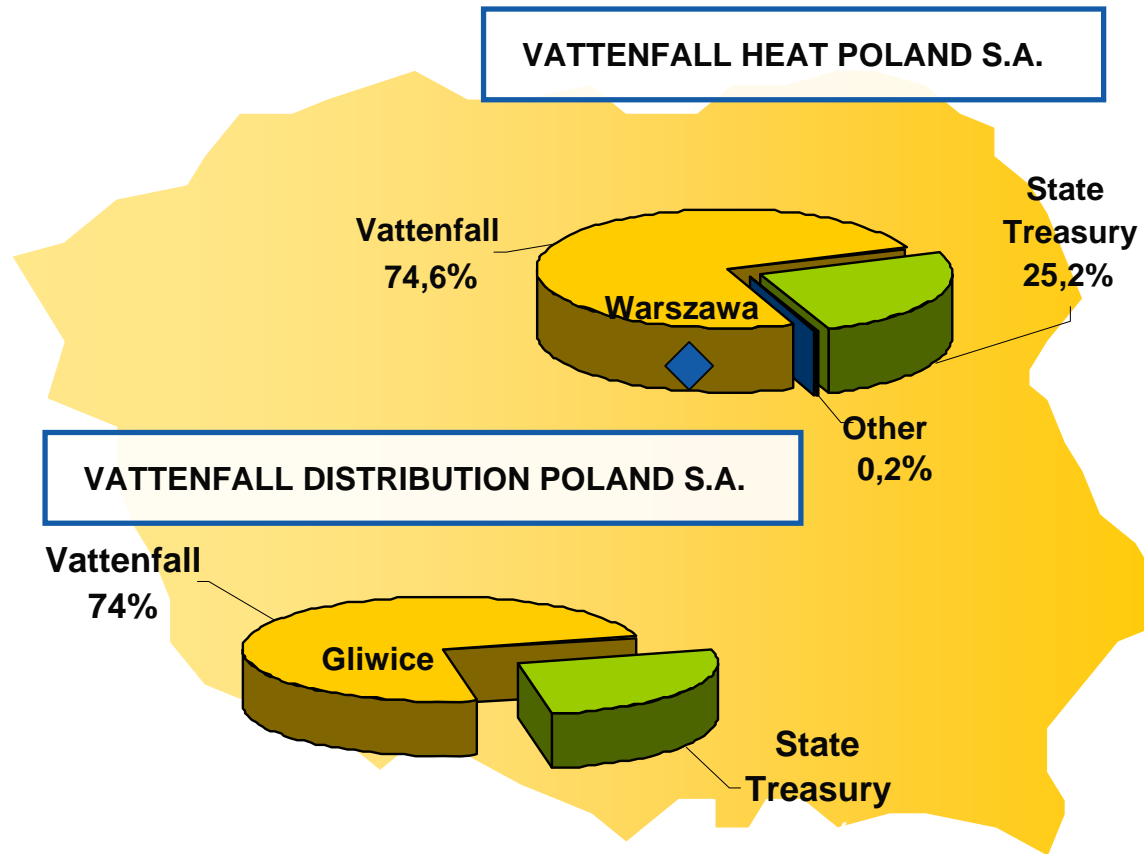


# Vattenfall in Poland

## Good market base for future development

- Biggest foreign investor in the Polish energy sector
- Largest cogenerated heat producer with 21,5% market share
- 7% of electricity supply
- 10% of electricity distribution

## Ownership shares



# Key issues and challenges

# Regulatory and legal framework in Germany



## **New Renewable Energy Act**

- Increase of promotion for Off-Shore Wind Energy
- Prolongation of free grid connection for Off-Shore-Operators until 2015.



## **New CHP Act**

- Funding for modernization and building of new CHP power plants
- Funding for expansion or building new district heating grids.



## **Ahead: Acceleration Act for grid extension**

- Requirements schedule (Bedarfsplan) includes all important VE-projects
- Risk: Cable projects could lead to extra costs for customers.



# Key projects - nuclear

- Technical problems that led to the shutdown of Krümmel and Brunsbüttel last summer have all been remedied.
- However, in the course of regular annual review of the plants the following issues were identified: corrosion in austenitic valves in the cooling system; mounting of certain heavy-load anchoring bolts and mounting of steel platforms in the reactor building in Brunsbüttel.
- The plants will restart production as soon as all necessary renovation works are completed. The re-start date is still open in both plants.
- There is an ongoing discussion in Germany about extension of operational lifespan of German nuclear power plants. The lifetime extension will depend on the outcome of next year's parliamentary elections

# Key projects - sales

**Last year's customer losses stopped.**

**Test phase for nationwide sales project completed.**

Future challenges:

- C&I customer growth
- Further develop nationwide market share.
- Further develop broad, customer-targeted product portfolio.



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# Key projects - heat

- Major supplier of district heat in Western Europe.
- Leading position in combined heat and power (CHP) in Germany.
- Investments in Berlin and Hamburg until 2020:  
Up to EUR 4 billion.
- Thermal output increases by 100 MW per year. This corresponds to about 20,000 new households using district heat every year in Berlin and Hamburg.

# Key projects – transmission grids

## Potential sale of Vattenfall's German TSO

### TSO Profile:

- Sales revenues: EUR 3,295.3 million, of which network fees: EUR 593 million.
- Operating profit / loss (according to German GAAP): EUR -127.9 million
- Significant profitability increase expected due to German regulator's improvement of equity return rates and regulatory framework.
- TSO carve-out process ongoing (to be established as separate unit).

### Political Background:

- Ongoing EU-debate on Ownership.
- First grid ownership divestment process in Germany.
- Broad discussion about future of grids („Netz AG“).

### Sales Process:

- End of July 08: Teaser sent out to potential investors.
- Mid-August 08: Expression of interest from potential investors.
- October/November 08: Indicative offers.
- Possible closing: Q 1/2 2009.

# Key projects - renewables and innovations

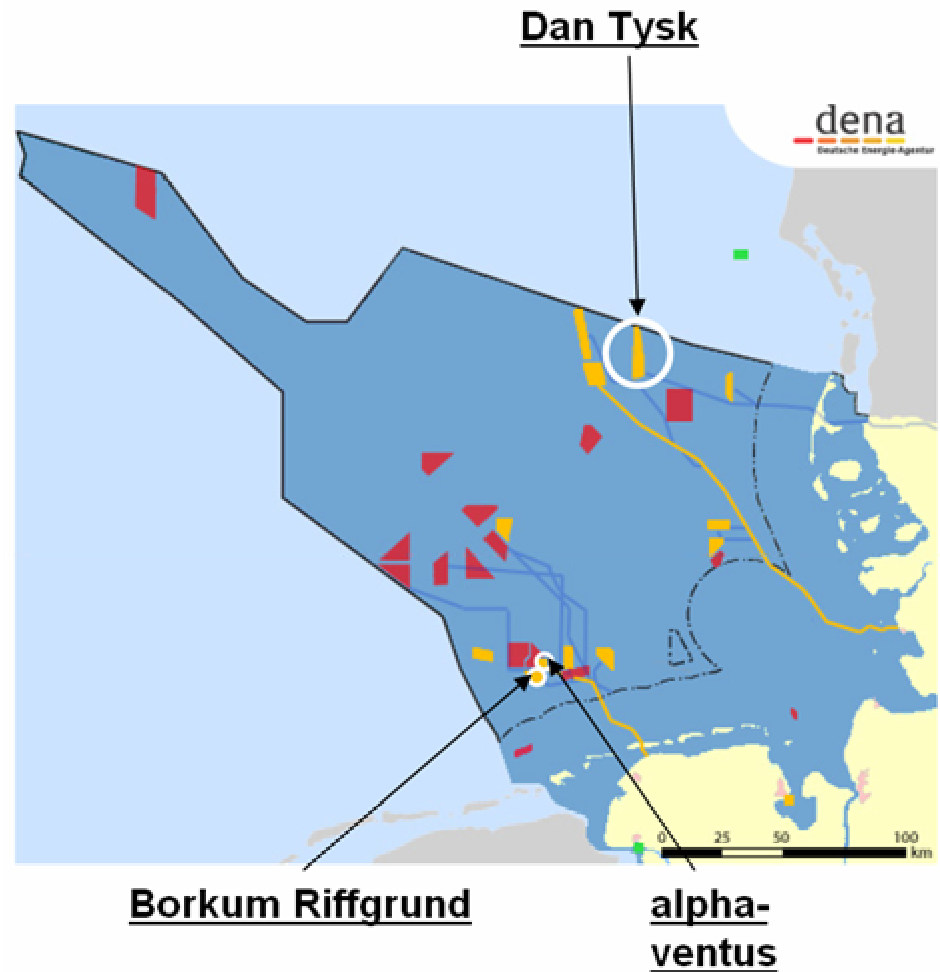
Projects in environmental technology, renewable energy and innovations

- **World Premiere:**  
Launch of CCS plant (Schwarze Pumpe/Lausitz area, 9 September 2008).
- **Offshore-Wind**  
(alpha ventus, Borkum Riffgrund, Dan Tysk).
- **Biomass plants**  
(Sellessen, Hamburg).
- **Waste incineration**  
(Rostock, Rüdersdorf).
- **Fuel cell projects**  
(HafenCity Hamburg, Berlin).



# Key Projects - offshore Wind

- **alpha-ventus:**  
12 WPP, together with E.ON Climate and Renewables and EWE.
- **DanTysk:**  
Pilot phase 71 km<sup>2</sup> with 80 WPP, max. 600 km<sup>2</sup>.
- **Borkum Riffgrund:**  
with DONG and Plambeck, 25,1% with option on 50%; pilot phase 77 WPP.



# Key Projects - CCS plant

## 9 September 2008: Launch of the world's first CCS pilot plant

- World premiere: CO<sub>2</sub> to be separated and liquified for safe transport and storage underground.
- First step in technology-chain leading to industrial-sized CCS plant.
- Pilot plant with installed capacity of 30 megawatt (thermal) will be delivering research results from September 2008 on.

### The next steps

**Phase I: Test facility**  
0,5 MW<sub>th</sub> April 2006

**Phase II: Pilot plant**  
30 MW<sub>th</sub> Sommer 2008

**Phase III: Demo plant**  
300 MW<sub>el</sub> 2012 - 2015

**Phase IV: Commercial plant**  
ca. 1.000 MW<sub>el</sub> 2015 - 2020



# Key projects - conventional generation

## CHP Plant Hamburg-Moorburg

- Electric gross capacity
- Use of steam for district heating
- Estimated investment sum

1640 MW<sub>el</sub>

650 MW<sub>th</sub>

EUR 2.2 bn





# Moorburg - status quo licensing procedure

- **March and June 2008**

Authority extended term on conferral of the decisions several times, last on 10 September. Full license still to be issued.

- **April 2008**

Vattenfall went to court on grounds of inactivity on the side of authority

- **August 2008**

Indicative court order of court in Hamburg. Not legally binding.

## **Summary:**

- Vattenfall has met all requirements.
- Hamburg authority to decide until the end of September.

# Key projects - conventional generation

## Power plant Boxberg Block R



- Amount invested: EUR 890 milion
- Base load operation
- Availability > 91 %
- Regulation ability 50 - 103 %
- High automation level
- Compliance with Transmission Code
- Net degree of efficiency > **43,7 %**  
(live steam: T =600°C; p =285 bar)
- Coal demand: 4,5 Mio. t/a
- Specific CO<sub>2</sub>-emission: 924 g/kWh
- 1st Synchronisation June 2010
- Start of commercial operation  
February 2011

# Key objectives - BG Central Europe

**Key Objective I:** further growth and development of power plant park in order to avoid the imminent electricity generation gap

**Key Objective II:** turnaround in supply business

**Key Objective III:** reduce carbon footprint → goal: 50% until 2030

**Key Objective IV:** expansion in renewable energies

**Key objective V:** growth in Poland