### Vattenfall Capital Markets Day 2008

Presentation by

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# Key data – Vattenfall Group

	H1	H1	%		FY	FY
Amounts in SEK billion	2008	2007	Change	LTM	2007	2006
Net sales	80,7	73,7	9.4	150.6	143.7	135.8
EBIT *	17.7	17.0	4.0	29.2	28.5	27.4
Net profit	11.2	13.5	-20.5	18.4	20.7	19.9
Net assets **	178.7	156.7	14.0	n.a.	166.1	150.0
Electr. generation, TWh	86.2	85.7	0.6	168.1	167.6	165.4
Heat generation, TWh	19.9	19.6	1.5	36.5	36.2	35.2

\* Excl. items affecting comparability (IAC)

\*\* At the end of the period

LTM = last twelve months

### Notes from the H1/2008 report

#### Margin calls

- Price increases lead to substantial margin calls.
- German future contracts (EEX).
- Non-cash guarantees in Nordic forward contracts.

#### Cash flow effect (H1/2008)

- SEK 8.1 bn cash flow before financing, excluding margin calls.
- SEK 9 bn margin calls 30 June 2008 (SEK 0.2 bn 30 June 2007).
- SEK 0.9 bn negative cash flow before financing (SEK 10 bn H2/2007).

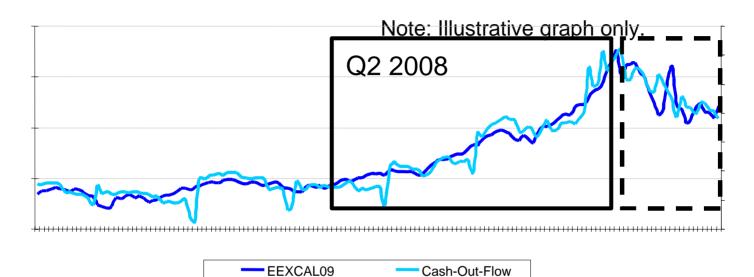
#### Principles for margin calls (timing issue):

- 1. Sell at 40 (future contract).
- 2. Spot prices changed to 50.
  - Margin call of 10 (cash).
- 3. Settle day, receive 50.
  - Net effect 40 (50-10).



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### Futures on EEX: Correlation between prices and cash outflow



- Sharp increase in wholesale prices.
- Decreased fair value of owned future contracts.
- Margin calls.
- In a scenario with falling wholesale prices, the opposite take place (payments to Vattenfall).
- Most margin calls are settled or repaid within 1-3 years, depending on the hedge horizon.

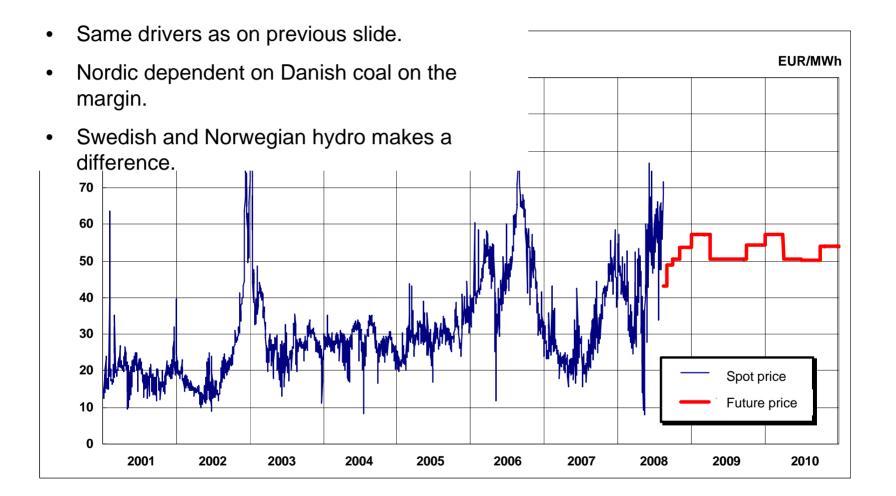


# Spot and future prices, Germany (EEX)

Cost for NAP2 priced since 1 January 2008. EUR/MWh Substantial oil price increases 2008. Future asset replacement cost, NAP3 drive • and commodity prices drive future price levels. Spot price Future price 

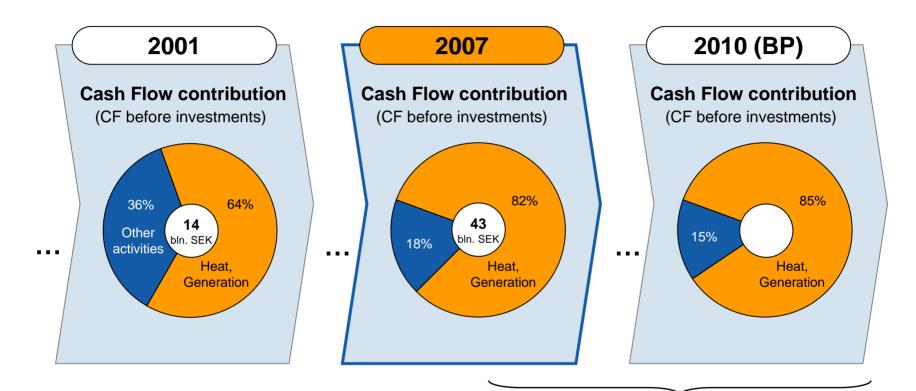


# Spot and future prices, Sweden (Nordpool)





### Vattenfall is developing towards a generation driven company

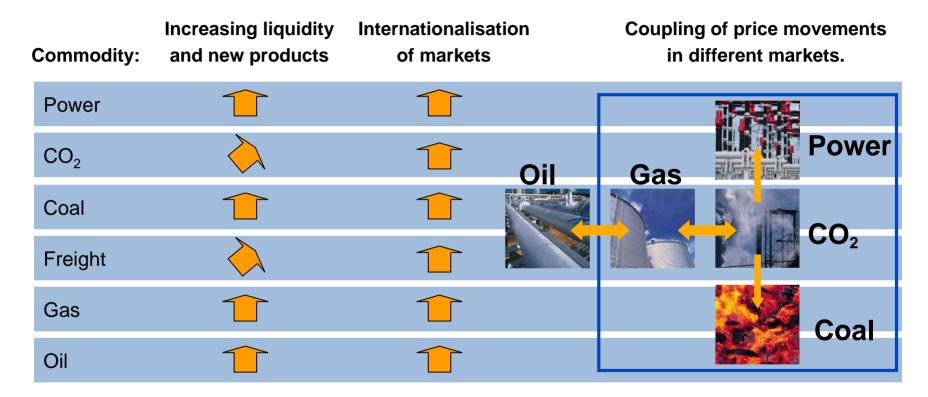


#### Generation:

- >100% cash flow contribution (after investments).
- Higher yield than average asset.



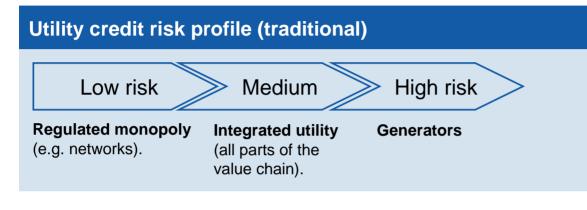
# **Commodity market development**



- Exposure and hedging needs increases.
- Increasing number of participants in commodity trading.
- Increasing liquidity and transparency.



# **Risk diversification in generation business**



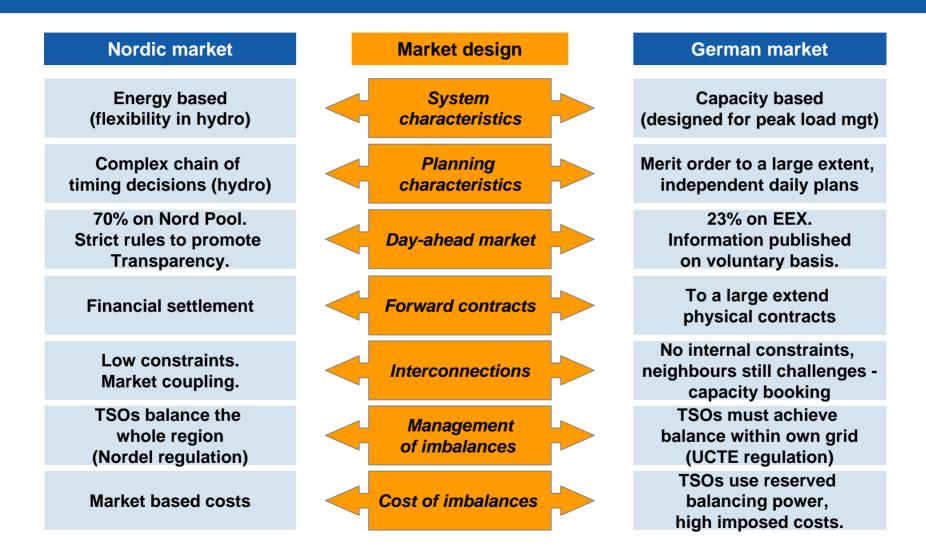
#### Risk diversification through well diversified portfolio

- Primarily base load (low cost, in-the-money).
- Well diversified generation mix:
  - Hydro (healthy margins, no CO<sub>2</sub>).
  - Nuclear (healthy margins, no CO<sub>2</sub>).
  - Fossil (low cost, own lignite mining supply).
- CO<sub>2</sub> emissions to be avoided through CCS.
- Balanced geographical markets (e.g. Sweden, Germany).

Although Vattenfall moves towards generation, this should not materially increase the overall risk profile compared to historical utilities.

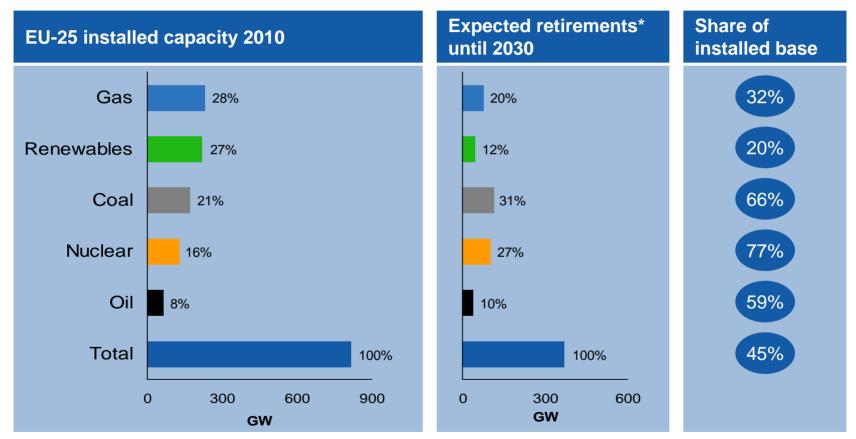


### More similarities than differences, but:





# Substantial parts of the old generation assets will be retired (which facilitates the move towards low $CO_2$ )



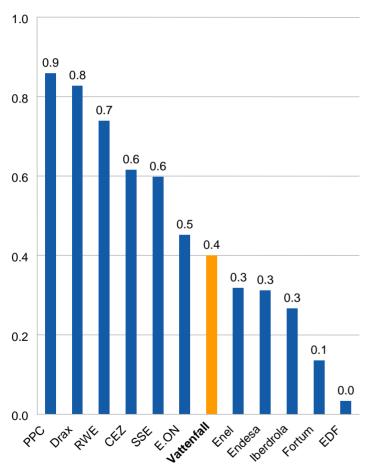
Source: Eurelectric "The role of electricity", June 2007



# Low CO<sub>2</sub> intensity is being rewarded by capital markets

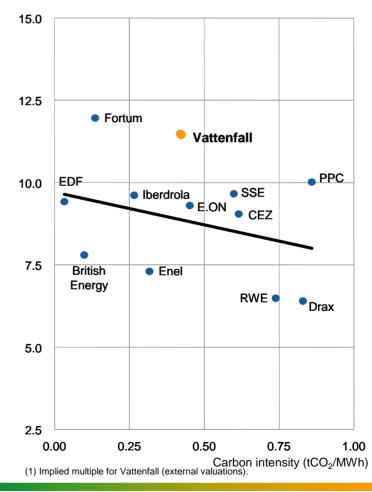


tCO<sub>2</sub>/MWh)



#### Carbon intensity vs. AV/EBITDA-multiples

2008E AV/EBITDA



# Very large potential in European renewables

(TWh)	Theoretical potential (TWh)	Possible 2030 (TWh)	Comments
Wind	2000	460	<ul><li>Network capacity and power regulation issues.</li><li>Permit processes.</li></ul>
Ocean Energy	2000	200	High L-T potential, early stage technology.
Bio	500	75	<ul> <li>Forest management need to be developed (not to compromise need for food).</li> </ul>
Hydro	500	20	<ul> <li>Low acceptance of new hydro in most markets</li> <li>Climate change, weather (south / north Europe)</li> </ul>
Others	500	50	<ul> <li>Solar or geothermal less interesting for Vattenfall's core and target markets</li> </ul>



# Vattenfall's generation focus and strategies

Nuclear	<ul> <li>Core technology (large potentials, CO<sub>2</sub>-free)</li> <li>Resources and competence for nuclear new build.</li> <li>Expansion to other geographical market/-s.</li> <li>Life-time extension and power increases of existing plants.</li> <li>World class safety standard.</li> </ul>
Fossils	<ul><li>Core technology (scale, financially attractive).</li><li>Carbon capture and storage.</li></ul>
Renewables	<ul> <li>Expand footprint in renewable energy. <ul> <li>financially attractive.</li> <li>support ambition to further reduce CO<sub>2</sub> exposure.</li> </ul> </li> <li>Wind, hydro and bio-fuel focus.</li> <li>Capitalise on off-shore wind competence.</li> </ul>



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### Key factors for market leadership

Key factor:	Examples:
1 Risk diversification	<ul> <li>To cope with commodity uncertainty.</li> <li>Different geographies and regulatory regimes.</li> <li>Single asset risks.</li> <li>New technologies (CCS, renewables, nuclear).</li> </ul>
2 Competence management	<ul> <li>Retain and recruit key staff.</li> <li>Engineering competence.</li> <li>Project management competence.</li> <li>Regulatory and political competence.</li> </ul>
3 Financial flexibility	<ul> <li>Strong balance sheet.</li> <li>Ability to make long lead-time investments.</li> <li>Focus on cost and operational efficiency, proven ability to realise synergies.</li> </ul>

- Strongly correlated with scale.
- Increasing need for pan-European rather than national/regional platform to form strong foundation.



### **SWOT overview for Vattenfall**

#### **Strengths**

- Strong position in Northern Europe
- Strong position in base-load generation
- Large share of generation with no CO<sub>2</sub> emission

#### Weaknesses

- Performance culture can be further improved
- High emitter of CO<sub>2</sub>
- Limited participation in natural gas

#### **Opportunities**

- Increasing need for new capacity
- Increasing attractiveness of clean energy assets (renewables, CCS, nuclear)
- Unexploited synergies and performance improvement

#### Threats

- Introductions of new taxes and/or increases in existing ones
- Increasing regulatory pressures, in particular in low performing parts of the value chain
- Major reduction in price levels



# **Operational excellence – continuation of the OPEX effort**

#### **Ongoing OPEX programme**

- 11% productivity increase, equalling SEK 5 bn cost reduction
- Implementation and delivery ongoing

Next steps – Continue to enhance operational excellence through continued increases in:

- Productivity
  - Increase benchmarking to clarify company position
  - Set new improvement targets according to benchmark results
  - Increase efficiency of SSCs
- Cross-border synergies
  - Work with key processes
  - Increase cooperation and learning within Group
  - Structured bench learning processes



### **Operational excellence – further benchmarking steps**

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#### Benchmarking

1

- Overall picture on competitiveness
- Select major "gap processes"
- Decide on and implement efficiency measures

#### Process Improvement

 Focus on selected "gap processes"

2

- Identify possible measures to close the gap
- Optimize selected processes

#### **Bench learning**

- "Continuous best practice sharing process" in the Group
- Identify comparable processes / businesses (e.g. nuclear in Germany and Nordic)
- Establish deliverables in line with benchmark levels and set up Vattenfall teams



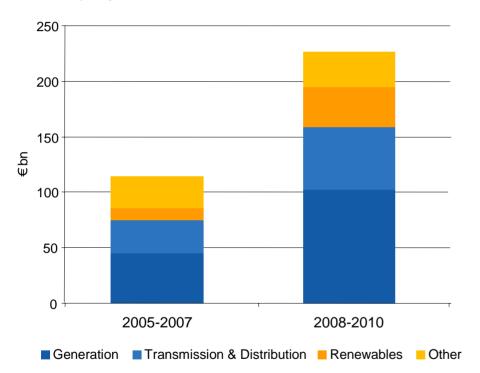
### Investments



# Ageing assets, increasing industry CAPEX requirements

#### Industry Capex: 2005-2007 vs. 2008-2010

Total Capex by Business 1)



#### Challenges:

- Environmental focus.
- Availability of green field sites
- Political support
- Public perception
- Permit processes
- Project management and engineering resources.
- Equipment suppliers market.

Source: Company Presentations, Brokers Reports

Note: Includes integrated utilities: E.ON, EDF, GDF\_Suez, Enel, Iberdrola, RWE, Vattenfall, EDP, Scottish & Southern Energy, Union Fenosa, CEZ, Fortum and Centrica.



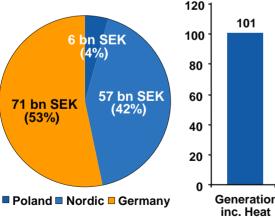
# Capex plan, next five years (excluding M&A)

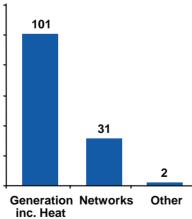
#### SEK 134 bn 2007-2011 (old plan)

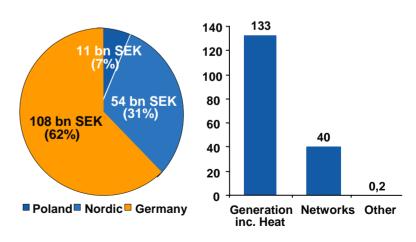
- Wind power expansion.
- German Moorburg and Boxberg (fossil plants).
- Life-time extension of nuclear and lignite.
- Maintenance investments.
- Quality and safety measures.
- Strengthening networks.



- Further increased wind power ambition.
- Additional biomass capacity.
- Equipment cost increases.
- Additional network investments (e.g. wind power connections).

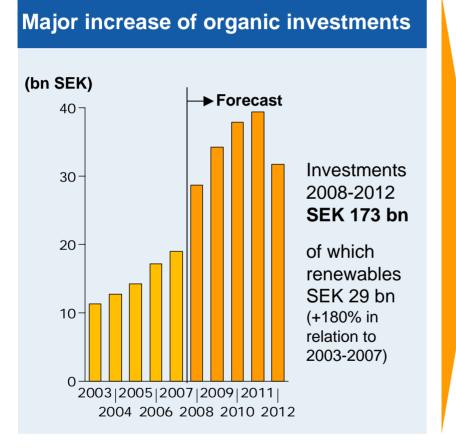








### Capability to manage large investment projects important



#### Note: 2005 excluding acquisitions in Denmark

#### **Resulting needs:**

- Strengthen all elements of the process, in particular the project management capabilities
- Improve balancing of financial value creation, risk and strategic objectives in overall evaluation
- Enhance assessment on impact on overall system in evaluation of individual projects
- Create capabilities to manage and capture synergies between several simultaneous projects

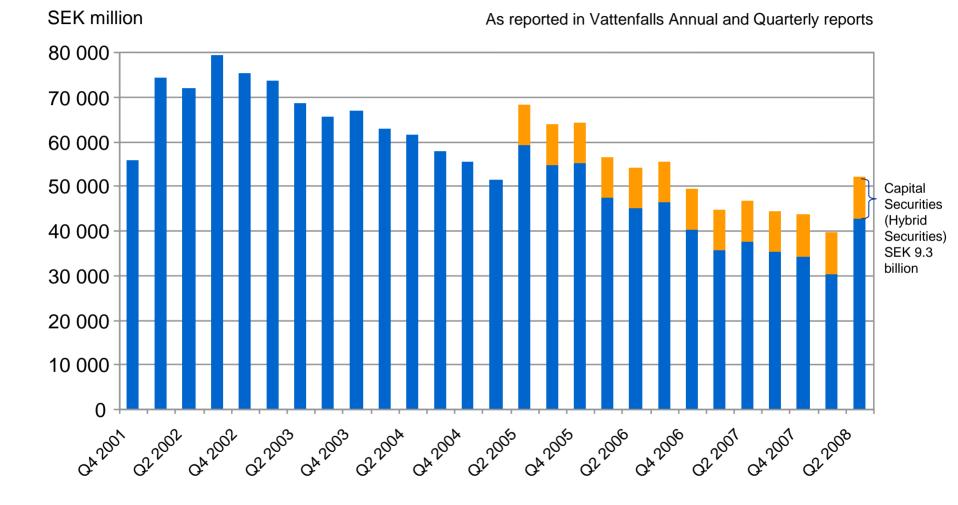
Portfolio optimisation



### **Debt management**



### Net debt development



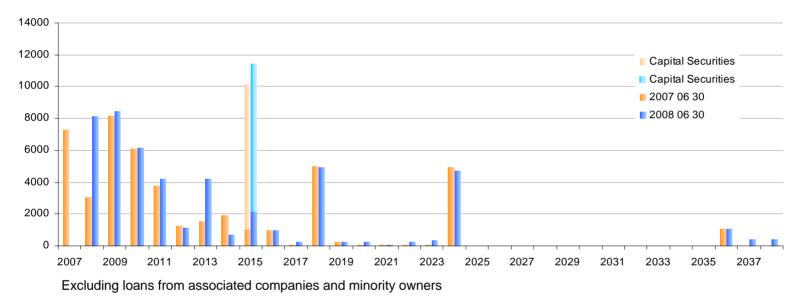
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# Adjusted gross and net debt

SEK million	30 June 2008	31 Dec 2007
Reported gross debt	-75 968	-67 189
Present value of net pension obligations (incl actuarial gains/losses)	-17 988	-17 073
Mining & environmental provisions	-12 230	-11 975
50% of Hybrid securities	4 665	4 671
= Adjusted gross debt	-101 521	-91 566
Reported cash & short term investments	22 896	22 659
German nuclear "Solidarvereinbarung"	-3 217	-3 224
Minority owner's share of German nuclear subsidiaries		
cash position	-3 622	-3 531
= Adjusted cash & short term investments	16 057	15 904
= Adjusted net debt	-85 464	-75 662



# **Gross debt maturity profile**



#### SEK million

	June 30, 2008	June 30, 2007
Duration (years)	<b>3,0</b> <sup>1)</sup>	3,5
Average time to maturity (years)	<b>6,1</b> <sup>1)</sup>	6,3

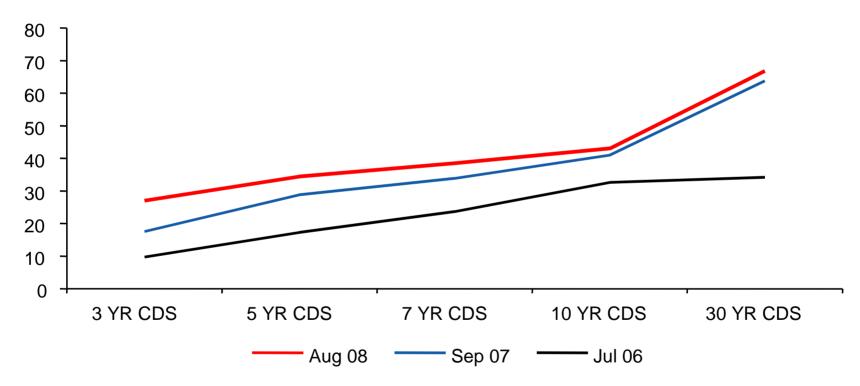
1) Based on external debt. Excluding Capital Securities the duration is 2,4 years and average time to maturity 6,0 years.





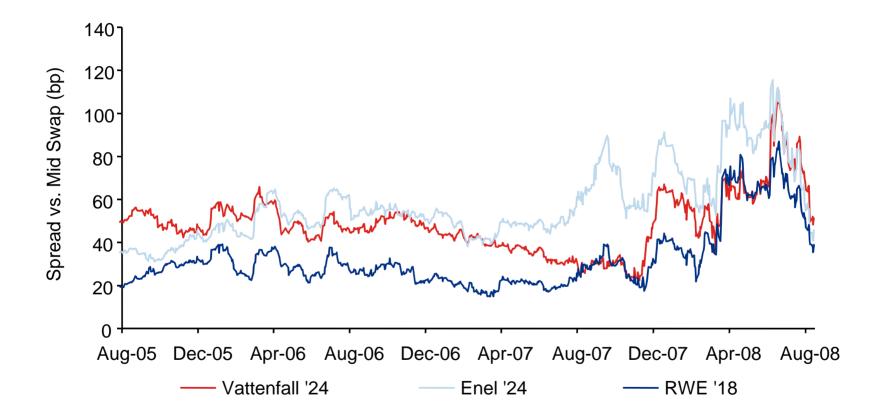
### Vattenfall historical and current credit curves

#### **CDS Curve**



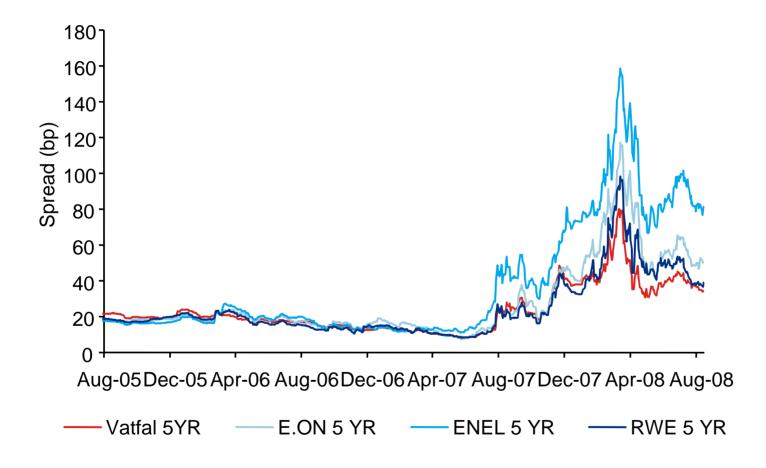


### **Comparable utility bond performance**



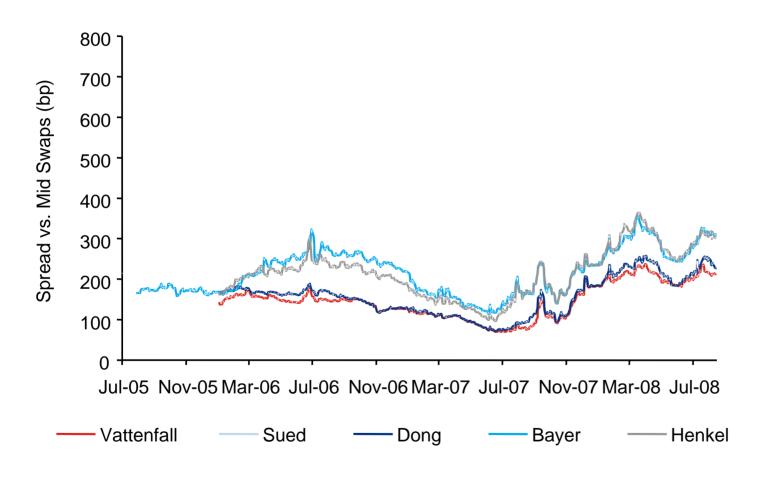


# **Utility CDS performance**





### Hybrid bond performance





### **EMTN** loans issued

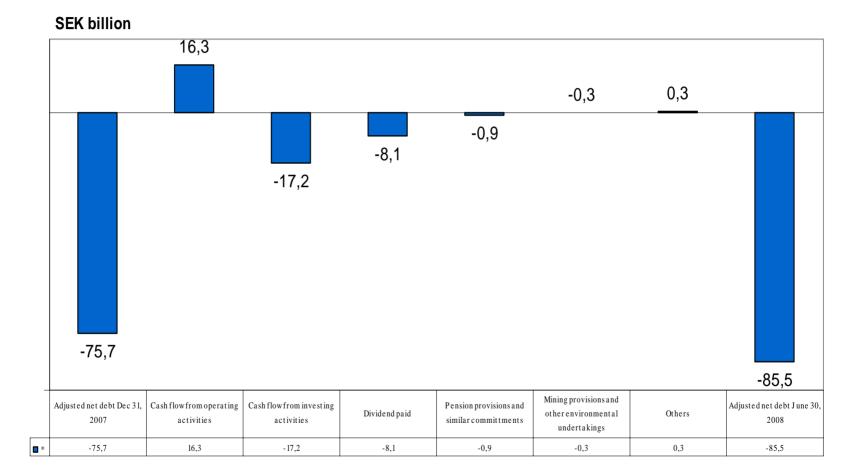
- 2 x EUR 20m 30NC10, spread at 35 and 38 bp.
- SEK 200m 15Y, spread at 43 bp.
- SEK 100 m 3y, spread at 35 bp.
- SEK 300 m 3y, spread at 35 bp.
- SEK 200 m 10y, spread at 56 bp.
- SEK 200 m 12y, spread at 62 bp.
- CHF 200 m 7y, spread at 56 bp.
- EUR 20m 30NC10, spread at 45 bp.
- EUR 20m 30NC10, spread at 45 bp.
- SEK 500m 5y, spread 44 bp.
- EUR 20m 30NC10, spread at 38 bp.
- SEK 300 m 15y, spread at 62 bp.



# Back-up



# Adjusted net debt development in H1 2008





# Break down of group debt

As of June 30, 2008	Treasury	Germany	Poland	Nordic	Total	%
Subordinated perpetua Capital Securities	<b>al</b> 9,330				9,330	12
MTN	650				650	1
EMTN	33,479				33,479	44
Liabilities to assoc. companies	7,088	4,688			11,775	16
Liabilities to minority shareholders		34		6,108	6,142	8
<b>Commercial papers</b>	1,444				1,444	2
Bank loans and others	3,905	5,685		3,557	13,147	17
Total	55,896	10,407		9,665	75,968	100

Amounts in SEK million

