Vattenfall Capital Markets Day 2008

Presentation by

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Chief Financial Officer (acting)

Berlin, 8 September, 2008
Contents

• Key data
• Margin calls & electricity prices
• Generation business
• Investments
• Performance
• Debt management
# Key data – Vattenfall Group

<table>
<thead>
<tr>
<th>Amounts in SEK billion</th>
<th>H1 2008</th>
<th>H1 2007</th>
<th>% Change</th>
<th>LTM 2007</th>
<th>FY 2007</th>
<th>FY 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net sales</strong></td>
<td>80.7</td>
<td>73.7</td>
<td>9.4</td>
<td>150.6</td>
<td>143.7</td>
<td>135.8</td>
</tr>
<tr>
<td>**EBIT *</td>
<td>17.7</td>
<td>17.0</td>
<td>4.0</td>
<td>29.2</td>
<td>28.5</td>
<td>27.4</td>
</tr>
<tr>
<td><strong>Net profit</strong></td>
<td>11.2</td>
<td>13.5</td>
<td>-20.5</td>
<td>18.4</td>
<td>20.7</td>
<td>19.9</td>
</tr>
<tr>
<td>**Net assets **</td>
<td>178.7</td>
<td>156.7</td>
<td>14.0</td>
<td>n.a.</td>
<td>166.1</td>
<td>150.0</td>
</tr>
<tr>
<td><strong>Electr. generation, TWh</strong></td>
<td>86.2</td>
<td>85.7</td>
<td>0.6</td>
<td>168.1</td>
<td>167.6</td>
<td>165.4</td>
</tr>
<tr>
<td><strong>Heat generation, TWh</strong></td>
<td>19.9</td>
<td>19.6</td>
<td>1.5</td>
<td>36.5</td>
<td>36.2</td>
<td>35.2</td>
</tr>
</tbody>
</table>

* Excl. items affecting comparability (IAC)

** At the end of the period

LTM = last twelve months
Notes from the H1/2008 report

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

2. 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).
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.
- Substantial oil price increases 2008.
- Future asset replacement cost, NAP3 drive and commodity prices drive future price levels.
• Same drivers as on previous slide.
• Nordic dependent on Danish coal on the margin.
• Swedish and Norwegian hydro makes a difference.
Vattenfall is developing towards a generation driven company

**Generation:**
- >100% cash flow contribution (after investments).
- Higher yield than average asset.
## Commodity market development

<table>
<thead>
<tr>
<th>Commodity:</th>
<th>Increasing liquidity and new products</th>
<th>Internationalisation of markets</th>
<th>Coupling of price movements in different markets.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td><img src="image" alt="Power" /></td>
<td><img src="image" alt="Power" /></td>
<td><img src="image" alt="Coupling" /></td>
</tr>
<tr>
<td>CO₂</td>
<td><img src="image" alt="CO₂" /></td>
<td><img src="image" alt="CO₂" /></td>
<td><img src="image" alt="Coupling" /></td>
</tr>
<tr>
<td>Coal</td>
<td><img src="image" alt="Coal" /></td>
<td><img src="image" alt="Coal" /></td>
<td><img src="image" alt="Coupling" /></td>
</tr>
<tr>
<td>Freight</td>
<td><img src="image" alt="Freight" /></td>
<td><img src="image" alt="Freight" /></td>
<td><img src="image" alt="Coupling" /></td>
</tr>
<tr>
<td>Gas</td>
<td><img src="image" alt="Gas" /></td>
<td><img src="image" alt="Gas" /></td>
<td><img src="image" alt="Coupling" /></td>
</tr>
<tr>
<td>Oil</td>
<td><img src="image" alt="Oil" /></td>
<td><img src="image" alt="Oil" /></td>
<td><img src="image" alt="Coupling" /></td>
</tr>
</tbody>
</table>

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

Utility credit risk profile (traditional)

- **Low risk**
  - Regulated monopoly (e.g. networks).
- **Medium**
  - Integrated utility (all parts of the value chain).
- **High risk**
  - Generators

Risk diversification through well diversified portfolio

- Primarily base load (low cost, in-the-money).
- Well diversified generation mix:
  - Hydro (healthy margins, no CO₂).
  - Nuclear (healthy margins, no CO₂).
  - Fossil (low cost, own lignite mining supply).
- CO₂ 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:

**Nordic market**
- Energy based (flexibility in hydro)
- Complex chain of timing decisions (hydro)
- 70% on Nord Pool. Strict rules to promote Transparency.
- Financial settlement
- TSOs balance the whole region (Nordel regulation)
- Market based costs

**Market design**
- **System characteristics**
- **Planning characteristics**
- **Day-ahead market**
- **Forward contracts**
- **Interconnections**
- **Management of imbalances**
- **Cost of imbalances**

**German market**
- Capacity based (designed for peak load mgt)
- Merit order to a large extent, independent daily plans
- 23% on EEX. Information published on voluntary basis.
- To a large extend physical contracts
- No internal constraints, neighbours still challenges - capacity booking
- TSOs must achieve balance within own grid (UCTE regulation)
- TSOs use reserved balancing power, high imposed costs.
Substantial parts of the old generation assets will be retired (which facilitates the move towards low CO$_2$)

**EU-25 installed capacity 2010**

- **Gas**: 28%
- **Renewables**: 27%
- **Coal**: 21%
- **Nuclear**: 16%
- **Oil**: 8%
- **Total**: 100%

**Expected retirements until 2030**

- **Gas**: 20%
- **Renewables**: 12%
- **Coal**: 31%
- **Nuclear**: 27%
- **Oil**: 10%
- **Total**: 100%

**Share of installed base**

- **32%**
- **20%**
- **66%**
- **77%**
- **59%**
- **45%**

Source: Eurelectric "The role of electricity", June 2007
Low CO₂ intensity is being rewarded by capital markets

**CO₂ emissions**

<table>
<thead>
<tr>
<th>Company</th>
<th>CO₂ emissions (tCO₂/MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPC</td>
<td>0.9</td>
</tr>
<tr>
<td>Drax</td>
<td>0.8</td>
</tr>
<tr>
<td>RWE</td>
<td>0.7</td>
</tr>
<tr>
<td>CEZ</td>
<td>0.6</td>
</tr>
<tr>
<td>SSE</td>
<td>0.6</td>
</tr>
<tr>
<td>E.ON</td>
<td>0.6</td>
</tr>
<tr>
<td>Enel</td>
<td>0.5</td>
</tr>
<tr>
<td>Endesa</td>
<td>0.4</td>
</tr>
<tr>
<td>Iberdrola</td>
<td>0.3</td>
</tr>
<tr>
<td>Fortum</td>
<td>0.3</td>
</tr>
<tr>
<td>EDF</td>
<td>0.1</td>
</tr>
<tr>
<td>Vattenfall</td>
<td>0.0</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Company</th>
<th>2008E AV/EBITDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vattenfall</td>
<td>15.0</td>
</tr>
<tr>
<td>EDF</td>
<td>10.0</td>
</tr>
<tr>
<td>Iberdrola</td>
<td>7.5</td>
</tr>
<tr>
<td>British Energy</td>
<td>5.0</td>
</tr>
<tr>
<td>Enel</td>
<td>2.5</td>
</tr>
<tr>
<td>RWE</td>
<td>0.75</td>
</tr>
<tr>
<td>PPC</td>
<td>0.5</td>
</tr>
</tbody>
</table>

(1) Implied multiple for Vattenfall (external valuations).
## Very large potential in European renewables

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

Theoretical potential (TWh): Very large potential in European renewables
# Vattenfall’s generation focus and strategies

<table>
<thead>
<tr>
<th>Nuclear</th>
<th>Fossils</th>
<th>Renewables</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Core technology (large potentials, CO₂-free)</td>
<td>• Core technology (scale, financially attractive).</td>
<td>• Expand footprint in renewable energy.</td>
</tr>
<tr>
<td>• Resources and competence for nuclear new build.</td>
<td>• Carbon capture and storage.</td>
<td>- financially attractive.</td>
</tr>
<tr>
<td>• Expansion to other geographical market/-s.</td>
<td></td>
<td>- support ambition to further reduce CO₂ exposure.</td>
</tr>
<tr>
<td>• Life-time extension and power increases of existing plants.</td>
<td></td>
<td>• Wind, hydro and bio-fuel focus.</td>
</tr>
<tr>
<td>• World class safety standard.</td>
<td></td>
<td>• Capitalise on off-shore wind competence.</td>
</tr>
</tbody>
</table>
## Key factors for market leadership

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

- 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 CO₂ emission

Weaknesses
• Performance culture can be further improved
• High emitter of CO₂
• 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

1. **Benchmarking**
   - Overall picture on competitiveness
   - Select major “gap processes”
   - Decide on and implement efficiency measures

2. **Process Improvement**
   - Focus on selected “gap processes”
   - Identify possible measures to close the gap
   - Optimize selected processes

3. **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


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.

**SEK 173 bn 2008-2012 (new plan)**
- Further increased wind power ambition.
- Additional biomass capacity.
- Equipment cost increases.
- Additional network investments (e.g. wind power connections).

Diagram showing breakdown of investments by region and sector.
Capability to manage large investment projects important

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

Major increase of organic investments

<table>
<thead>
<tr>
<th>Year</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investments (bn SEK)</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
</tr>
</tbody>
</table>

Forecast

Investments 2008-2012
SEK 173 bn

of which renewables
SEK 29 bn
(+180% in relation to 2003-2007)

Note: 2005 excluding acquisitions in Denmark
Debt management
Net debt development

As reported in Vattenfalls Annual and Quarterly reports

Capital Securities (Hybrid Securities) SEK 9.3 billion
### Adjusted gross and net debt

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

#### June 30, 2008

- **Duration (years):** 3,0
- **Average time to maturity (years):** 6,1

#### June 30, 2007

- **Duration (years):** 3,5
- **Average time to maturity (years):** 6,3

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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

Source: Citi
Comparable utility bond performance
Utility CDS performance

Source: Citi

Spread (bp)

Vatfal 5YR  E.ON 5 YR  ENEL 5 YR  RWE 5 YR
Hybrid bond performance

Source: Citi
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

<table>
<thead>
<tr>
<th>SEK billion</th>
<th>Adjusted net debt Dec 31, 2007</th>
<th>Cash flow from operating activities</th>
<th>Cash flow from investing activities</th>
<th>Dividend paid</th>
<th>Pension provisions and similar commitments</th>
<th>Mining provisions and other environmental undertakings</th>
<th>Others</th>
<th>Adjusted net debt June 30, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>-75,7</td>
<td>-75,7</td>
<td>-16,3</td>
<td>-17,2</td>
<td>-8,1</td>
<td>-0,9</td>
<td>-0,3</td>
<td>0,3</td>
<td>-85,5</td>
</tr>
</tbody>
</table>

*SEK billion*
## Break down of group debt

Amounts in SEK million

As of June 30, 2008

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