Business Group Vattenfall Nordic
Hans von Uthmann, Senior Executive Vice President

Vattenfall Capital Markets Day, October 5th 2004
2 Generation capacity and consumption in the nordic countries

The generation capacity does not include contracted import from Russia of about 11 TWh/year from 2003.
## Changes in base power 2004 – 2020

### Sweden
- **15.4 TWh**
  - Wind: 6.4 TWh
  - Hydro: 1.7 TWh
  - Nuclear power upgrading: 9.1 TWh
  - Natural gas CHP*: 2.1 TWh
  - Bio fuel CHP*: 2.5 TWh
  - Decommissioning of nuclear units: -8.8 TWh
  - Karlshamn 3: 2.4 TWh

### Finland
- **12.3 TWh**
  - Wind: 1.4 TWh
  - Hydro: 0.5 TWh
  - CHP*: 6.5 TWh
  - Nuclear: 12.0 TWh
  - Decommissioning of coal condensing units: -8.1 TWh

### Norway
- **8.3 TWh**
  - Wind: 4.7 TWh
  - Natural gas: 0 TWh
  - Hydro: 3.6 TWh

### Denmark
- **-7.8 TWh**
  - Wind: 2.5 TWh
  - Decommissioning of coal condensing units: -10.3 TWh

**Total: 28.2 TWh**

*CHP and back-pressure generation*
### Vattenfall Nordic - Key figures

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net revenues 2003</td>
<td>42 514 MSEK</td>
</tr>
<tr>
<td>Operating profit (EBIT) 2003 FY</td>
<td>8 535 MSEK</td>
</tr>
<tr>
<td>2004 H1</td>
<td>6 588 MSEK</td>
</tr>
<tr>
<td>Net Assets 2003 avg value</td>
<td>55 948 MSEK</td>
</tr>
<tr>
<td>No. of employees June 30, 2004</td>
<td>8 740 Headcount</td>
</tr>
<tr>
<td></td>
<td>8 230 FTE</td>
</tr>
<tr>
<td>Electricity generation 2003</td>
<td>60.8 TWh *</td>
</tr>
<tr>
<td>(normal year approx. 70 TWh)</td>
<td></td>
</tr>
<tr>
<td>of which: nuclear</td>
<td>36.3 TWh</td>
</tr>
<tr>
<td>hydro</td>
<td>24.0 TWh</td>
</tr>
<tr>
<td>wind</td>
<td>0.05 TWh</td>
</tr>
</tbody>
</table>

*excl. minority owners portion
### Vattenfall Nordic – Key figures 2003

#### Heat generation:
- 7,9 TWh
- 2,5 TWh

#### No. of Customers:

<table>
<thead>
<tr>
<th></th>
<th>Sweden</th>
<th>Finland</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electricity</strong></td>
<td>681 000</td>
<td>292 000</td>
<td>973 000</td>
</tr>
<tr>
<td><strong>Network</strong></td>
<td>900 000</td>
<td>365 000</td>
<td>1 265 000</td>
</tr>
<tr>
<td><strong>Heat</strong></td>
<td>13 000</td>
<td>3 000</td>
<td>16 000</td>
</tr>
</tbody>
</table>

#### Network length (km):

<table>
<thead>
<tr>
<th></th>
<th>Sweden</th>
<th>Finland</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regional</strong></td>
<td>16 000</td>
<td>1 400</td>
<td>17 400</td>
</tr>
<tr>
<td><strong>Local</strong></td>
<td>110 000</td>
<td>58 400</td>
<td>168 400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>126 000</strong></td>
<td><strong>59 800</strong></td>
<td><strong>185 800</strong></td>
</tr>
</tbody>
</table>
### Market position in the Nordic area

**Generation:** 18% of 380 TWh

**Networks:**
- Local
  - Sweden: 17% of 5,200,000 customers
  - Finland: 12% of 2,200,000 customers
- Regional
  - Sweden: 50% of 150 TWh

**Sales:**
- Sweden: 33% of 150 TWh
- Finland: 6% of 84 TWh

**Heat:**
- Sweden: 9% of 45 TWh
- Finland: 3% of 30 TWh
Vattenfall Nordic operating profit per BU

Total Vattenfall Nordic June 2004 6 588 MSEK
June 2003 5 471 MSEK
Customer satisfaction is falling in the electricity sector

Customer Satisfaction for Electricity Industry 2003 – 2004 according to SKI *

<table>
<thead>
<tr>
<th>Electricity Supplier</th>
<th>SKI 2003</th>
<th>SKI 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vattenfall</td>
<td>64</td>
<td>54</td>
</tr>
<tr>
<td>Fortum</td>
<td>52</td>
<td>52 (-2)</td>
</tr>
<tr>
<td>Sydkraft</td>
<td>59</td>
<td>52 (-2)</td>
</tr>
<tr>
<td>Industry</td>
<td>60</td>
<td>58 (-2)</td>
</tr>
</tbody>
</table>

Satisfaction 2004 (-03)

- Telge Energi: 73
- Jämtkraft: 73
- Mälarenergi: 66
- Dalakraft: 63
- Öresundskraft: 62
- Graninge: 61
- Plusenergi: 59
- Vattenfall: 54 (-3)
- Sydkraft: 52 (-2)
- Fortum: 50 (-2)
- Industry: 58 (-2)

* SKI = Svenskt Kvalitetsindex
(part of the European Performance Satisfaction Index, EPSI Rating)
Customer initiatives

Remote meter reading
- 70,000 meters installed in 2003
- 250,000 meters installed at the end of 2005

Prepayment discarded in Sweden
- Includes network and sales customers

Late meter reading billing protection
- Actions for billing are limited from three to one year

Interruption guarantee
- Customer compensation in case of delivery failures over 24 hours

Customer ombudsman
- A representative to safeguard the customer perspective
In order to make a substantial improvement in generation capacity and network standard, investment programs have been decided totalling 40 billion SEK in the Nordic area over a 10 year period.
The network performance assessment model (1)

The electricity act:

“The total revenue of the network company shall be fair in relation to the objective conditions and the performance (quality of supply)”

To support this regulation “The Network Performance Assessment Model (NPAM)” has been developed by STEM - the Swedish regulatory authority.
A “virtual” network for local distribution has been designed based on the following input:

- Customers: position, energy demand, revenue, voltage level
- Generation: corresponding data
- Connections to other networks: corresponding data
- Quality of supply

The virtual network is based on cables, wires and transformers in four voltage levels: 0.4 kV, 10 kV, 40 kV and 130 kV.
Billing Ratio (BR) = The ratio between total revenues and Network Performance as defined below (A+B+C+D-E):

A: Cost of capital and operation and maintenance as a percentage of the replacement value of the model network (normalized investment costs in cables, wires and transformers).
B: Customer related costs calculated from standard costs for metering, billing, customer service etc.
C: Cost of losses based on standard values of losses and a market price of power.
D: Cost for the upstream regional network
E: A quality deduction is based on real quality compared with normalized quality defined by the model. The deduction is capped.

BR < 1 indicates fair prices.
Vattenfall is positive to the approach…

- Vattenfall is positive to a regulation based on the performance of the network operator.
- The customers set the demands for performance - and they are increasing!
- Vattenfall believes its tariffs are fair.
- The model should only be used as an instrument for selection.
Current issues for Vattenfall Nordic

- Image development
- Market price development
- Number One for the Customer
- Electricity network regulation (Nätnyttomodellen, the network performance assessment model)
- The future of Swedish nuclear production
- Expansion in the Nordic area
- Continued growth in profitability