## Continental / UK in a nutshell

### Key facts Continental/UK (2012*)

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generated electricity (GWh)</td>
<td>83,800 GWh</td>
</tr>
<tr>
<td># of electricity and gas customers</td>
<td>6.9 million</td>
</tr>
<tr>
<td>Heat sales</td>
<td>20,400 GWh</td>
</tr>
<tr>
<td>Distribution networks</td>
<td>136,000 km</td>
</tr>
<tr>
<td># of distribution customers</td>
<td>3.4 million</td>
</tr>
<tr>
<td># of FTE</td>
<td>23,000</td>
</tr>
</tbody>
</table>

### Overview of Assets **

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lignite</td>
<td>5 opencast mines, 13 units</td>
<td>7,883 MW (el.), 1,634 MW (th)</td>
</tr>
<tr>
<td>Pumped storage</td>
<td>7 units</td>
<td>2,824 MW</td>
</tr>
<tr>
<td>Thermal + Heat</td>
<td>27 units</td>
<td>7,491 MW (th), 9,781 MW (el.)</td>
</tr>
<tr>
<td>Wind</td>
<td>37 units</td>
<td>1,024 MW</td>
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</tbody>
</table>

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* Consolidated figures, Annual report 2012, Germany, Netherlands, UK  
** As of Sept 2013
The Continental / UK organisation

CEO
Øystein Løseth

Region Continental/UK
Tuomo Hatakka

- Finance
- Communications
- Business Strategy
- HR

- Distribution
- Sales
- Mining & Generation
- Heat
- Renewables
- Nuclear
- Projects
## Future challenges and opportunities

### Market
- Low prices and overcapacities (exception: UK)
- Lower operating hours for gas and hard coal fired plants
- Need for more flexible assets, but low / no market incentive
- Profitable opportunities to grow selectively in renewables and downstream

### Regulation
- Implementation of the Internal Energy Market progressing very slowly
- Increasing number of uncoordinated political and regulatory interventions by national governments e.g. regulator redefines merit order by setting subsidy schemes
- Energy only Market marginalized by the growth of subsidized renewables

### Operations
- Strong pressure on cost side to remain competitive; delivering on cost reductions results in competitive advantage
- Shape “future portfolio”: selectively grow in renewables & downstream; divest non-core and non-performing assets
- Integrate new assets (Moorburg, Dan Tysk) and use cash stream for sustainable growth
Focus areas in Vattenfall’s strategy – Continental/UK perspective

<table>
<thead>
<tr>
<th>Selected growth in renewables</th>
<th>Define options to meet 65 Mtonnes CO₂ target by 2020</th>
<th>Smart Energy Enabler</th>
<th>Strengthen focus on Operational Excellence and reduce cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Grow in off-/onshore wind</td>
<td>• Prepare for partnership</td>
<td>• Secure profitable downstream growth with a strong market and customer orientation</td>
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<tr>
<td>• Biomass co-firing</td>
<td></td>
<td>• Use profitable growth opportunities in sales (electricity, gas, Heat)</td>
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<td></td>
<td></td>
<td>• Identify/prioritize and grow in profitable new, decentralized energy solutions</td>
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<td>• Further improve industrial safety</td>
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<td></td>
<td></td>
<td>• Reduce OPEX – target SEK 2.7 billion in 2014 &amp; 2015. Examples</td>
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<td></td>
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<td>• WOW (Sales): - SEK 180 million</td>
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<td>• Thermal Challenge: - SEK 146 million</td>
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<td>• NEO: - SEK 175 million</td>
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<td>• Regular benchmarking to identify further improvement potential</td>
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<td></td>
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<td>• Minimize CAPEX by developing less costly maintenance and replacement solutions</td>
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<td></td>
<td>• Optimize portfolio and shape cash flow profile: develop exit and/or turn around scenario for non core/non profitable assets</td>
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<td></td>
<td></td>
<td>• Raise flexibility of asset portfolio</td>
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<td></td>
<td></td>
<td>• Maintain high level of commercial availability of power plants and high level of service quality in downstream businesses</td>
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</tbody>
</table>

Sustainable Heat and Electricity Production

Sustainable Consumption

Sustainable Financial Performance
Active maintenance management part of Investment and Business Planning

Maintenance spend

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
<th>FC</th>
<th>Status quo of planning</th>
<th>Availability</th>
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<tbody>
<tr>
<td>2011</td>
<td>n/a</td>
<td></td>
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<tr>
<td>2012</td>
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<td>2016</td>
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<tr>
<td>2017</td>
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- **Capex**
- **Opex**

Comments

- Maintenance spend within business planning horizon more than EUR 5 billion (capex: ~EUR 2 billion; opex: ~EUR 3 billion)

- We strive to keep future maintenance spend below 2013 level, despite inflation

- Especially in the coming two stressed years, we reduce maintenance spend by ~EUR 130 million

- Despite of maintenance reductions, availability improves (from 88% in previous years to 90% in 2015)
Active asset management assure maximum portfolio value

Asset value ranking (DCF ranking)

- cluster1
- cluster2
- cluster3
- cluster4
- cluster5
- cluster6
- cluster7
- cluster8
- cluster9
- cluster10

- clusterA
- clusterB
- clusterC
- clusterD
- clusterE
- clusterF
- clusterG
- clusterH

negative performers

Comments

- Part of our active asset management are thorough analysis about asset performances, requirement and their future/strategic outlook.
- Especially, since the portfolio is a heterogeneous mix of generation assets with a highly variable performance.
- As a consequence, we could avoid EUR 200 million spend on maintenance in the last three years.
- Examples:
  - Decommissioning of Buggenum
  - No maintenance for German gas turbines (EUR 25 million savings)
  - Decrease actions in pump storages (EUR 137 million savings)
  - No LTE in Klingenberg lignite plant (EUR 50 million savings)
Funds available for growth allocated to wind and heat network extensions (including completion of Moorburg)

Comments:

• Maintaining the existing asset park at its current level absorbs approx. 73% of available funds 2014-2018
• Vast majority of funds available for growth are allocated to renewables (wind), heat (including completion of Moorburg), downstream and storage assets (other <1%)
• Heat investments mainly within grid extensions
Smart Energy Enabler: Vattenfall has many good initiatives that have a positive business case

### Example: VPP (virtual power plant)

![Projected growth graph]

- Innovative alliance between producers and consumers with the aim of integrating renewable energies in GER

### Other initiatives with positive business case

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>eMobility Service Portfolio</td>
<td>- Home &amp; business charging infrastructure</td>
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<tr>
<td></td>
<td>- Public charging infrastructure</td>
</tr>
<tr>
<td>Basement electricity “Haus-Strom”</td>
<td>- Supply of electricity to tenants of apartment buildings from CHPs in the basement in addition to supply of heat to the B2B customer</td>
</tr>
<tr>
<td>Pooling @ Hydro Germany</td>
<td>- German pumped storage power plants to be operated and positioned as one pool</td>
</tr>
</tbody>
</table>

All products subject to a critical revision on a regular basis to ensure profitability
Getting fit for the ‘New Normal’

1. **Consolidation: strong focus on EBIT and cash flow**
   - Operational consolidation – focus on operational excellence
   - Strong focus on OPEX and CAPEX
   - Sale of non-core activities
   - Turn around/sale/closure of non profitable activities

2. **Take advantage of growth opportunities of the “New Normal”**
   - Profitable growth in downstream businesses – electricity and gas sales, district heating and decentralized generation
   - Become a trusted partner of our customers and other stakeholders
   - Profitable growth in renewables

3. **Position conventional capacities as partners of the energy transformation**
   - Raise flexibility of conventional capacities to make them partners of the renewables
   - Manage conventional capacities for maximum commercial availability and cash-flow

4. **Reshaping of the regulatory regime**
   - Increase lobby activities in our core regions and lobby for concrete (commercially driven) changes within the “Energiewende”, the Dutch Energy Deal and the UK Market Reform

5. **Master HR Challenges**
   - Motivation of our employees
   - Rightsizing of the organization
   - Increased flexibility requirements on our employees
   - Knowledge transfer to a new generation of employees (as the older generation retires)