Service: An increasingly important volume and value enabler

Christian Venderby, Group Senior Vice President & Head of Global Service

London, 21 June 2016
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Introducing your speaker

Christian Venderby

- Group Senior Vice President and **Head of Global Service** since 2014.

- **Joined Vestas in 2006** as CFO, North America.

- **In 2010 appointed COO**, North America with P&L responsibility for Construction, Service, Supply Chain and Technology.

- **20+ years of international business experience** from the US, India, Egypt, Japan and Brazil

- **Degree in Finance** from Copenhagen Business School and **E-MBA from INSEAD**, Paris.
Agenda

1. Introduction and status

2. The importance of service in the marketplace

3. Capturing the full potential of the service business

4. Summary and questions & answers
Capture the full potential of the service business

Good traction on growing the service business by more than 40 percent

To be the undisputed global wind leader

• Market leader in revenue
• Best-in-class margins
• Strongest brand in industry
• Bringing wind on a par with coal and gas

Deliver best-in-class wind energy solutions and set the pace in the industry to the benefit of Vestas’ customers and the planet

Grow profitably in mature and emerging markets

Capture the full potential of the service business

Reduce levelised cost of energy (LCOE)

Improve operational excellence

Accountability, Collaboration, and Simplicity

Positive market outlook supported by improved position as Fleetwide partner and advanced offerings
Vestas service financial performance

Service revenue grown 11 percent annually and backlog increased by 68 percent from 2012 to Q4 2015

**Onshore service revenue and EBIT margin**

<table>
<thead>
<tr>
<th>Year</th>
<th>Service Revenue (mEUR)</th>
<th>EBIT Margin (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2012</td>
<td>825</td>
<td>5.3</td>
</tr>
<tr>
<td>FY 2013</td>
<td>889</td>
<td>6.7</td>
</tr>
<tr>
<td>FY 2014</td>
<td>949</td>
<td>7.0</td>
</tr>
<tr>
<td>FY 2015</td>
<td>1,138</td>
<td>6.7</td>
</tr>
</tbody>
</table>

**Service order backlog (bnEUR)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Order Backlog (bnEUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2012</td>
<td>5.3</td>
</tr>
<tr>
<td>FY 2013</td>
<td>6.7</td>
</tr>
<tr>
<td>FY 2014</td>
<td>7.0</td>
</tr>
<tr>
<td>FY 2015</td>
<td>8.9</td>
</tr>
</tbody>
</table>

Service EBIT before special items

Service revenue
### Installed base per OEM, as of 2015

<table>
<thead>
<tr>
<th>OEM</th>
<th>Installed base (GW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vestas</td>
<td>72</td>
</tr>
<tr>
<td>GE/Alstom</td>
<td>51</td>
</tr>
<tr>
<td>Enercon</td>
<td>42</td>
</tr>
<tr>
<td>Gamesa</td>
<td>32</td>
</tr>
<tr>
<td>Siemens</td>
<td>26</td>
</tr>
<tr>
<td>Goldwind</td>
<td>20</td>
</tr>
<tr>
<td>Nordex/Acciona</td>
<td>18</td>
</tr>
<tr>
<td>Sinovel</td>
<td>16</td>
</tr>
<tr>
<td>Suzlon</td>
<td>15</td>
</tr>
<tr>
<td>Senvion</td>
<td>13</td>
</tr>
</tbody>
</table>

### MW under service per region, as of Q1 2016

- **EMEA**
  - Installed base: 35.0 GW
  - Split across 31 countries

- **Americas**
  - Installed base: 22.0 GW
  - Split across 16 countries

- **Asia Pacific**
  - Installed base: 6.2 GW
  - Split across 8 countries

- **Largest installed base** in the wind industry of 72 GW.
- Currently **servicing** more than 63 GW with 10 percent non-Vestas turbines.
- **Global service organisation** operating in 55 countries.
- **Unmatched ability** to analyse turbine data and predict wind conditions anywhere in the world from +30,000 monitored wind turbines.
Vestas service KPIs

Vestas service 76 percent of the installed base with a high renewal rate of 73 percent - supported by strong operational performance with 50 percent reduction in LPF since 2010.

**Share of fleet under contract, as of Q1 2016**

- Percent
- 76% MW under service
- 24% MW not under service

The renewal rate was 73% in 2015.

**Lost production factor (LPF)**

- Percent
- Dec 2009: 6
- Dec 2010: 4
- Dec 2011: 2
- Dec 2012: 1
- Dec 2013: 0
- Dec 2014: 0
- Dec 2015: 0
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Key market trends

Global service market expected to grow by 9 percent annually towards 2024

Service market revenue opportunity, 2014 - 2024

bnUSD

Service market growth

Service market maturing thus requiring high-quality service while lowering LCOE in each step of the value chain.

1. From availability focus to cost game
2. From availability focus to turbine optimisation
3. From standard product to unique offerings
4. Data solutions of increasing importance
## Competitive situation

The current strong turbine uptime has shifted focus to cost reductions and areas for increasing turbine production.

### Core O&M offerings
- Scheduled maintenance
- Remote monitoring
- Minor correctives
- Major correctives
- Spare parts and distribution

### Advanced offerings
- Product upgrades
- Data and consultancy services
- Risk and insurance solutions

### Key offerings
- Low to medium margins, but with high volume
- Improved operational performance has increased **focus on cost reductions**

### Key characteristics
- Some contracts are affected by **de-scoping** or not renewed as numerous large customers focus on **insourcing**
- Fragmented market of ISPs competing primarily on **price**, but also on higher agility and flexibility

### Competitive situation
- High margins and low volume
- Specialized knowledge required for developing solutions
- OEMs with their proprietary knowledge are well equipped to compete but are being challenged
- New competitors entering within Data business
Service offerings to reduce LCOE

Vestas’ service offerings have the opportunity to further improve the business case of the customer after construction

<table>
<thead>
<tr>
<th>Offerings to reduce LCOE</th>
<th>Key levers</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Services</strong></td>
<td>• Improve diagnostics and preventive maintenance</td>
<td>![High]&lt;br&gt; ![Low]</td>
</tr>
<tr>
<td></td>
<td>• Improve power forecast for trading</td>
<td>![High]&lt;br&gt; ![Low]</td>
</tr>
<tr>
<td><strong>Upgrades</strong></td>
<td>• Output upgrades</td>
<td>![High]&lt;br&gt; ![Low]</td>
</tr>
<tr>
<td></td>
<td>• Life extensions</td>
<td>![High]&lt;br&gt; ![Low]</td>
</tr>
<tr>
<td></td>
<td>• Other components upgrades</td>
<td>![High]&lt;br&gt; ![Low]</td>
</tr>
<tr>
<td><strong>Repair solutions</strong></td>
<td>• Uptower repairs</td>
<td>![High]&lt;br&gt; ![Low]</td>
</tr>
<tr>
<td></td>
<td>• Other repairs</td>
<td>![High]&lt;br&gt; ![Low]</td>
</tr>
</tbody>
</table>

Improving LCOE by 1%-point requires on average a **10% reduction in direct cost** or a **1% increase in output**

The value of **improving LCOE for the industry by 1%** ... **is equal to +600 mEUR per year**

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Foundation for Vestas’ service business

Vestas’ services are built on comprehensive experience from 30 years of global data collection

The right O&M plan
Focused on preventive and predictive maintenance to secure highest possible availability for customers.

The right Infrastructure
Build on 30 years of experience in maintaining wind turbines on a global scale.

The right People
Who have been trained through certified training programmes and attained real field experience.

The right Intelligence
Based on 30 years of global data collection, which enables Vestas to offer the industry’s most fact-based maintenance.
Service growth strategy

Service business to grow by 40 percent by being the market leader within both core and advanced offerings as a Fleetwide partner.

Overall Target

Capture the full potential of the service business || Grow Service by more than 40%

Business Areas (BA)

- Maintenance Partnering
- Parts & Repair
- Upgrades
- Data & Consultancy Services

Strategic initiatives

- Market leader within core offerings by leveraging scale and optimizing delivery model
- Market leader within advanced offerings by delivering innovative and differentiating solutions
Maintenance Partnering growth

The high contract capture and renewal rates with long contract duration fuels growth within Maintenance Partnering.

**VALUE PROPOSITION**

O&M service packages available to tailor customers needs and create business case certainty.

**MARKET DRIVER**

Customers continue to value Vestas’s contract offerings...

<table>
<thead>
<tr>
<th>Initial contract capture and renewal rate, 2013-2015</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>100</td>
</tr>
<tr>
<td>2014</td>
<td>100</td>
</tr>
<tr>
<td>2015</td>
<td>100</td>
</tr>
</tbody>
</table>

...supported by a relatively long contract duration

<table>
<thead>
<tr>
<th>Average contract length per contract type, 2013-2015</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>11.5</td>
</tr>
<tr>
<td>2014</td>
<td>8.3</td>
</tr>
<tr>
<td>2015</td>
<td>9.6</td>
</tr>
</tbody>
</table>
Acquisitions support Fleetwide partner growth
Availon and UpWind add important capabilities while leveraging Vestas’ scale and global footprint to increase competitiveness

Strategic rationale

- Vestas covers less than 20 percent of total installed fleet.
- Accelerate non-Vestas capability development within core offerings.
- 1st mover advantage on available non-Vestas capabilities.
- Scale matters.

Impact

MW under service, as of Q1 2016

<p>| | | |</p>
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<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vestas</td>
<td>Availon</td>
</tr>
<tr>
<td>(non-Vestas)</td>
<td>57.0</td>
<td>2.2</td>
</tr>
<tr>
<td>(non-Vestas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(non-Vestas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(non-Vestas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(non-Vestas)</td>
<td></td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>2.6</td>
<td>63.2</td>
</tr>
</tbody>
</table>

- Additional 4.8 GW of non-Vestas turbines under contract.
- Growth focus - 1st major win of 1.75 GW GE turbines with MidAm.
- Ambition to offer OEM level services and parts on most major platforms.
Parts & Repair growth

Vestas’ scale based on current contract business provides a strong platform for sales growth targeting customers focusing on insourcing.

Almost 300 of Vestas proprietary repair solutions available – potential to save up to 75% on cost.

- 19,000 parts available in stock from +1,000 suppliers with +500,000 parts supplied annually.

- eCommerce platform soon available with ability to deliver through own warehouses in +50 countries.

Self-performer fleet size to almost triple in size towards 2024.

Self-performer fleet size per region, 2014 – 2024e


Classification: Public
Upgrades growth

Upgrades market driven by several turbines reaching design life and opportunities for significantly boosting output without risk.

VALUE PROPOSITION

LifePlus solutions offer up to 25-50% extended life.

PowerPlus solutions offer up to 5% increased annual output.

MARKET DRIVER

More than 4.5 GW of Vestas turbines will reach their design life towards 2020.

High performance of turbines leaves limited options for asset owners to further improve annual profits.
Data & Consultancy Services growth

Data solutions are primarily driven by insourcing trend – Vestas uniquely positioned to offer services

- **Proven tools** based on internal use on +50 GW of contracts.
- Largest data source in the industry with **+30,000 turbines** online.
- Ability to **link data insight to operational actions**.

**MARKET DRIVER**

- Also driven by insourcing trend - addressable fleet to almost **triple in size** towards 2024.
- Asset owners wanting improved performance understanding across full fleet.
- Opportunity for further optimising revenue within power sales from improved forecasting.
Continued growth with stable margins

Strength of offering combined with attractive market opportunity allows value generation to continue

Growth enabled by…

New equipment sales
Almost all new turbine sales supplemented by an AOM contract.

Renewal rates approx. +70%
Customers remain largely committed to Vestas offering at contract expiry.

Large potential in new offerings
Vestas is uniquely positioned to offer both services on 3rd party turbines and advanced offerings within Upgrades and Data business.

Stable margins supported by…

Increased volumes and advanced offerings
Competitive dynamics in industry alleviated by increase in volumes and an improved product mix.

Increased efficiency
While service business has improved over last 5-6 years, still potential to increase efficiency and work with cost optimisations.

Acquisitions to deliver expected margins
Main dilutive effects from acquisitions expected to be fully absorbed by synergies by the end of 2017.

Grow the service business by more than 40 percent (organically) over the mid term
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The service segment increasingly serves as an important volume and value enabler although the competitive landscape continues to evolve, forcing companies to evolve as well.

Vestas is the leading global service provider and well positioned to continue profitable growth in segment based on its large installed base and unmatched data processing and analytics capabilities.

Vestas service strategy is being executed according to plan and through its multitude of offerings available as well as increased ability to provide fleet-wide services, continued growth with stable margins remains the outlook for the business.
Thank you for your attention