Disclaimer and cautionary statement

This presentation contains forward-looking statements concerning Vestas' financial condition, results of operations and business. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management’s current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements.

Forward-looking statements include, among other things, statements concerning Vestas' potential exposure to market risks and statements expressing management’s expectations, beliefs, estimates, forecasts, projections and assumptions. There are a number of factors that could affect Vestas' future operations and could cause Vestas' results to differ materially from those expressed in the forward-looking statements included in this presentation, including (without limitation): (a) changes in demand for Vestas' products; (b) currency and interest rate fluctuations; (c) loss of market share and industry competition; (d) environmental and physical risks; (e) legislative, fiscal and regulatory developments, including changes in tax or accounting policies; (f) economic and financial market conditions in various countries and regions; (g) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, and delays or advancements in the approval of projects; (h) ability to enforce patents; (i) product development risks; (j) cost of commodities; (k) customer credit risks; (l) supply of components from suppliers and vendors; and (m) customer readiness and ability to accept delivery and installation of products and transfer of risk.

All forward-looking statements contained in this presentation are expressly qualified by the cautionary statements contained or referenced to in this statement. Undue reliance should not be placed on forward-looking statements. Additional factors that may affect future results are contained in Vestas' annual report for the year ended 31 December 2015 (available at vestas.com/investor) and these factors also should be considered. Each forward-looking statement speaks only as of the date of this presentation. Vestas does not undertake any obligation to publicly update or revise any forward-looking statement as a result of new information or future events others than required by Danish law. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this presentation.
Market outlook

Anders Runevad, Group President & CEO

London, 21 June 2016
What is the real market opportunity?

Today, renewable energy only accounts for a small portion of total world energy consumption.

World energy consumption by source
Million tonnes oil equivalent

Renewable energy to lead the way in global electricity generation

Growth in energy demand expected to be met primarily by renewable energy sources with wind forecasted to lead

Global electricity generation by source in 2014 and 2040


Renewables expected to account for half of additional global electricity generation, overtaking coal around 2030 to become the largest power source.
Positive investment outlook for wind and renewables until 2040

Planned investments in wind leaves plenty of opportunities for continuously increasing competitiveness

Cumulative investments 2016e-2040e*
tnUSD (real)

<table>
<thead>
<tr>
<th>Sector</th>
<th>2016e-2040e*</th>
<th>2016e-2040e*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind</td>
<td>3.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Utility-scale PV</td>
<td>1.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Small scale PV</td>
<td>1.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Other RE**</td>
<td>1.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Nuclear</td>
<td>1.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Fossils</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Onshore and offshore. ** Biomass, Geothermal, Hydro, CSP.

Long-term outlook for wind and renewables

Wind to remain the main utility-scale renewable energy source

Cumulative capacity

GW

2013 | 2020e | 2030e
---|---|---
5,884 | 7,299 | 8,995

<table>
<thead>
<tr>
<th></th>
<th>Wind</th>
<th>Solar</th>
<th>Other RE</th>
<th>Non-renewables</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>5%</td>
<td>21%</td>
<td>71%</td>
<td>2%</td>
</tr>
<tr>
<td>2020e</td>
<td>8%</td>
<td>5%</td>
<td>65%</td>
<td>8%</td>
</tr>
<tr>
<td>2030e</td>
<td>12%</td>
<td>8%</td>
<td>59%</td>
<td>8%</td>
</tr>
</tbody>
</table>

* Onshore and offshore. ** Biomass, Geothermal, Hydro, Solar thermal.

Long-term outlook for LCOE

LCOE for wind and solar to decrease

**Onshore wind**
USD/ MWh (real)

2016: 60
2030E: 40

**Utility scale PV**
USD/ MWh (real)

2016: 60
2030E: 40

**Coal**
USD/ MWh (real)

2016: 100
2030E: 40

**Gas**
USD/ MWh (real)

2016: 120
2030E: 50

**Source:** BNEF New Energy Outlook June 2016, Vestas analysis.
Why wind will remain the preferred renewables choice

The competitiveness of wind will continue to improve. Market specific reduction between 23 and 36 percent expected 2016-2030

Expected LCOE development, onshore wind
USD/MWh

- **USA**
  - 2016: 64
  - 2020e: 60
  - 2030e: 49
  - Reduction: -23%

- **Germany**
  - 2016: 78
  - 2020e: 73
  - 2030e: 56
  - Reduction: -27%

- **China**
  - 2016: 75
  - 2020e: 65
  - 2030e: 50
  - Reduction: -33%

- **Mexico**
  - 2016: 75
  - 2020e: 60
  - 2030e: 48
  - Reduction: -36%

- **Brazil**
  - 2016: 66
  - 2020e: 53
  - 2030e: 44
  - Reduction: -32%

- **Australia**
  - 2016: 69
  - 2020e: 60
  - 2030e: 48
  - Reduction: -30%

Source: BNEF Global Wind LCOE Update H1-2016.
Long-term outlook for wind penetration

Significant upside in both OECD and non-OECD markets

OECD wind* penetration
Percent of cumulative capacity

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2020e</th>
<th>2030e</th>
</tr>
</thead>
<tbody>
<tr>
<td>9%</td>
<td>11%</td>
<td>12%</td>
<td></td>
</tr>
</tbody>
</table>

OECD wind* penetration is expected to increase from 9% in 2015 to 12% in 2030e, an increase of +33%.

Non-OECD wind* penetration
Percent of cumulative capacity

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2020e</th>
<th>2030e</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td>8%</td>
<td>11%</td>
<td></td>
</tr>
</tbody>
</table>

Non-OECD wind* penetration is expected to increase from 5% in 2015 to 11% in 2030e, an increase of +120%.

* Onshore and offshore.

Drivers of renewable demand – OECD markets

Decommissioning of assets and long-term policy targets secure wind and renewables additions

Significant asset pool to be decommissioned

Decommissioned capacity between 2016-30e

GW

- Coal
- Nuclear
- Gas
- Oil

GW

- A total of 344 GW is expected to be decommissioned between 2016-30.

Push for early retirement of non-renewables

Economic decarbonising, and demand driven:

- Shut down of seven power plants (gas and coal) in UK to avoid costly retrofits.
- Shut down of all AGL-owned coal plants by 2050 to decarbonise and to make new investments.
- Enel will shut down 8 GW of gas plants in Europe among others due to the rise of renewables.

Long-term support for renewables

Strong regulatory support:

- 2030 targets:
  - 27% RE share.
  - Cut GHG by 40%*.

- PTC support until 2023.
- CPP to set long-term emission targets**.

COP21 creating push for long-term RE support.

* Based on 1990-levels. ** Clean Power Plan awaiting Supreme Court decision.

Drivers of renewable demand – non-OECD markets

According to IEA, non-OECD countries will account for all the increase in energy use.

**Significant growth in electricity demand**

<table>
<thead>
<tr>
<th>Year</th>
<th>Non-OECD</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>2020</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>2025</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>2030</td>
<td>19</td>
<td>11</td>
</tr>
</tbody>
</table>

- Non-OECD CAGR of 2.6% expected from 2016-30e.

**Long-term support for renewables**

- **Strong regulatory support:**
  - **RE targets** in place or increasingly coming so.
  - Establishment of **framework policies** around REs.

**New growth markets opening up**

- **MoUs on energy investments:**
  - Laos.
  - Pakistan.
  - Ethiopia.

- **Rising investments in RE:**
  - Chile.
  - Argentina.
  - Peru.
  - Ecuador.

Steady growth expected for wind

Forecasts agree on a steady development for onshore and offshore market

New wind additions (onshore and offshore), global

GW

Vestas key differentiators remain intact…

Global reach, technology and service leadership, and scale give Vestas a unique position to compete in the marketplace

**Global reach**
- Pioneer and most experienced wind energy company in the world.
- Unique global reach in terms of sales, manufacturing, installation, and service.
- In 2015, Vestas had order intake from 34 countries and deliveries in 34 countries.

**Technology and service leadership**
- Wind turbines covering all wind classes across the world.
- A broad range of service offerings securing optimal performance.
  - Best-in-class quality.
  - World-class siting and forecasting.

**Scale**
- More people dedicated to wind than anyone else, largest volume.
- Largest global installed base of 75 GW across 75 countries.
- Largest service organisation with 63 GW under service.
- Data insights from monitoring of more than 30,000 wind turbines.
… and we are well positioned

According to Make Consulting, Vestas is the global No. 1 in terms of market shares. Further, Vestas was also the largest company in the industry as measured in revenue.

**Cumulative historic installations**

**Onshore and offshore, end 2015**

Percent

- Vestas: 16.3%
- GE: 12.0%
- Goldwind: 8.8%
- Enercon: 7.7%
- Gamesa: 7.6%
- Siemens: 7.2%
- Suzlon: 3.8%
- Sinovel: 7.2%
- Guodian: 3.6%
- Other: 29.6%

100% = 431 GW

**Vestas all time No. 1.**

**2015 grid-connected**

**Onshore, 2015**

Percent

- Vestas: 13.3%
- Goldwind: 12.0%
- GE: 11.0%
- Gamesa: 6.2%
- Siemens: 5.3%
- Enercon: 5.1%
- Envision: 4.9%
- Mingyang: 4.5%
- Senvion: 3.3%
- Siemens: 3.0%
- Others: 30.1%

100% = 58 GW

**Vestas No. 1 in 2015.**

Focus on Profitable Growth for Vestas continues

Market environment and Vestas key differentiators continue to support our profitable growth strategy

Our vision
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

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

Our strategic objectives
- Grow profitably in mature and emerging markets
- Capture the full potential of the service business
- Reduce levelised cost of energy (LCOE)
- Improve operational excellence

Our values
Accountability, Collaboration, and Simplicity
Well positioned to capture growth opportunities

Juan Araluce, Executive Vice President & CSO

London, 21 June 2016
Introducing your speaker

Juan Araluce

- Executive Vice President & CSO.
- Joined Vestas in 2007 as President for Vestas Mediterranean.
- Appointed CSO in 2012 based in Copenhagen, Denmark.
- Education:
  - Complutense, Economics and Business Administration.
  - ICADE, PhD Courses in Economics.
  - IESE Business School – AMP.
  - Kellogg University (Chicago), Marketing Postgraduate program.
1. Introduction and commercial strategy

2. Growth opportunities

3. Summary and questions & answers
Our track record speaks for itself
We have performed well on our set targets

Firm order intake (FOI)
GW

<table>
<thead>
<tr>
<th>Year</th>
<th>FOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3.7</td>
</tr>
<tr>
<td>2013</td>
<td>6.0</td>
</tr>
<tr>
<td>2014</td>
<td>6.5</td>
</tr>
<tr>
<td>2015</td>
<td>8.9</td>
</tr>
</tbody>
</table>

FOI by customer account type
% of cumulative FOI 2012-2015

- Strategic & Key Accounts: 44%
- Others: 56%

Transfer of Risk
GW

<table>
<thead>
<tr>
<th>Year</th>
<th>Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>6.0</td>
</tr>
<tr>
<td>2013</td>
<td>4.9</td>
</tr>
<tr>
<td>2014</td>
<td>6.3</td>
</tr>
<tr>
<td>2015</td>
<td>7.5</td>
</tr>
</tbody>
</table>

+7%
Markets moving at different speeds and levels of stability

Mature and emerging markets: two parallel tracks, different challenges.

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

Looking ahead:

Executing on both tracks
Focus remains on both mature and emerging markets

Varying characteristics and requirements in mature and emerging markets call for different approaches. To succeed, we must master both tracks.

**Mature market strategy**

**Objective**
Grow market share profitably

**Main initiatives and enablers**
- A Key account management.
- B Value engineering & pricing.
- C Sales force development.

**Emerging market strategy**

**Objectives**
Build and hold leadership position in new markets and profitably increase market share in China, India and Brazil

**Main initiatives and enablers**
- A Key account management.
- B Value engineering & pricing.
- C Business development.
- D Localisation.
Overall stable pricing, but outliers can distort the ratios

Pricing has come down since 2012, but has reached a new steady-state level

### Average selling price of order intake (Vestas)

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>0.99</td>
<td>1.05</td>
<td>1.05</td>
<td>0.92</td>
<td>0.90</td>
<td>0.91</td>
<td>0.92</td>
<td>0.82</td>
<td></td>
</tr>
</tbody>
</table>

*Increase in share of supply-only orders.*

### Average selling price of order intake (BNEF)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>0.90</td>
<td>0.95</td>
<td>0.83</td>
<td>0.84</td>
<td>0.92</td>
<td>0.92</td>
<td>0.91</td>
<td>0.88</td>
<td></td>
</tr>
</tbody>
</table>

*Impact from 1 GW Norwegian order.*

- Price per MW is impacted by many variables.
- Optimisation of unique projects can influence the price (e.g. 1 GW Norwegian order).
- It provides some insight when the composition of order intake is comparable.
- However, geography, scope, WTG mix, and uniqueness of offering can distort the picture.

Source: BNEF Wind Turbine Price Index H1 2016, April 2016.
Value Selling
Pricing and unlocking the value

Pricing... is only the tip of the iceberg!

Complexity
many drivers / variables

Value levers
many disciplines
Agenda

1. Introduction and commercial strategy

2. Growth opportunities
   - New opportunities from repowering and decommissioning
   - Successful positioning in auctions and tenders
   - Continued success in the US and Germany
   - Profitable Growth in China, India, and Brazil
   - Building on our strong track record in emerging markets

3. Summary and questions & answers
New opportunities arise as the industry evolves

Planned decommissioning and an increasingly ageing installed base to drive wind growth

**Decommissioned capacity between 2020-30**

<table>
<thead>
<tr>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>44%</td>
</tr>
<tr>
<td>31%</td>
</tr>
<tr>
<td>22%</td>
</tr>
<tr>
<td>4%</td>
</tr>
</tbody>
</table>

- A total of 255 GW expected to be decommissioned between 2020-2030.
- New onshore wind projects are the cheapest new energy source to replace fossil fuel and nuclear capacity.

**Wind power fleet 15-20 years old in main repowering markets**

<table>
<thead>
<tr>
<th>GW</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>16</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>27</td>
</tr>
<tr>
<td>31</td>
</tr>
<tr>
<td>35</td>
</tr>
<tr>
<td>44</td>
</tr>
<tr>
<td>58</td>
</tr>
</tbody>
</table>

- Today, 11 GW.
- By 2020, 27 GW.
- Vestas has the largest installed base.
- Access to 3rd-party WTGs through servicing.

*Main markets are those with +1 GW installed capacity by 2000 plus China.

**Source:** BNEF New Energy Outlook June 2015. MAKE Consulting Global Wind Power Project Installation Database, April 2016.
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3. Summary and questions & answers
Auctions and tenders – the new normal

Auctions and tenders are not new phenomena. And they will increase in number going forward.

The use of auctions and tenders will only increase:

- From approx 75% in 2015 to approx 100% in 2018 in markets with a RE policy in place.

Source: BNEF New Energy Finance, IRENA, own analysis.
Our customers succeed in auctions and tenders

We helped our customers succeed in numerous auction systems throughout Latin America, Europe and Africa

Only between these markets, Vestas helped customers secure

+3 GW

in the most various auction systems over the past 5 years

Italy
- Vestas continues building profitable wind farms even after the PPA is now half of pre-auction levels.
- Vestas was market leader before the auctions and has then improved cumulative market shares to 41% with 65% in 2015 alone**.

Brazil
- Vestas installed 713 MW in Brazil, most of them under the current auction system.
- Since new FINAME accreditation, Vestas secured 557 MW of firm orders*.

Argentina
- 700 MW of wind projects were allocated PPAs in 2010.
- Only a few were built, most of them with Vestas WTGs.

Uruguay
- Implemented reverse auctions similar to Brazil.
- Vestas' customers have been able to secure +350 MW.
- Vestas is market leader with 35% market share**.

South Africa
- Vestas supported 7 different customers including local developers and international powerhouses to win +1.2 GW.
- Vestas is the only OEM that has been able to secure MWs throughout the five rounds so far.
- 31% market share** for Vestas (2nd at 20%).

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3. Summary and questions & answers
US market introducing long-term stability

Unprecedented PTC certainty underwrites market stability and industry growth. But not without challenges.

PTC extension and IRS guidance provide US policy certainty

<table>
<thead>
<tr>
<th>Qualification period</th>
<th>Installation period</th>
<th>PTC amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>2016-19</td>
<td>100%</td>
</tr>
<tr>
<td>2016</td>
<td>2017-20</td>
<td>100%</td>
</tr>
<tr>
<td>2017</td>
<td>2018-21</td>
<td>80%</td>
</tr>
<tr>
<td>2018</td>
<td>2019-22</td>
<td>60%</td>
</tr>
<tr>
<td>2019</td>
<td>2020-23</td>
<td>40%</td>
</tr>
</tbody>
</table>

- “Place in Service” deadline extended from two to four years.
- Non-exclusive list of "exusable disruptions" for place in service deadline.
- Repowering guidelines (80/20 rule).
- Year-end+105 days delivery period for PTC eligible components (given payment).

Strategic challenges:
- Market certainty invites new entrants.
- Increasing competitiveness of solar.
- Natural gas prices remain low.

Strategic initiatives:
- Support customers’ Safe Harbour ambitions.
- Focus on key account management.
- Site customisation and optimisation.
- Capture repowering opportunity.
- Growing 3rd party service strategy.
Germany moving towards auctions with effect from 2018

Increase market share through key accounts, technology leadership, and operational excellence

**German auction system**
- Technology-specific auctions.
- Volume 2.8 GW/year 2017-2019 (2.9 GW from 2020).
  - Historical avr. 2-2.8GW*
- 3-4 auction rounds per year by law.
- Building permit and bid bond of EUR 30k/MW as prequalification.
  - FiT based on bid value**.
- From auction to installation: 24 months.
  - Support granted for 20 years.

**Strategic initiatives:**
- Revitalisation of management team.
- Key account management.
- Repowering and EPC.
- Value engineering.
- Plan to capture market share.

**Strategic challenges:**
- Shift from FiT to auctions.
- Generous transition rule – permit before end 2016 with installation before end 2018 will grant ”old” FiT support***.

---

* Average annual additions from 2010-2015 was 2.8 GW. Excluding peak years in 2014 and 2015 it was 2 GW. ** Correction for wind resources after winning bid approval allows for fair competition across Germany. *** Proposed one-off cut of 5% in FiT on 1 June 2017.
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3. Summary and questions & answers
Update on China, India, and Brazil

Good momentum in 2015 to be further increased by targeted sales and customer intimacy

### China
- Dominated by local OEMs.
- Highly competitive.
- Curtailment issues, now being addressed.

**Strategic initiatives**
- Diversified product portfolio (3 MW platform).
- Service tailored to China.
- Value Engineering.

### India
- Strong commitment to wind.
- "Land bank" and regional differences in regulatory framework.
- Lengthy development lead times.

**Strategic initiatives**
- Localisation of manufacturing.
- Adapt business models.
- Adjust product to local needs.

### Brazil
- Auction system drives highly competitive market.
- Accreditation of BNDES a prerequisite.

**Strategic initiatives**
- Localisation of manufacturing.
- Forward selling.
- Technological enhancements.

---

**Annual wind additions, China (GW)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016e</th>
<th>2017e</th>
<th>2018e</th>
<th>2019e</th>
<th>2020e</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28.7</td>
<td>22.3</td>
<td>24.5</td>
<td>25.1</td>
<td>25.4</td>
<td>25.0</td>
</tr>
</tbody>
</table>

**Recent FOI:** 652 MW* Vestas

---

**Indian Government wind target (GW, acc. Installed capacity)**

<table>
<thead>
<tr>
<th>Target Year</th>
<th>2015</th>
<th>2022e</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25.1</td>
<td>60.0</td>
</tr>
</tbody>
</table>

**Recent FOI:** 74 MW* Vestas

---

**Annual wind additions, Brazil (GW)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016e</th>
<th>2017e</th>
<th>2018e</th>
<th>2019e</th>
<th>2020e</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.7</td>
<td>2.5</td>
<td>2.0</td>
<td>4.8</td>
<td>3.1</td>
<td>3.2</td>
</tr>
</tbody>
</table>

**Recent FOI:** 557 MW* Vestas

---

* Announced firm order intake since 1 January 2015.

**Source:** BNEF Q2 2016 Global Wind Market Outlook, June 2016, GWEC.
1. Introduction and commercial strategy

2. Growth opportunities
   - New opportunities from repowering and decommissioning
   - Successful positioning in auctions and tenders
   - Continued success in the US and Germany
   - Profitable Growth in China, India, and Brazil
   - Building on our strong track record in emerging markets

3. Summary and questions & answers
Efforts across emerging markets
Localisation and customer intimacy are key to succeed

Strategic challenges:
- Governmental regulations.
- Auction systems.
- Proximity.

Strategic initiatives:
- Localisation.
- Value engineering.
- Key account management.
- Emerging market business development.

Vestas has…

… a global presence in **75 countries**, more than any other OEM.

… pioneered in **37 countries**.

… a cumulative **market share of 35%** in non-BRIC emerging markets.

… entered **new markets in 2015**: Guatemala, Georgia, and Serbia.

… recently secured **exclusivity agreements** in e.g. Laos, Pakistan, and Ethiopia.

*Source: MAKE Consulting Global Wind Power Project Installation Database, April 2016.*
Agenda

1. Introduction and commercial strategy
2. Growth opportunities
3. Summary and questions & answers
Summary

1. Strongest commercial track record on a global level.

2. Well positioned to utilise growth opportunities in both in mature and emerging markets.

3. Successfully delivering profitable growth in China, India, and Brazil.
Ensuring Vestas’ current and future competitiveness

Anders Vedel, Executive Vice President & CTO

London, 21 June 2016
Introducing your speaker

Anders Vedel

• Executive Vice President & CTO.

• Joined Vestas in 1995 and became CTO in 2012; based in Aarhus, Denmark.

• Engineering degree from Engineering University, Horsens, Denmark, IMD and SIMI Management Programs.

• 2004-2012 Vice President of Service Northern Europe, Vice President of Operations in Vestas Americas, Vice President of CIM, Technology R&D, Managing Director Technology R&D Chennai, India.
1. **Introduction and status**

2. Our strategy and the link to LCOE

3. Evolution of Vestas 2 MW and 3 MW platforms

4. Investing in innovation in the short-, mid-, and long-term

5. Summary and questions & answers
Highest nominal R&D investments in the industry

Vestas’ size allows for large investments in R&D

Key takes:

- 2015 cash spend of EUR 156m in the R&D organisation, the highest in the industry, however benefitting from scale only equalling approx. 2% of revenues.

- No material changes expected to investment levels in coming years.

- A total of **1,292 employees** in Technology & Service Solutions by the end of 2015 – primarily located in Denmark and India.
What does it take to secure that Vestas has the industry's most competitive products?
Agenda

1. Introduction and status

2. Our strategy and the link to LCOE

3. Evolution of Vestas 2 MW and 3 MW platforms

4. Investing in innovation in the short-, mid-, and long-term

5. Summary and questions & answers
Enabling Vestas to deliver on profitable growth strategy

Lowering the levelised cost of energy (LCOE) faster than the market average

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

Consistency:

Never rest on our laurels
Innovation driven by constant need to reduce LCOE

Historically, turbine size has been a key driver in lowering LCOE.
Strong future ahead for wind
LCOE reduction expected to continue at significant pace

Expected LCOE development, onshore wind
USD/MWh

- Market specific wind LCOE expected to decrease by between 23 and 36 percent from 2016-2030.
- Global variations around these levels to be expected due to differences in market characteristics.

Vestas has ambitious LCOE targets and will reduce LCOE faster than market average

Source: BNEF Global Wind LCOE Update H1-2016.
Drivers of LCOE

How much can Vestas affect?

\[ \text{LCoE} = \frac{\text{Annualised CAPEX} + \text{Annualised OPEX}}{\text{Average Annual Energy Production}} \]

**Fully influenced by Vestas**

- Turbine
- Tower and foundations
- Electrical infrastructure
- Installation, construction, commissioning
- Cost of capital
- Project management and other

**Partially influenced by Vestas**

- Operation, maintenance, aftermarket improvements
- Administration and management
- Rated power, power curve
- Wind resources (e.g. wind speed)
- Availability, Lost Production Factor
- Site layout, electrical losses

**LCoE [EUR/MWh]**

**CAPEX [EUR/year]**

**OPEX [EUR/year]**

**Production [MWh/year]**
1. Introduction and status

2. Our strategy and the link to LCOE

3. Evolution of Vestas 2 MW and 3 MW platforms

4. Investing in innovation in the short-, mid-, and long-term

5. Summary and questions & answers
Two highly competitive turbine platforms

Vestas is the only company in the industry with significant volume and track record in both 2 and 3 MW segments

**2 MW platform**

Order intake by region, 2015

<table>
<thead>
<tr>
<th>Region</th>
<th>MW</th>
<th>Total 2 MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>61%</td>
<td>3,943 MW</td>
</tr>
<tr>
<td>EMEA</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>20%</td>
<td></td>
</tr>
</tbody>
</table>

- • V90-1.8/2.0 MW
- • V110-2.0 MW
- • V100-1.8/2.0 MW
- • V100-2.0 MW

Demand for proven performance remains strong:

- One of the most trusted platforms in the industry providing customers great certainty on their business case.
- Continued demand highlights US flagship status of the V110-2.0 MW.

**3 MW platform**

Order intake by region, 2015

<table>
<thead>
<tr>
<th>Region</th>
<th>MW</th>
<th>Total 3 MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>34%</td>
<td>5,000 MW</td>
</tr>
<tr>
<td>EMEA</td>
<td>52%</td>
<td></td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Offshore</td>
<td>11%</td>
<td></td>
</tr>
</tbody>
</table>

- • V105-3.45 MW
- • V112-3.45 MW
- • V117-3.45 MW
- • V126-3.45 MW
- • V90-3.0 MW
- • V136-3.45 MW
- • V90-1.8/2.0 MW
- • V110-2.0 MW
- • V100-1.8/2.0 MW
- • V100-2.0 MW

Market leading technology with global reach:

- Fulfilling specific needs, e.g. de-icing, LDST, offshore.
- V136 large rotor perfect match for medium to low wind.
- Vestas has the only 3 MW platform to see real volume across more than one continent.
Evolution of the 2 MW platform

Upgrading our proven products result in significant increased production, driving down LCOE

1.8/2.0 MW
- V80/90-1.8/2.0 MW built based on previous model V66-1.75.

2.0 MW
- Upgrade to 2.0 MW nominal rating.
- New rotor: 110m.

2.0/2.2 MW
- Introduction of the 2.2 MW power optimised mode.

First Prototype Installation

** Power modes applicable, suitability and performance depends on site specific conditions.
2 MW high-level design changes
Increasing annual energy production and lowering LCOE

**Improved cooling system**
- New slim Cooler Top Design
- Generator cooling switch from Air/Air to Air/Liquid
- Conditioning system update

**Blades**
- Aerodynamic add-ons increase power production
- Serrated trailing edges for noise sensitive markets

**Transformer**
- Option for ECO transformer (EU)

**Generator**
- Improved generator bearing lubrication
- New 50Hz Optislim generator improves power mode in higher temperature climates and higher altitudes

**Towers**
- Optimised light weight towers

**New power modes - 2.2 MW**
- Up to app. 3.3 % (V110) & 3.9%(V100) AEP improvement

**Power performance optimisation**
- Adaptive Wind Sensing increase AEP
- Higher operational temperature up to 45
- Wind Speed Estimator

**Balance of plant improvements**
- Increased reactive power capability to minimise/eliminate compensation equipment at substation
Evolution of the 3 MW platform

Upgrading our proven products result in significant increased production, driving down LCOE

3.0 MW
- V112-3.0 MW first member of new 3 MW platform.
- Most tested turbine in the industry.

V90-3.0 MW®

3.3 MW
- Upgrade to 3.3 MW rating.
- New rotors: 105m, 117m, 126m.
- 3.45 MW**.

V105-3.3 MW®
V112-3.3 MW®
V117-3.3 MW®
V126-3.3 MW®

3.45 MW
- Upgrade to 3.45 MW rating.
- New rotor: 136m.
- 3.6 MW**.

V105-3.45 MW™
V112-3.45 MW™
V117-3.45 MW™
V126-3.45 MW™
V136-3.45 MW™

+18-35% AEP increase since 2010*

 YEAR OF ANNOUNCEMENT

2010

2012/13

2015

* AEP=Annual Energy Production. Compared to V112-3.0 MW/V90-3.0 MW. Actual performance depends on site specific conditions.
** Power modes applicable, suitability and performance depends on site specific conditions.
3 MW high level design changes

Increasing annual energy production and lowering LCOE

- Optimized load carrying structure for higher rating and wind class upgrade (hotspot optimization).
- Optimised transformer foundation.
- Main shaft modification for higher loads.
- Larger blade bearing for V136.
- Modified hub structure (cast structure) for load and weight optimisation).
- Optimised transformer foundation.
- New 136 m rotor.
- Aero add-ons on blades. Improved leading edge protection.
- Larger blade bearing for V136.
- Modified hub structure (cast structure) for load and weight optimisation).
- Optimised transformer foundation.
- Aero add-ons on blades. Improved leading edge protection.
- New 136 m rotor.
- Larger blade bearing for V136.
- Modified hub structure (cast structure) for load and weight optimisation).
- Optimised transformer foundation.
- Redesigned nacelle rear structure for loads and weight optimisation. Generator lowering still possible.
- Modified rear cover and side covers.
- Simplified and industrialised fire suppression system.
- Stronger yaw gears without torque limiter.
Full-scope testing proves Vestas’ turbine quality

A significant contributor to keeping Lost Production Factor at a low level, improving output, and reducing cost

Vestas testing strategy

<table>
<thead>
<tr>
<th>Proof of concepts</th>
<th>Other components</th>
<th>Main + Critical components</th>
<th>System test</th>
<th>Integration test</th>
<th>Nacelle</th>
<th>Prototype</th>
<th>0 series</th>
</tr>
</thead>
</table>

Testing of 20+ main components incl.:
- Generator
- Gearboxes
- Blade & main bearings
- Yaw gear
- Converter

Testing of 15+ systems incl.:
- Drivetrain
- Wind park control
- Rotor & Hub
- Pitch actuation
- Conditioning & cooling
- Power conversion system

Testing of integration i.e.:
- Nacelle assembly test
- Generator & converter integration
- Drivetrain system integration
- Grid compliance
- Tonality

Field testing i.e.:
- Run in and tuning
- Power curve
- Grid compliance
- Loads
- Noise
- System validation
Agenda

1. Introduction and status

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5. Summary and questions & answers
Ensuring market-leading products in the future through innovation

Working with external partners in all stages of the process

<table>
<thead>
<tr>
<th>Innovation process</th>
<th>Implementation process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology ingredients</td>
<td>System maturation</td>
</tr>
<tr>
<td>Concept development</td>
<td>Strategic suppliers and customers</td>
</tr>
<tr>
<td>Universities, adjacent industries, tech companies</td>
<td>Strategic suppliers and customers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigation of new materials/technologies from other industries</td>
<td>Strategic partners and suppliers</td>
</tr>
<tr>
<td>• Exploitation of ultra high fatigue resistant material.</td>
<td>Validation of high uncertainty concepts</td>
</tr>
<tr>
<td>• New processes for fabrication of bionic metal designs.</td>
<td>• Localised load control.</td>
</tr>
<tr>
<td>• Additive manufacturing of composite and metal components.</td>
<td>• Alternative turbine concepts easing early introduction of new technologies.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples</th>
<th>Validation of low uncertainty concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Localised load control.</td>
<td>• Journal gearbox bearings.</td>
</tr>
<tr>
<td>• Alternative turbine concepts easing early introduction of new technologies.</td>
<td>• Alternative Power Train concept (GMA).</td>
</tr>
<tr>
<td>• Concepts exploiting elastic material.</td>
<td>• Leading edge wear resistance.</td>
</tr>
<tr>
<td></td>
<td>• Low friction/high wear resistant materials for rotating machinery.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integration into products</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Turbine upgrades.</td>
</tr>
<tr>
<td>• Development of new products.</td>
</tr>
</tbody>
</table>
Example: Challenging scaling rules with multi-rotor demonstrator

Continuous reduction of LCOE requires new solutions and new ways of thinking

What are the benefits of a turbine like this?
Examples: Investing in new technology materials
Optimising performance, cost and sustainability

- Radical weight reduction through Bionic design and Additive Manufacturing.

- Active damping and control solutions to minimise societal disturbance of wind turbines.

- Recyclable composites through alternative materials - option for low cost short life time/sales of upgrades.

- Carbon based high property conductive materials applied to pre-empt the electrified society’s shortage of metals.
Examples: Value chain and supply chain concepts
Providing access to new markets with undeveloped logistical infrastructures

- **Mobile Factory** reducing logistics challenges through portability and offering local labor creation at low investments.

- **Flexible crane solutions** for high towers and markets with infrastructural constraints.
Examples: Ancillary services and solutions
Responding to solar, distribution and intermittence

• Improve capability to offer ancillary services by improving control and optimal integration of storage in wind power plants and wind turbines.

• Offer turn key off-grid/micro grid solutions for frontier markets integrating MW/kW wind, solar, storage, water and fuel.

• Removing the intermittence challenge of the grid in mature markets by concepts converting surplus wind to heat and fuel.

• Strive toward concepts relocating, storing, pumping, cleaning, desalinating or producing water by surplus wind.
Examples: Investing in digitalisation
Leveraging on Vestas’ world-class data collection

- Further utilise model prediction, high performance computing and big data to support energy systems dynamics.
- Combine power capacity and quality control through Internet-of-Things based Real Time interoperability.
- Exploit Vestas’ access to big data for diagnostics, remaining useful life analysis, service and after sales optimisation.
- Turbine R&D, value chain simulation + business case modeling, O&M performance and optimisation all founded on high performance computing.
Reducing LCOE faster than the market average

Vestas has the capabilities and know-how to deliver on our promise of reducing LCOE faster than the market average

**Expected LCOE development, onshore wind**
USD/MWh

<table>
<thead>
<tr>
<th>Country</th>
<th>2016</th>
<th>2020e</th>
<th>2030e</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>64</td>
<td>60</td>
<td>49</td>
</tr>
<tr>
<td>Mexico</td>
<td>75</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>Brazil</td>
<td>66</td>
<td>53</td>
<td>44</td>
</tr>
<tr>
<td>Germany</td>
<td>78</td>
<td>73</td>
<td>56</td>
</tr>
<tr>
<td>China</td>
<td>75</td>
<td>65</td>
<td>50</td>
</tr>
<tr>
<td>Australia</td>
<td>69</td>
<td>60</td>
<td>48</td>
</tr>
</tbody>
</table>

Source: BNEF Global Wind LCOE Update H1-2016.

**Vestas has ambitious LCOE targets and will reduce LCOE faster than market average**
1. Introduction and status

2. Our strategy and the link to LCOE

3. Evolution of Vestas 2 MW and 3 MW platforms

4. Investing in innovation in the short-, mid-, and long-term

5. Summary and questions & answers
Summary

1. Vestas continuously optimises energy output in its products and is committed to reduce LCOE faster than market average – enabled by the strongest product line-up in the industry.

2. Vestas invests in innovation across the value chain, both on current platforms and on breakthrough technologies.

3. By doing this, Vestas ensures our current and future competitiveness and thereby our market leadership position in the short-, mid- and long-term.
Operational excellence contributes to lowering LCOE

Jean-Marc Lechêne, Executive Vice President & COO

London, 21 June 2016
Introducing your speaker

Jean-Marc Lechêne

• Executive Vice President & COO.

• Joined Vestas in 2012 as COO based in Aarhus, Denmark.

• Master degree in Engineering from École des Mines de Paris and has completed a MBA at INSEAD, Fontainebleau.

• Prior to joining Vestas, Jean-Marc Lechêne served as Executive Vice President at Michelin in France. For a period of almost 15 years Jean-Marc Lechêne held various top positions in the Lafarge Group and he has lived in China, Canada and the US.
Agenda

1. Introduction and status

2. Enabling reduction of LCOE

3. Summary and questions & answers
Sticking to strategy pays off
Unchanged Vestas and COO strategy pays off with well executed plans

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

Consistently executing in accordance with the strategy
Safety is always number one
Improving operational excellence while building strong safety culture

Industrial injuries
Number per 1 million working hours

Total Recordable Injuries:
‘lost time injuries’ +
‘restricted work injuries’ +
‘medical treatment injuries’

2015 target: 10.1
achieved: 8.7

2016 target: 8.0
YTD: 7.1

Vestas life saving rules.
.. and ensuring high quality

Vestas quality ensures strong reliability and supports our technology and service leadership

Lost Production Factor (LPF)
Percent

LPF:
Steady reductions year-on-year.

Warranty consumption:
Continues at low level - approx 1.1 percent of revenue over the last 12 months.
Agenda

1. Introduction and status

2. Enabling reduction of LCOE

3. Summary and questions & answers
Operational Excellence to reduce the Levelised Cost of Energy

Flexible, asset-light and low cost manufacturing footprint

Reducing the Levelised Cost of Energy

Minimising working capital

Reducing product cost across the whole value chain
Flexible, asset-light, and low-cost manufacturing footprint

- Lowest delivered cost.
- Outsourcing.
- Supply chain managed at worldwide scope.
## Evolution of manufacturing footprint

Driven according to a set of guiding principles

<table>
<thead>
<tr>
<th>Optimisation logic</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assembly</strong></td>
<td><strong>Strategy</strong></td>
</tr>
<tr>
<td>Transport &amp; Lead Time &gt;&gt; Labor → Factory close to market</td>
<td>Implementing 2-3 MW flexibility as market requires (USA, China).</td>
</tr>
<tr>
<td><strong>Blades</strong></td>
<td><strong>Strategy</strong></td>
</tr>
<tr>
<td>Labor &gt;&gt; Transport → Factory in the region</td>
<td>Growth and Outsourcing are enablers to optimize delivered cost in the region.</td>
</tr>
<tr>
<td></td>
<td>Local content as &quot;business case booster&quot;.</td>
</tr>
<tr>
<td></td>
<td>Leveraging Denmark as development / industrialisation center.</td>
</tr>
<tr>
<td><strong>Controls &amp; generators</strong></td>
<td><strong>Strategy</strong></td>
</tr>
<tr>
<td>Labor &gt;&gt; Transport → Global factories</td>
<td>Optimise setup by moving to low cost countries (China, Spain) and adapt to local content requirements (Brazil, India).</td>
</tr>
<tr>
<td></td>
<td>Dual sourcing internal / external for continuous benchmark and reliability of supply.</td>
</tr>
<tr>
<td></td>
<td>Leveraging Denmark / Germany as development / industrialisation centers.</td>
</tr>
</tbody>
</table>
Assembly footprint

Assembly consists of six factories, three of them being flexible to produce both the 2 and 3 MW platform.
Blades footprint

Blades comprises 11 factories, three of them subcontracted. Footprint based on regional and global presence – supported by cross-regional supply e.g. China/India to USA.
Generators and Controls footprint

Generators and controls consists of both an in-house and subcontracted setup

- Hammel, Denmark
- Travemunde / Lubeck, Germany
- Viveiro, Spain
- Hammel, Denmark
- Brazil
- Tianjin, China
- Germany

Vestas Generators
- Vestas Controls
- Subcontracted generators
Reducing product cost across the whole value chain

- **Product & Value Chain cost-out:**
  - Commercial negotiation.
  - Design optimization.
  - Best cost countries.
  - Scale.

- **Reducing complexity:**
  - Buy more systems and less parts
  - Standard parts and reuse.

- **Design for Manufacturing, Transport, Construction and Service.**
AE to AEPRO - from cost to built-in value

Unchanged targets but more value chain focused levers to execute on plan

Focus:
- Category cost-out.
- From price to value.

Accelerated earnings PRO

Maturity

2014 - 2015

2016 - 2018

Focus:
- Value Chain cost-out.
Minimising working capital

- Make to order.
- Lean manufacturing.
- Standard lead times.
- Industry 4.0 @ Vestas.
Agenda

1. Introduction and status
2. Enabling reduction of LCOE
3. Summary and questions & answers
Summary

1. Consistently executing in accordance with the strategy delivering operational excellence.

2. A flexible, asset-light and low cost global manufacturing footprint contributes to securing competitive products and lowering LCOE.

3. Continued focus on cost-out. Accelerated Earnings PRO programme on track with additional actions focused on value chain to further support execution of plan.
Service: An increasingly important volume and value enabler

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

London, 21 June 2016
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.
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

<table>
<thead>
<tr>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
<th>FY 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service revenue (mEUR)</td>
<td>825</td>
<td>889</td>
<td>949</td>
</tr>
<tr>
<td>Service EBIT before special items (%)</td>
<td>7.0</td>
<td>6.7</td>
<td>8.9</td>
</tr>
</tbody>
</table>

Onshore service revenue and EBIT margin

Service order backlog (bnEUR)

<table>
<thead>
<tr>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
<th>FY 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>6.7</td>
<td>7.0</td>
<td>8.9</td>
</tr>
</tbody>
</table>

Service EBIT before special items

Service revenue
Vestas has the 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.

### Installed base per OEM, as of 2015

<table>
<thead>
<tr>
<th>OEM</th>
<th>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>

- 41 percent higher than closest competitor and 63 GW under service across 55 countries.

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

- **EMEA**: 35.0 GW, split across 31 countries
- **Americas**: 22.0 GW, split across 16 countries
- **Asia Pacific**: 6.2 GW, split across 8 countries
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

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

Lost production factor (LPF)

The renewal rate was 73% in 2015.
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
Key market trends

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

Service market revenue opportunity, 2014 -2024
bnUSD

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia Pacific</th>
<th>Americas</th>
<th>EMEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1.7 (22%)</td>
<td>4.2 (55%)</td>
<td>1.8 (24%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2024e</td>
<td>8.1 (42%)</td>
<td>7.3 (38%)</td>
<td>3.9 (20%)</td>
</tr>
</tbody>
</table>

CAGR:
- Asia Pacific: 16%
- Americas: 9%
- EMEA: 6%

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

<table>
<thead>
<tr>
<th>Key offerings</th>
<th>Core O&amp;M offerings</th>
<th>Advanced offerings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled maintenance</td>
<td></td>
<td>Product upgrades</td>
</tr>
<tr>
<td>Remote monitoring</td>
<td>Major correctives</td>
<td>Data and consultancy services</td>
</tr>
<tr>
<td>Minor correctives</td>
<td>Spare parts and distribution</td>
<td>Risk and insurance solutions</td>
</tr>
</tbody>
</table>

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

- 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

<table>
<thead>
<tr>
<th>Key characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High margins</strong> and low volume</td>
</tr>
<tr>
<td><strong>Specialized knowledge</strong> required for developing solutions</td>
</tr>
</tbody>
</table>

- 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.

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.

<table>
<thead>
<tr>
<th>Offerings to reduce LCOE</th>
<th>Key levers</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Services</td>
<td>• Improve diagnostics and preventive maintenance</td>
<td><img src="#" alt="High" /> <img src="#" alt="Low" /></td>
</tr>
<tr>
<td></td>
<td>• Improve power forecast for trading</td>
<td><img src="#" alt="High" /> <img src="#" alt="Low" /></td>
</tr>
<tr>
<td>Upgrades</td>
<td>• Output upgrades</td>
<td><img src="#" alt="High" /> <img src="#" alt="Low" /></td>
</tr>
<tr>
<td></td>
<td>• Life extensions</td>
<td><img src="#" alt="High" /> <img src="#" alt="Low" /></td>
</tr>
<tr>
<td></td>
<td>• Other components upgrades</td>
<td><img src="#" alt="High" /> <img src="#" alt="Low" /></td>
</tr>
<tr>
<td>Repair solutions</td>
<td>• Uptower repairs</td>
<td><img src="#" alt="High" /> <img src="#" alt="Low" /></td>
</tr>
<tr>
<td></td>
<td>• Other repairs</td>
<td><img src="#" alt="High" /> <img src="#" alt="Low" /></td>
</tr>
</tbody>
</table>
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
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

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

Fleetwide lifetime service partner

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.

### Fleetwide lifetime service partner

<table>
<thead>
<tr>
<th>Maintenance Partnering</th>
<th>Parts &amp; Repair</th>
<th>Upgrades</th>
<th>Data &amp; Consultancy Services</th>
</tr>
</thead>
</table>

#### 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...

**Initial contract capture and renewal rate, 2013-2015**

<table>
<thead>
<tr>
<th>Year</th>
<th>Initial contract</th>
<th>Renewal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>100</td>
<td>75</td>
</tr>
<tr>
<td>2014</td>
<td>100</td>
<td>72</td>
</tr>
<tr>
<td>2015</td>
<td>100</td>
<td>73</td>
</tr>
</tbody>
</table>

...supported by a relatively long contract duration

**Average contract length per contract type, 2013-2015**

<table>
<thead>
<tr>
<th>Year</th>
<th>Initial contract</th>
<th>Renewal/Recapture</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>11.5</td>
<td>6.6</td>
</tr>
<tr>
<td>2014</td>
<td>8.3</td>
<td>6.2</td>
</tr>
<tr>
<td>2015</td>
<td>9.6</td>
<td>7.2</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**

<table>
<thead>
<tr>
<th>MW under service, as of Q1 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>GW</td>
</tr>
<tr>
<td>Vestas (non-Vestas)</td>
</tr>
<tr>
<td>Availon (non-Vestas)</td>
</tr>
<tr>
<td>UpWind (non-Vestas)</td>
</tr>
<tr>
<td>Total</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.

**Additional 1.75 GW in backlog from MidAm deal.**
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 GW

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

**VALUE PROPOSITION**

- **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
1. Introduction and status

2. The importance of service in the marketplace

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4. Summary and questions & answers
Summary

1. 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.

2. 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.

3. 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.
Strong financial performance delivered

Marika Fredriksson, Executive Vice President & CFO

London, 21 June 2016
Profitable Growth for Vestas

Vestas has delivered strong financial results since the launch of the strategy 2½ years ago

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

Note: Peer data subject to public availability.

Market leader in revenue...

<table>
<thead>
<tr>
<th>Revenue, 2015 (bnEUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vestas</td>
</tr>
<tr>
<td>8.4</td>
</tr>
</tbody>
</table>

... and best-in-class margins

<table>
<thead>
<tr>
<th>EBIT margin, 2015 (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vestas</td>
</tr>
<tr>
<td>10.2</td>
</tr>
</tbody>
</table>
Agenda

1. Is stability the new normal for Vestas?
2. Balance Sheet and Capital Structure reflections
3. Summary and questions & answers
Vestas’ business model has diversified over the last 5 years

With strong positions in each of the three main business areas, Vestas is well positioned to reap the benefits of a more stable market situation.

**Wind turbines**
- Long-term PTC visibility.
- German energy law approved.
- RE targets in place or increasingly coming so.
- EMs establishing framework policies around REs.
- Order backlog: EUR 8.6bn*.

**Services**
- Stable business with high profitability.
- Market for services expected to continue to grow.
- Installed base is only getting bigger.
- Order backlog: EUR 9.4bn*.

**MHI Vestas Offshore Wind**
- JV on track and according to plan.
- Controlled ramp-up.
- Impeccable cooperation.
- Satisfactory exposure to promising offshore market.
- Announced firm orders ~1.2GW

* As of Q1 2016.
Turbine business supported by broad-based demand

Although fluctuating somewhat, turbine revenues have been increasing over time, supported by a diversified market footprint, second to none in the industry.

**Order intake 2015:**
- **8,943 MW**
- **34 countries**
- **5 continents**
Service business continues to contribute with stability

Strong growth in service revenue, supported by sale of new turbines and the largest installed base in the industry

Onshore service revenue (mEUR)

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>659</td>
<td>825</td>
<td>889</td>
<td>949</td>
<td>1,138</td>
</tr>
</tbody>
</table>

Installed base:

- > 75 GW
- 75 countries
- 6 continents
MHI Vestas Offshore Wind: performance according to plan

Solid order intake and continued strong performance of the existing fleet provide a firm base for the years ahead. Extensive V164 start-up costs expected to offset increased revenue in 2016.

Key messages 2015/16

• Solid order intake.
• Maturing V164-8.0 MW technology.
• Preparing extensive ramp-up of manufacturing.
• Ensuring strong performance of existing installed base.
• First year with extensive D&A on V164-8.0 MW.

Outlook

• Activity level will continue to increase with factories ramping up for first offshore V164 project.
• Execution of existing V112 3 MW turbine and service order backlog.
• Increased activity level expected to result in higher revenue – earnings to decline due to extensive start-up costs for V164 introduction.
JV net income not expected short term to absorb 8 MW ramp-up

Quarterly fluctuations will remain. V164 start-up costs expected to negatively impact the JV in 2016.

Key takes:

- **Vestas’ share of JV profit:** Extensive start-up costs related to V164 will have a negative impact on the overall profit in the JV more than offsetting the expected higher revenue in 2016.

- **Effect of ToR difference in sale of 3 MW turbines to JV:** Dependent on ToR timing differences of
  - Nobelwind, 165 MW (3 MW, expected Vestas ToR in 2016/17); and
  - Rampion, 400 MW (3 MW, expected Vestas ToR in 2017); and
  - … potential new 3 MW offshore orders.
Agenda

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Net Working Capital a key enabler in balance sheet journey

Impressive NWC development which has been stabilising in current high-activity environment

Key takes:

- Main cash conversion cycle opportunities:
  - Lower MW under completion.
  - Better payment terms.
  - Lower inventory.
  - Reduce lead times.
Cash increasingly generated by earnings

Cash generation increasingly driven by operations in recent years, signalling longer term ability to sustainably generate cash

**Net debt to EBITDA**

<table>
<thead>
<tr>
<th>Year</th>
<th>Net debt to EBITDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1.8</td>
</tr>
<tr>
<td>2012</td>
<td>1.9</td>
</tr>
<tr>
<td>2013</td>
<td>0.1</td>
</tr>
<tr>
<td>2014</td>
<td>1.5</td>
</tr>
<tr>
<td>2015</td>
<td>1.9</td>
</tr>
</tbody>
</table>

**Net debt to EBITDA before special items, last 12 months**

<table>
<thead>
<tr>
<th>Year</th>
<th>Net debt to EBITDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>(1.9)</td>
</tr>
<tr>
<td>2012</td>
<td>1.8</td>
</tr>
<tr>
<td>2013</td>
<td>2.6</td>
</tr>
<tr>
<td>2014</td>
<td>1.2</td>
</tr>
<tr>
<td>2015</td>
<td>1.9</td>
</tr>
</tbody>
</table>

**Change in net cash**

<table>
<thead>
<tr>
<th>Year</th>
<th>Investments</th>
<th>Others</th>
<th>Net cash</th>
</tr>
</thead>
<tbody>
<tr>
<td>YE12</td>
<td>829</td>
<td>239</td>
<td>86</td>
</tr>
<tr>
<td>YE13</td>
<td>260</td>
<td>(285)</td>
<td>866</td>
</tr>
<tr>
<td>YE14</td>
<td>1,075</td>
<td>484</td>
<td>1,411</td>
</tr>
<tr>
<td>YE15</td>
<td>397</td>
<td>(425)</td>
<td>2,270</td>
</tr>
</tbody>
</table>

**Key takes:**

- Leverage ratio far below the limit of 1 times EBITDA at any point in the cycle due to the strong net cash position.
- Strong cash generation from operations in 2015, payment of dividends for the first time in 12 years and the first ever share buy-back programme conducted in November-December 2015.
Solvency ratio a key metric in conservative capital structure

Solvency ratio currently the more limiting factor in the re-distribution of cash

Key takes:

• Solvency ratio is seen as a strong business enabler, as it is an easy to understand metric in customer discussions.

• A strong solvency ratio and credibility as it relates to maintaining a trustworthy capital structure policy is what enables improved flexibility, terms and conditions and gives better access to favourable credit and bonding facilities.
Risk-averse customers are still requiring certainty
…and hence, contingent obligations such as e.g. guarantees continue to play a role

Types of guarantees

1. Bid bond
2. Advance payment bond
3. Performance bond
4. Warranty bond

Before shipment of wind turbines to the site
After delivery of the first wind turbine to the site
The need for credit facilities has not vanished
Vestas’ credit and bonding facilities are being utilised to support ongoing business operations

<table>
<thead>
<tr>
<th>Credit and bonding facilities, year end 2015</th>
<th>Amount</th>
<th>Drawn</th>
<th>Available</th>
<th>Expiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main credit facilities*</td>
<td>1,050</td>
<td>92</td>
<td>958</td>
<td>2021</td>
</tr>
<tr>
<td>Other credit facilities*</td>
<td>397</td>
<td>251</td>
<td>146</td>
<td>2017</td>
</tr>
<tr>
<td>Corporate bonds</td>
<td>500</td>
<td>500</td>
<td>0</td>
<td>2022</td>
</tr>
<tr>
<td><strong>Total credit facilities</strong></td>
<td><strong>1,947</strong></td>
<td><strong>843</strong></td>
<td><strong>1,104</strong></td>
<td></td>
</tr>
</tbody>
</table>

* The drawn amount is not cash but related to issuance of bonds.

Main credit facility consists of a EUR 1,050m revolving credit and bonding facility with a strong banking group:

First of two options to extend the final maturity by 1 year was exercised in May 2016. Final maturity now 3 June 2021.
Priorities for capital allocation

In years without major extraordinary investments the total return to shareholders through dividends and share buy-backs may constitute the majority of the FCF.

Mid-term ambitions:
- Double-digit ROIC
- FCF ≥ 0

Capital structure targets:
- Net debt to EBITDA < 1.0x
- Solvency ratio = 30-35%

Organic growth
- Investments.
- R&D.
- Strong balance sheet to enable growth.

Acquisitions
- Bolt-on acquisitions (not building war chest for major acquisitions).

Dividend
- 25-30% of the net result of the year after tax.
- Pay-out during H1 given AGM approval.

Share buy-back
- From time to time to adjust capital structure.
- IF relevant launch during H2 based on realised FCF performance.
Agenda

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Summary

1. With strong positions in each of the three main business areas, wind turbines, service and offshore, Vestas is well positioned to reap the benefits of a more stable market situation.

2. A strong balance sheet and credibility as it relates to maintaining a trustworthy capital structure policy is a strong business enabler.

3. In years without major extraordinary investments the total return to shareholders through dividends and share buy-backs may constitute the majority of the FCF.
Thank you for your attention