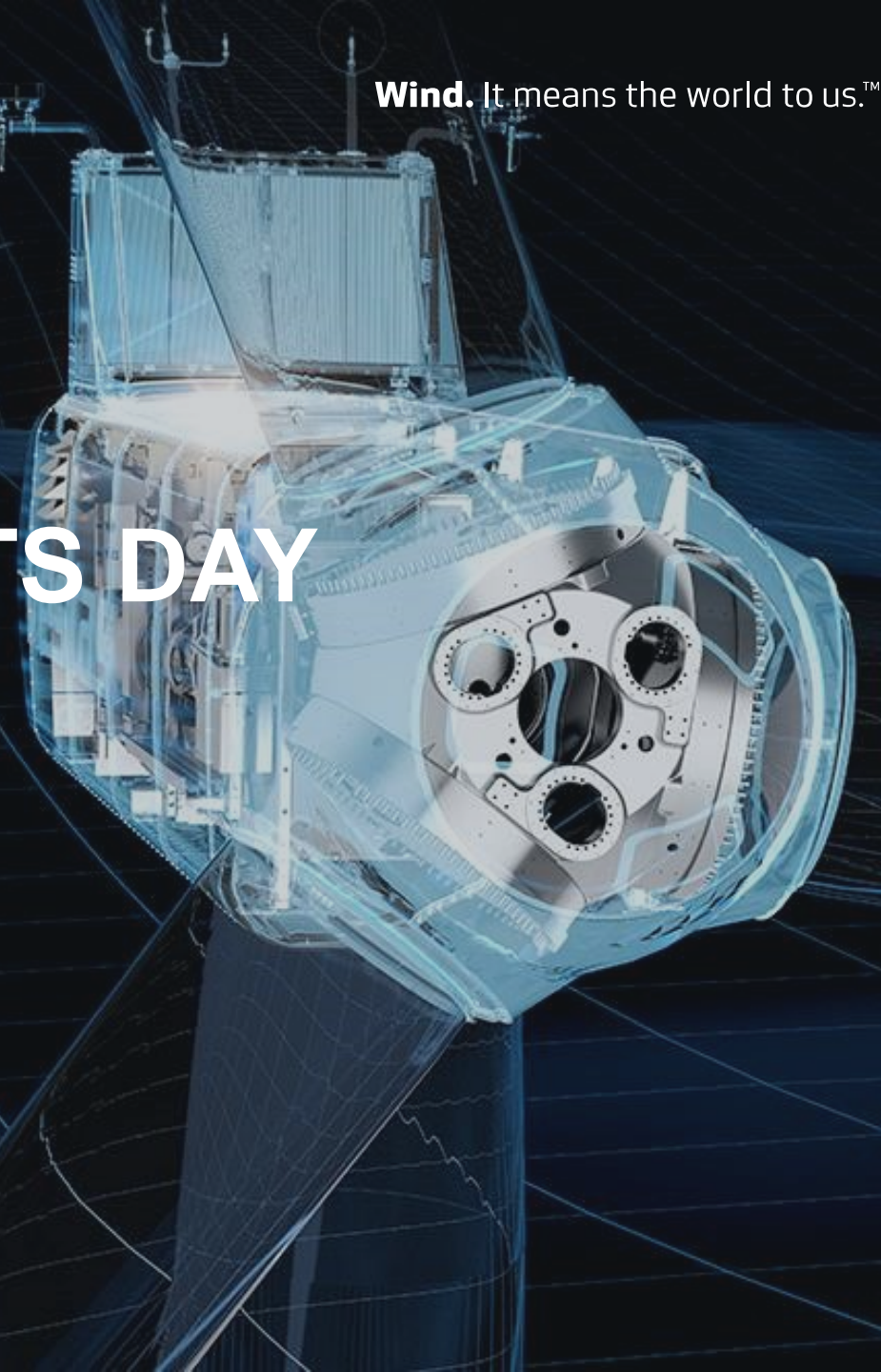


CAPITAL MARKETS DAY

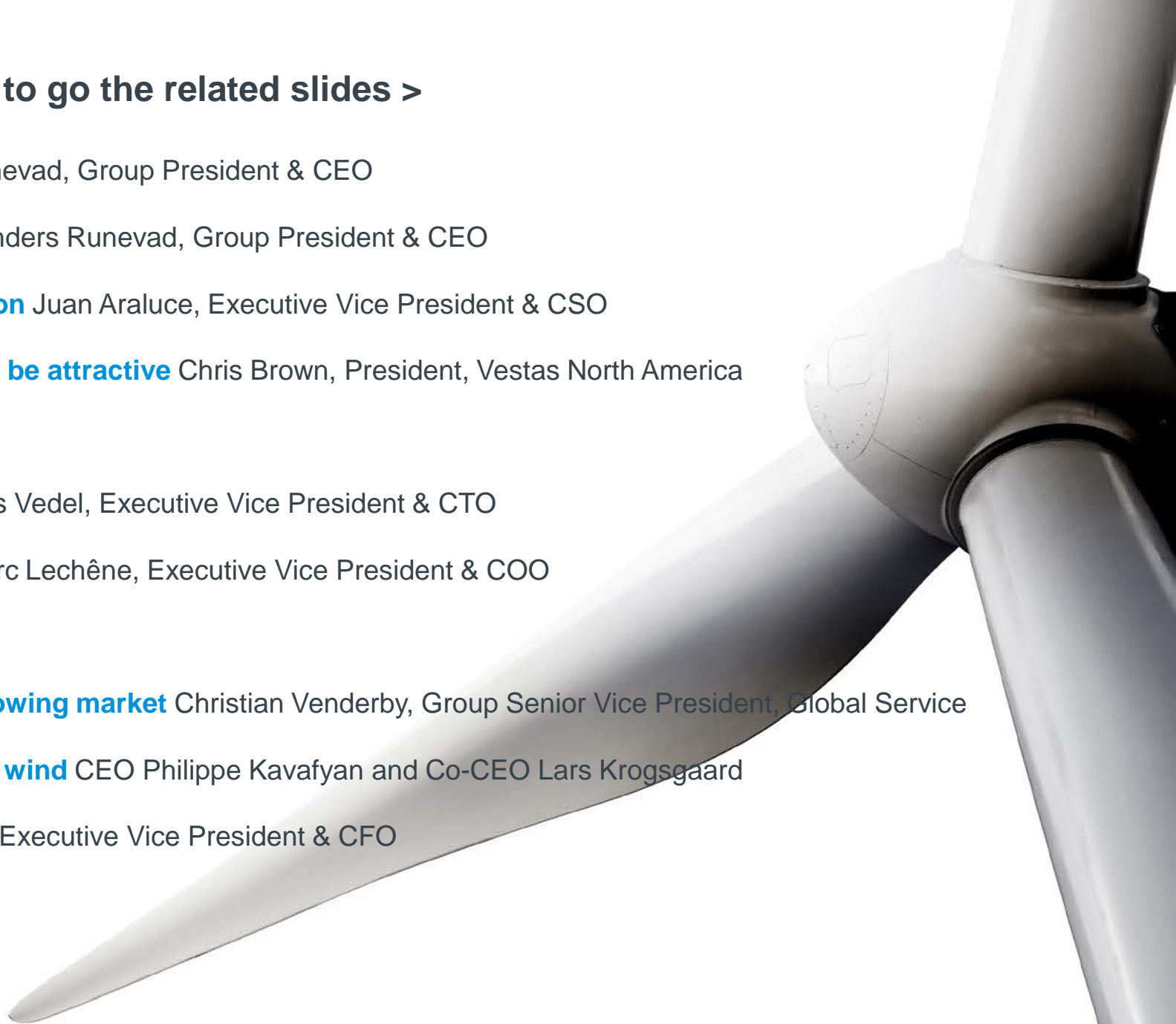
November 2018



AGENDA

Click on a presentation to go the related slides >

- 10.00-10.15 Welcome and introduction, Anders Runevad, Group President & CEO
- 10.15-10.45 [Market outlook & Strategy update](#) Anders Runevad, Group President & CEO
- 10.45-11.15 [Growing our industry-leading position](#) Juan Araluce, Executive Vice President & CSO
- 11.15-11.55 [North American market continues to be attractive](#) Chris Brown, President, Vestas North America
- 11.55-12.40 - LUNCH -
- 12.40-13.15 [Connecting future and legacy](#) Anders Vedel, Executive Vice President & CTO
- 13.15-13.50 [A competitive supply chain](#) Jean-Marc Lechêne, Executive Vice President & COO
- 13.50-14.20 - COFFEE BREAK -
- 14.20-15.05 [The leading service provider in a growing market](#) Christian Venderby, Group Senior Vice President, Global Service
- 15.05-15.55 [Creating a market leader in offshore wind](#) CEO Philippe Kavafyan and Co-CEO Lars Krogsgaard
- 15.55-16.15 [Financial update](#) Marika Fredriksson, Executive Vice President & CFO
- 16.15-16.30 CLOSING REMARKS AND Q&A
- 16.30-18.00 - RECEPTION -



MARKET OUTLOOK & STRATEGY UPDATE

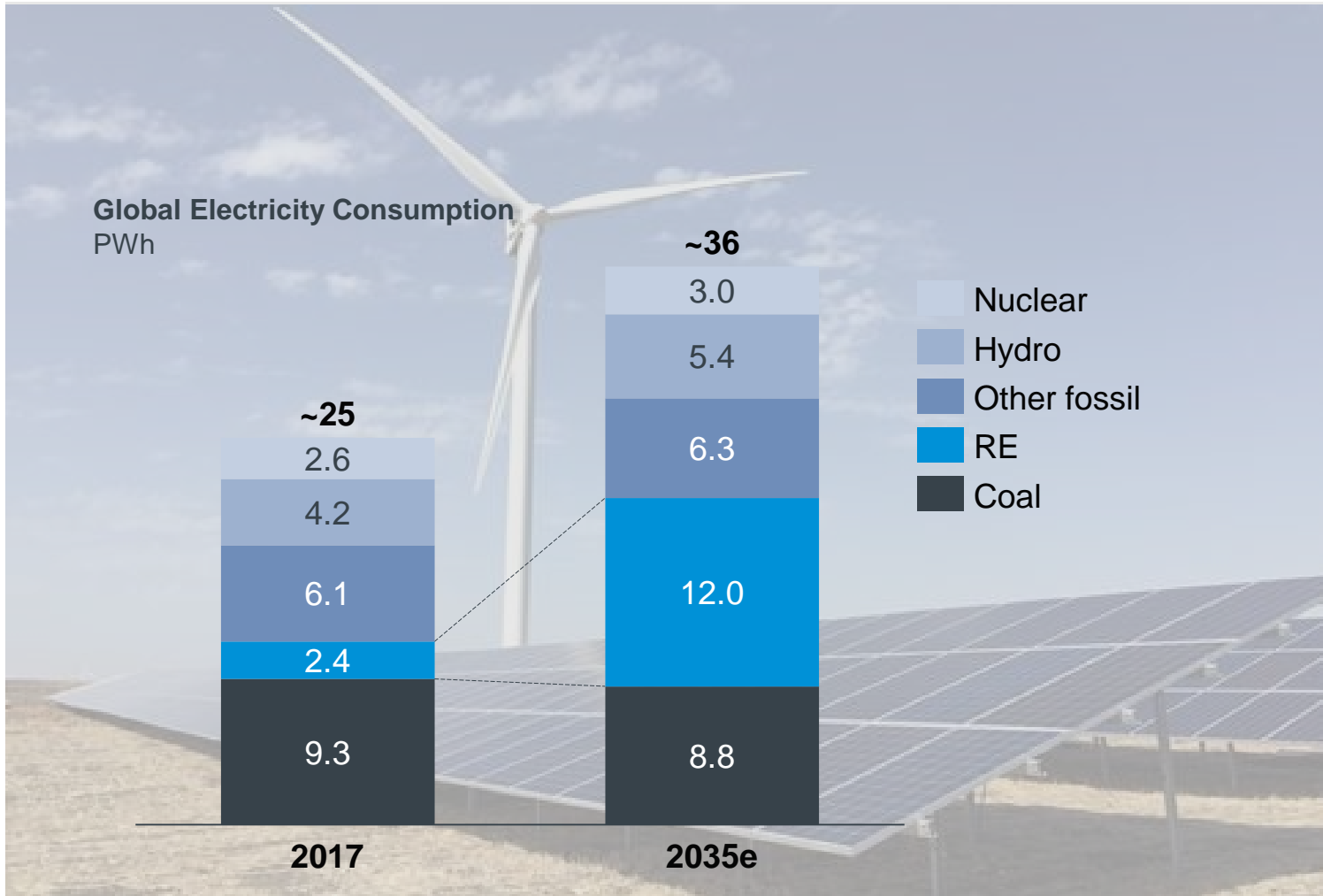
Anders Runevad
Group President & CEO

Copenhagen, 29 November 2018



OUTSTANDING GROWTH OUTLOOK FOR THE SECTOR

Renewable energy to become the dominant generation source



Over the next +10 years...

- Renewable energy capacity to grow significantly
- >USD 3tr to be invested by 2030
- Renewable energy to surpass coal and fossils

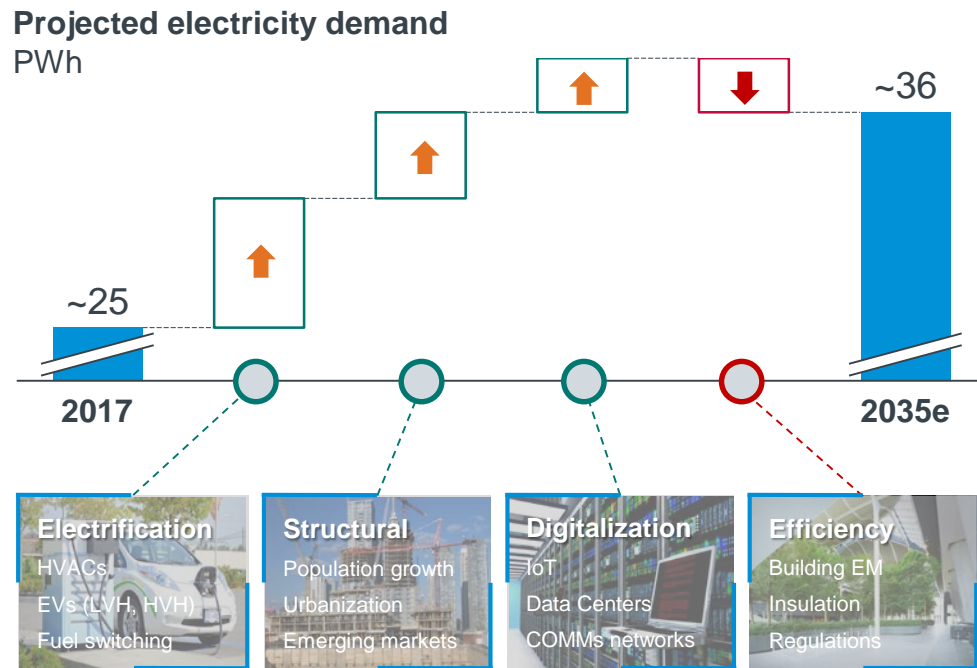
... making renewable energy the dominant generation source

Source: Bloomberg New Energy Outlook 2018

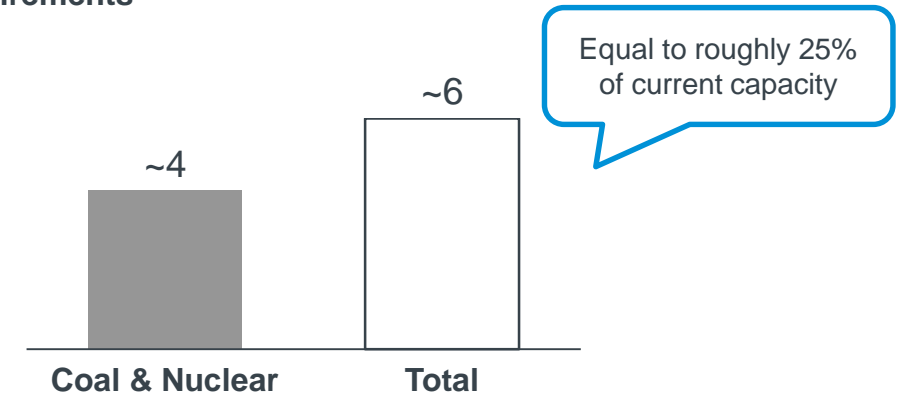
GROWTH DRIVERS (1/2): HIGH DEMAND FOR NEW ELECTRIC CAPACITY

1. Electricity demand projected to grow >40% till 2035

2. Significant retirements of coal and nuclear on the horizon



Projected retirements
PWh



- Increased net electricity demand of 11 PWhs by 2035 plus a further 6 PWhs of retirements will lead to significant demand for new energy

GROWTH DRIVERS (2/2): FUNDAMENTAL SUPPORT FOR RE TO WIN

3. Strong global policy and commitment to renewables



EU 2030 target for renewable energy increased from 27% to 32%



EU nations committing to even bolder targets (DK >50% by 2030, SE 100% by 2040)



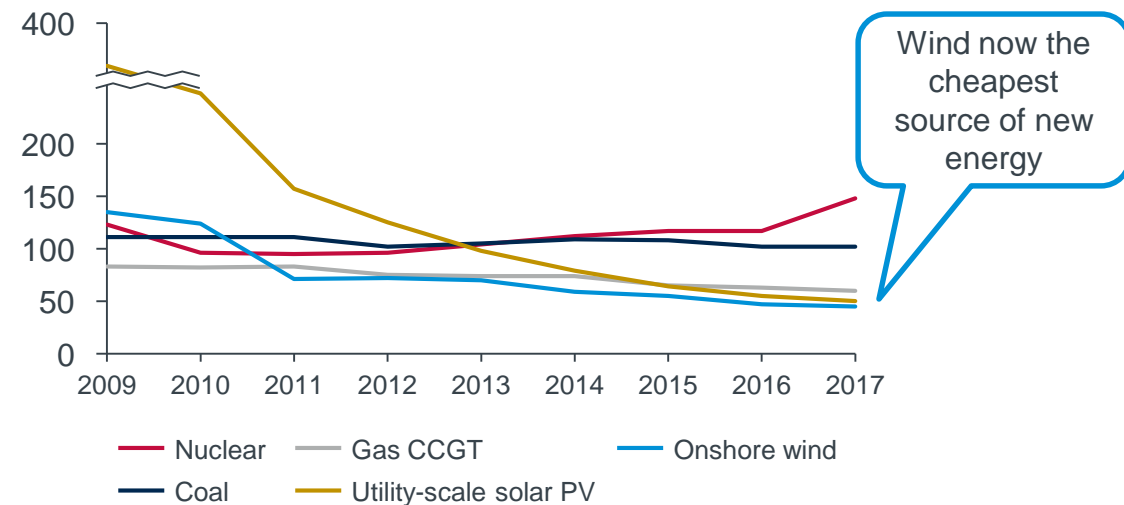
Indian government target for wind and solar increased to 227GW by 2022 (+28%)



100 large global corporations committing to going 100% green

4. Accelerated competitiveness of RE

Development of LCOE (US example) USD/Mwh

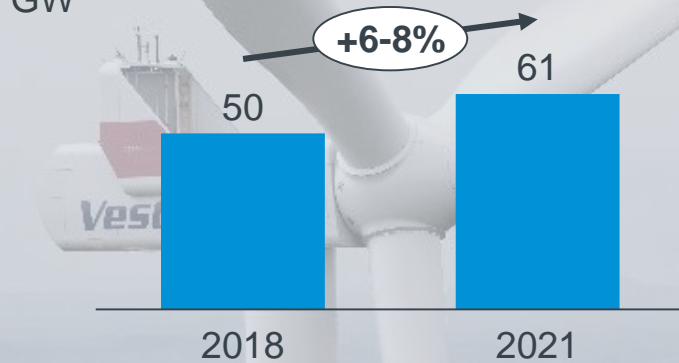


OUR PORTFOLIO CONSISTS OF THREE ATTRACTIVE RE SEGMENTS



#1 ONSHORE WIND Large market, healthy growth

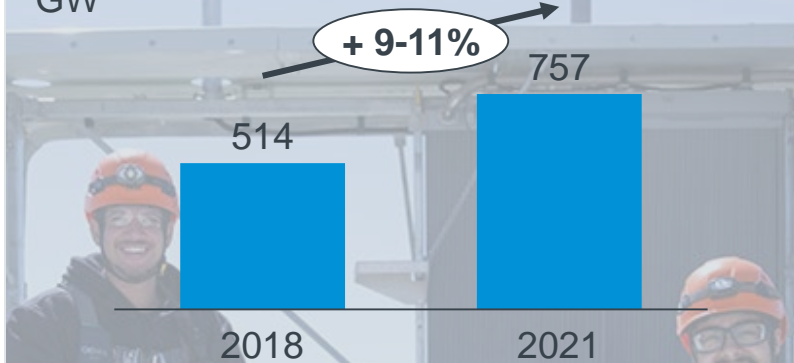
New installations
GW



- US PTC rush towards 2021
- High growth in emerging markets
- India to become top 3 market

#1 WIND SERVICE Mid-sized market, high growth

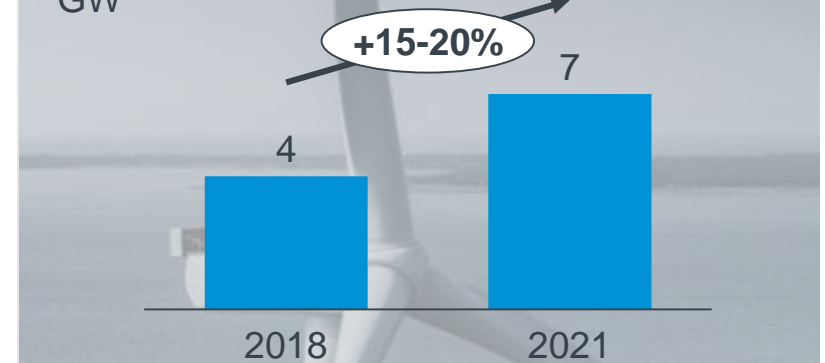
Installed fleet
GW



- Continued high pace of installations
- Large multi-brand opportunity
- Retirements still very low

#2 OFFSHORE WIND Small market, high growth

New installations
GW



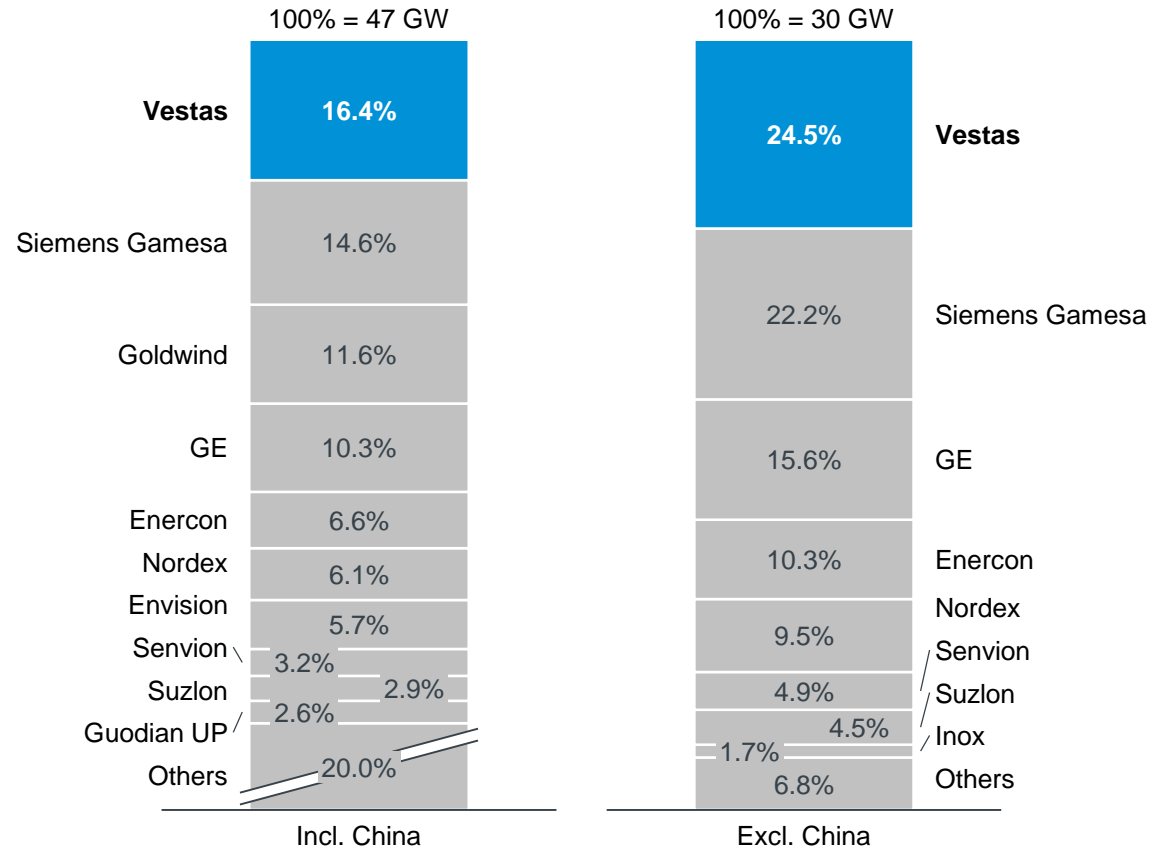
- Europe key region
- Expansion in USA and Taiwan
- New markets opening up

KEEPING OUR MARKET LEADERSHIP

Vestas is the market leader and remains committed to gain market share

Market share 2017

Percent



Bloomberg New Energy Finance
"Onshore installations"

- No. 1 position in the US market
- Increasing market share in LATAM
- Leading position in EMEA
- Largest non-Chinese in China
- Positive development in broader APAC

WE HAVE FOUR KEY DIFFERENTIATORS IN THIS MARKET



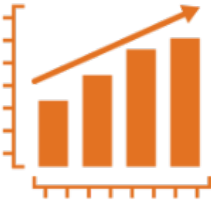
Global reach



Technology and service leadership



Scale



Proven execution



GLOBAL REACH



Order intake from 33 countries across all regions in 2017

- Pioneer and most experienced wind energy company in the world
- Global reach and growth platform in sales, manufacturing, installation, and service



TECHNOLOGY AND SERVICE LEADERSHIP



Continuing to lead the industry on its key competitive parameters

Industry-leading wind power plant offering

Industry-leading service value and cost

**2+4 MW platform
technology upgrades**

Scale leverage

**Pioneering hybrid
projects**

**Leading multibrand
capabilities**

**World-class
siting capabilities**

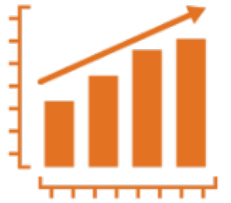
**Data insight from
>40,000 turbines**

Modular product design

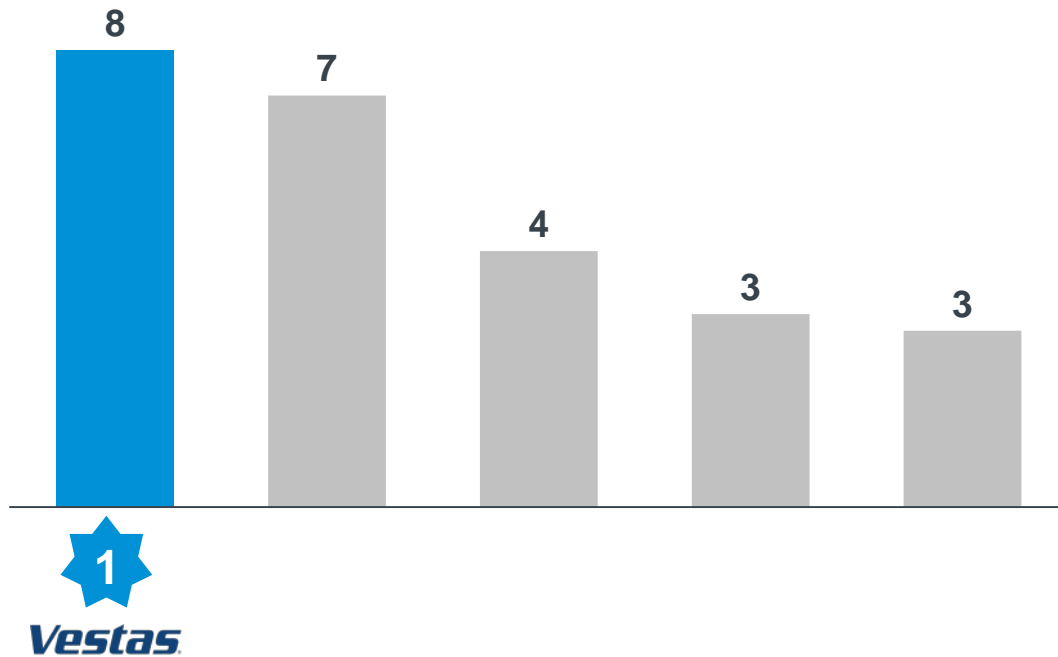
**Unique digital offering
through Utopus Insights**

SCALE LEADERSHIP

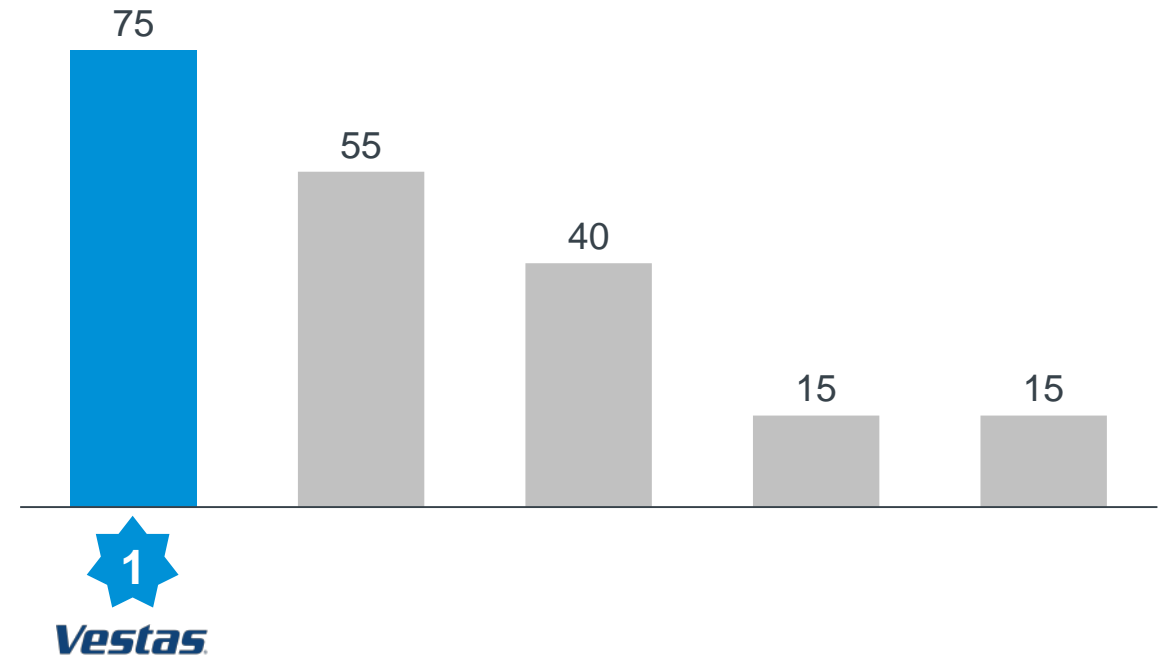
Positioned to leverage leadership economics



Installations 2017 (GW)



Fleet under service 2017 (GW)



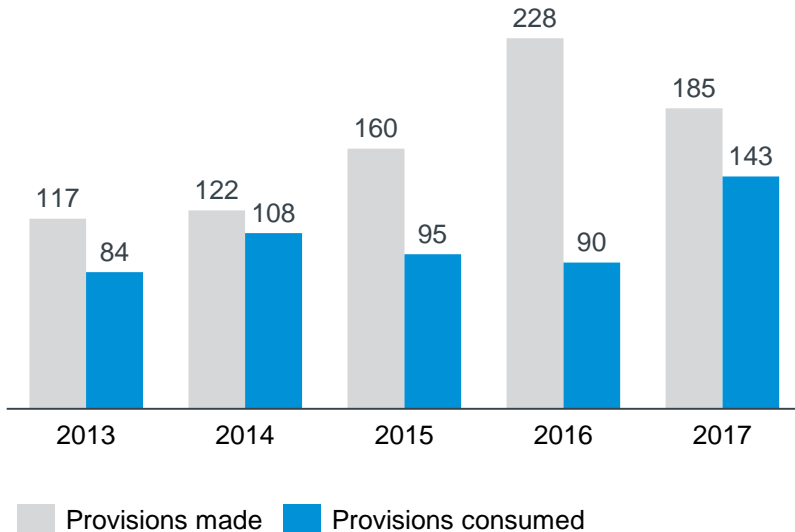
Sources: MAKE; Company reports and Vestas estimates;
Note: Excludes Chinese OEMs; Fleet under service numbers rounded to nearest 5

PROVEN EXECUTION

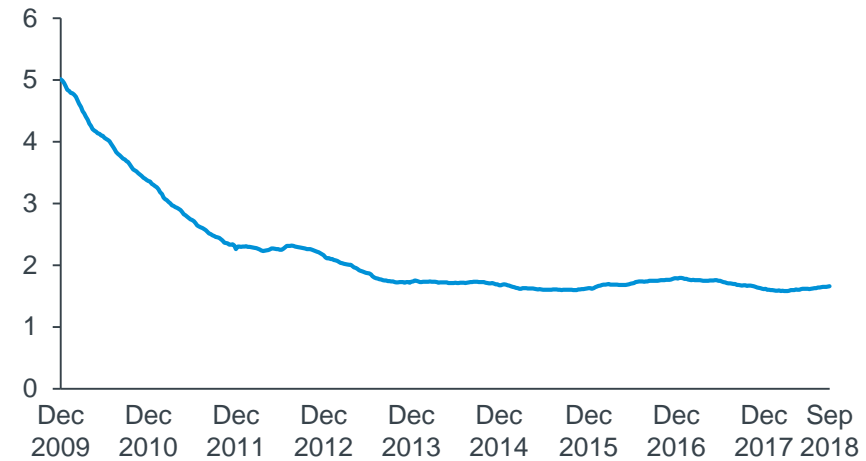


High quality of products continues to bring comfort to customers

Warranty provisions made and consumed
mEUR



Lost Production Factor (LPF)
Percent



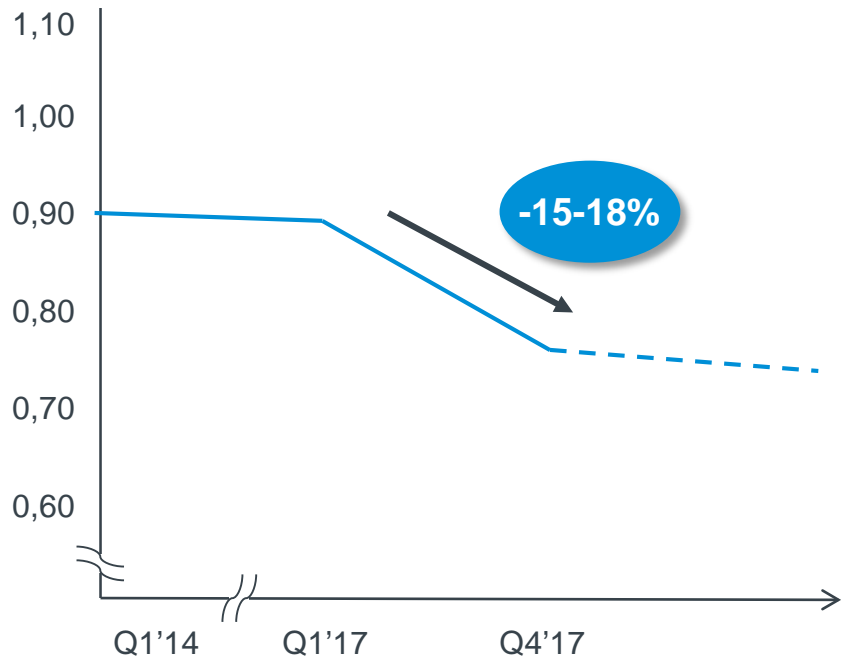
- Low warranty consumption
- 1.4 percent of revenue in 2017

- LPF consistently below 2 percent
- Maximises turbine performance

RESPONDING TO A CHANGING ENVIRONMENT REMAINS CRITICAL

Quick transition to auctions and merchant markets increases the need to optimise power plant solutions

Industry wide average selling price
mEUR per MW



Subsidised industry

- Projects reliant on Feed-in-Tariffs
- Sub-optimal technology solutions

Introduction of auctions

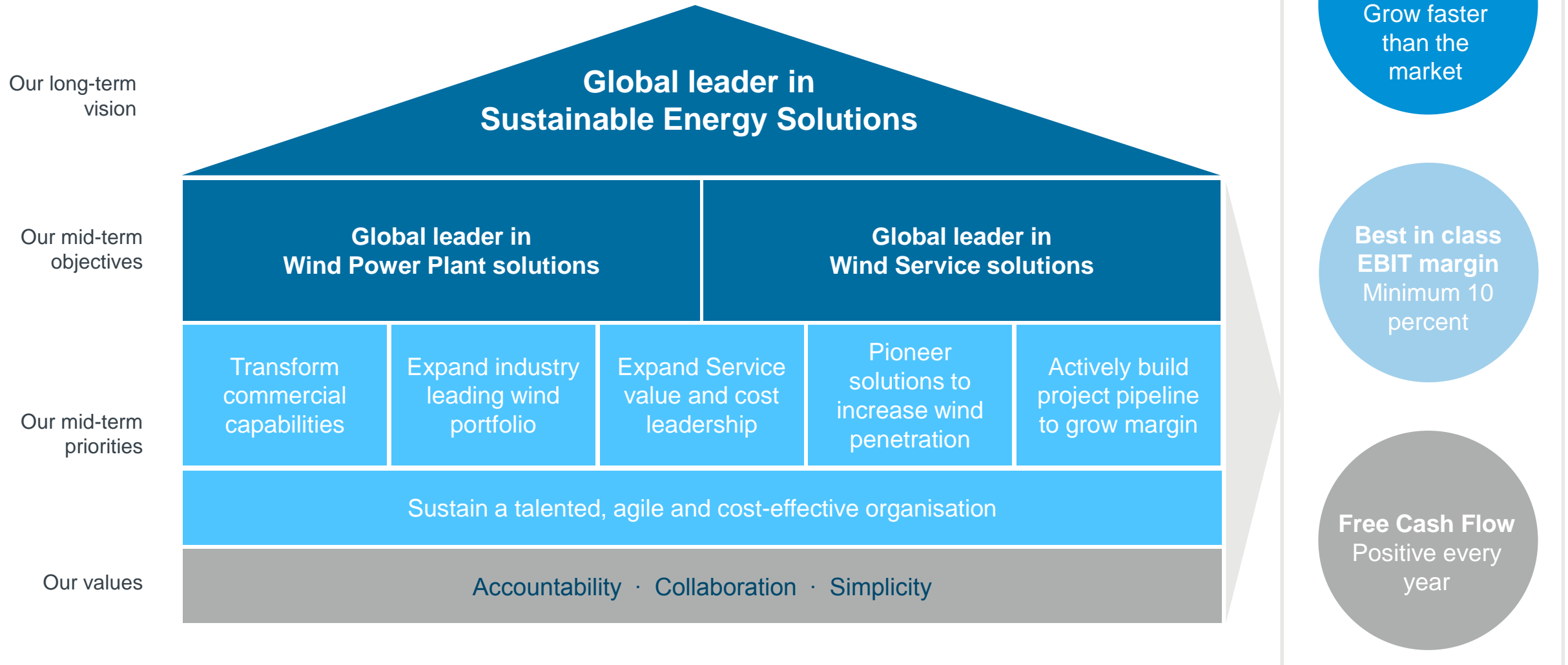
- Competition increases
- Volume down in key markets

Merchant market

- Market complexity increases
- Projects to combine auction PPA, corporate PPA, and merchant exposure

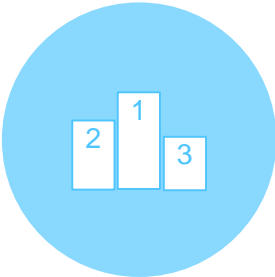
OUR STRATEGIC FRAMEWORK

We have a clear strategy and priorities



LOOKING FORWARD

Why we are strongly positioned to win in the future



We are in the best position to win



We have the right strategy



We have the right values to guide us



We have the best people to do it

GROWING OUR INDUSTRY-LEADING POSITION

Juan Araluce
EVP & Chief Sales Officer

Copenhagen, 29 November 2018



AGENDA

Track record and Performance

Trends in the Sector

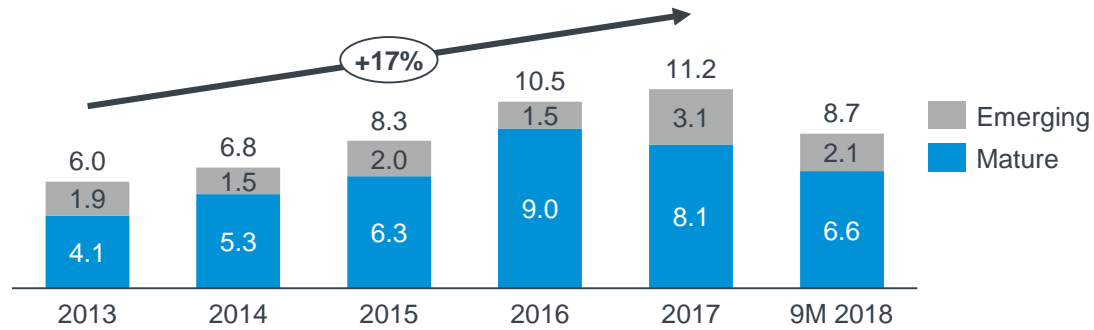
Commercial Strategy to maintain #1 position

Summary and Q&A

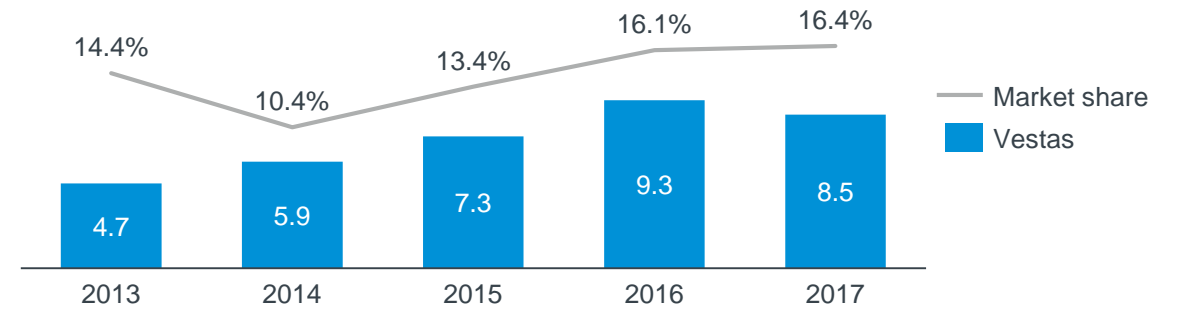
TRACK RECORD

On track to expand market leadership

Order Intake (GW)

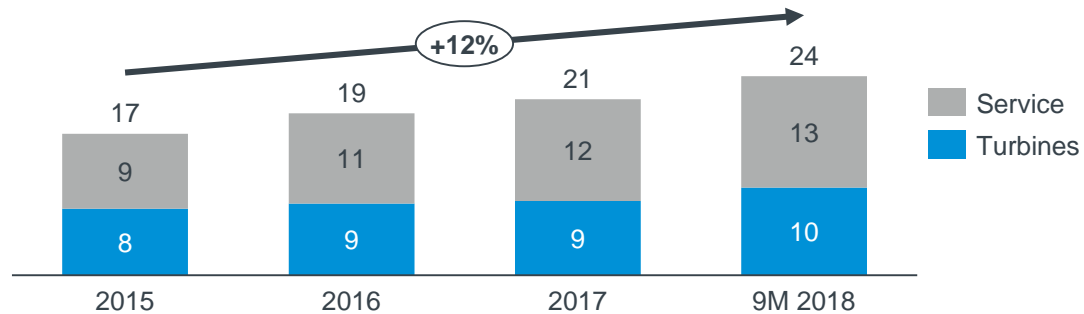


Vestas' Transfer of Risk (GW), market share* (%)

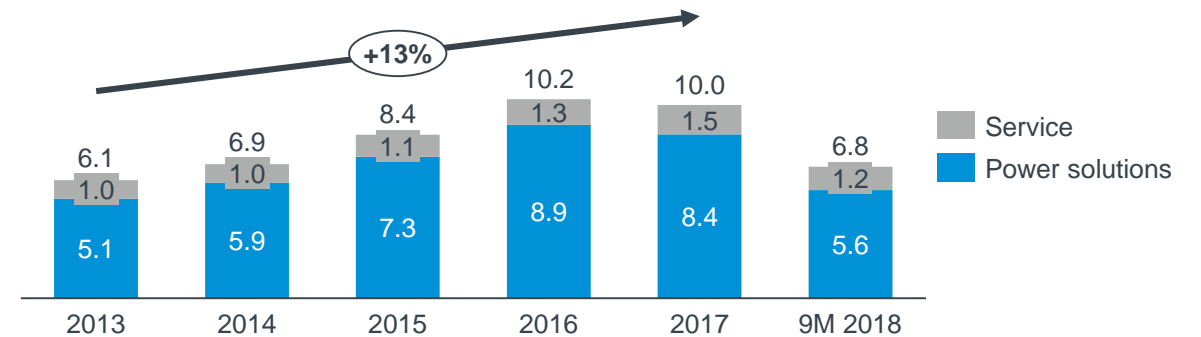


* Source: MAKE

Order Backlog (EURbn)



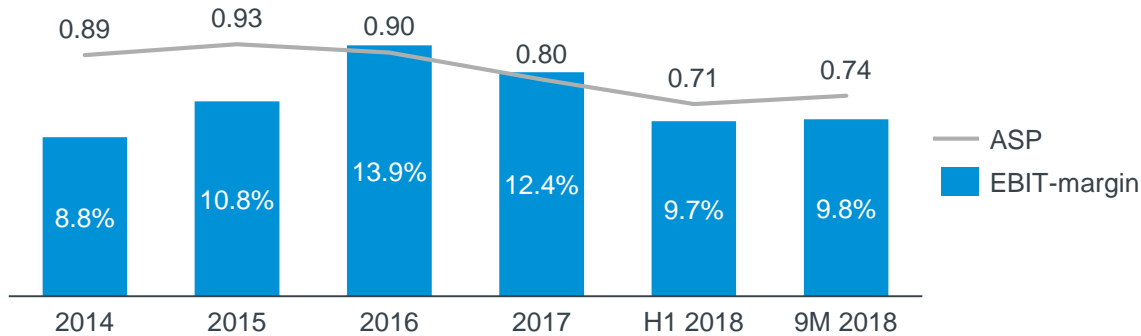
Revenue (EURbn)



PRICING AND PROFITABILITY

Price stabilisation mainly driven by higher volumes and better discipline in the industry

Average Selling Price (mEUR/MW) and Vestas EBIT margin (%)



Key notes

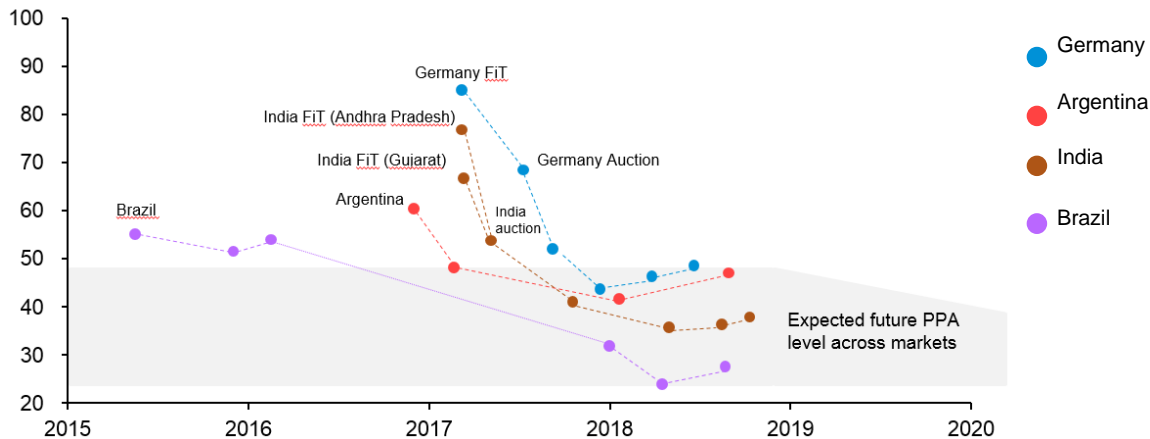
Average Selling Price (ASP) and Profitability

- Historically, stable ASP delivers increased profitability
- Vestas' YTD ASP at the same level as in Q4 2017
- 2018: Price stability driven by increased overall market volumes and lower profitability in the industry

Auction bid levels

- Auction bids have recovered in 2018
- Lower electricity prices from auctions trigger an increase in volume of Corporate PPAs, available through bilateral agreements
- BNEF: 7.2 GW signed until July 2018, compared to 5.4 GW of total in 2017
- Recent auction prices indicating a price floor

Auction bid levels



AGENDA

Track record and Performance

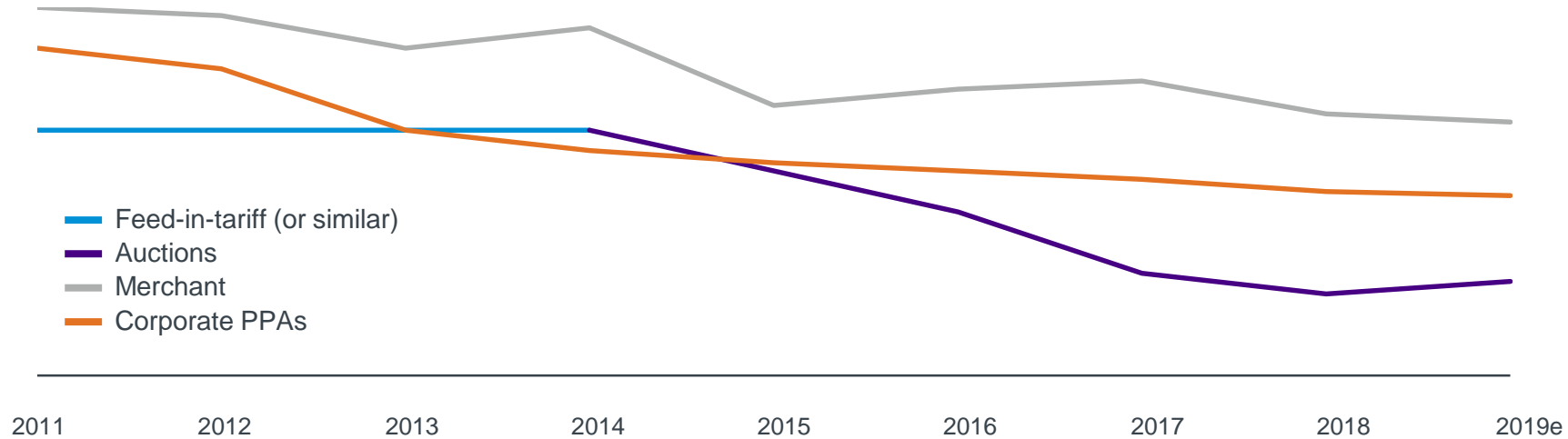
Trends in the Sector

Commercial Strategy to maintain #1 position

Summary and Q&A

CHANGES IN THE SECTOR'S RISK-REWARD PROFILE

From FiT to Auctions, Corporate PPAs, and Merchant Risk



Key notes

- The transition from support schemes into auctions drove prices downwards
- The customers' profiles are changing towards players with a strong balance sheet, large and diversified generating portfolio, and trading capabilities

MARKET EVOLUTION

- Predominantly FiT
- Many types of players
- No committed volume

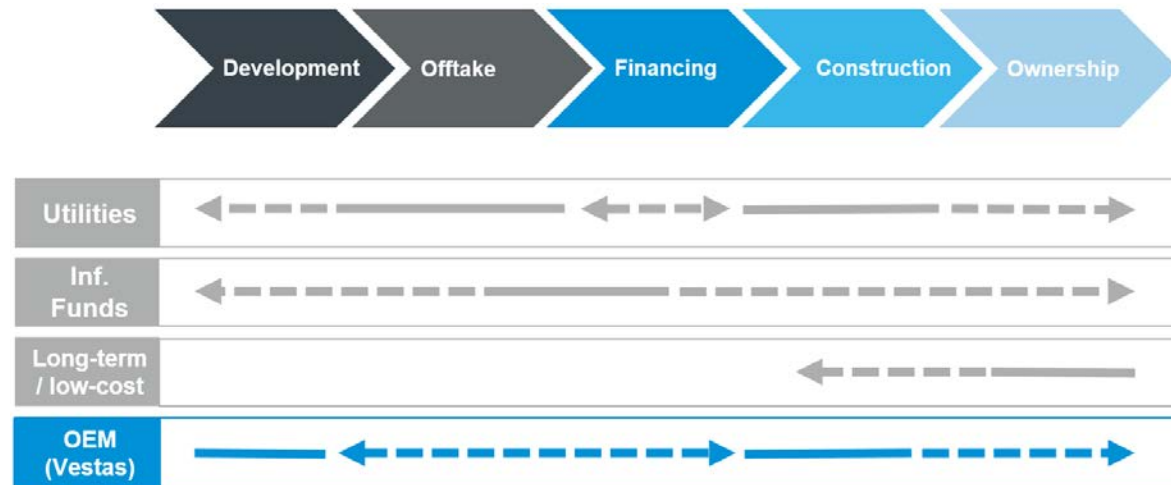
- Auctions replace support schemes
- Decrease of electricity prices
- Forward Selling and longer lead times
- Committed yearly volume
- Increase of Corporate / Bilateral PPAs

- Wind is competitive without support
- Selling of energy in different schemes
- Generation commitments (short-term) and forecasting capabilities
- Large players with generation portfolios

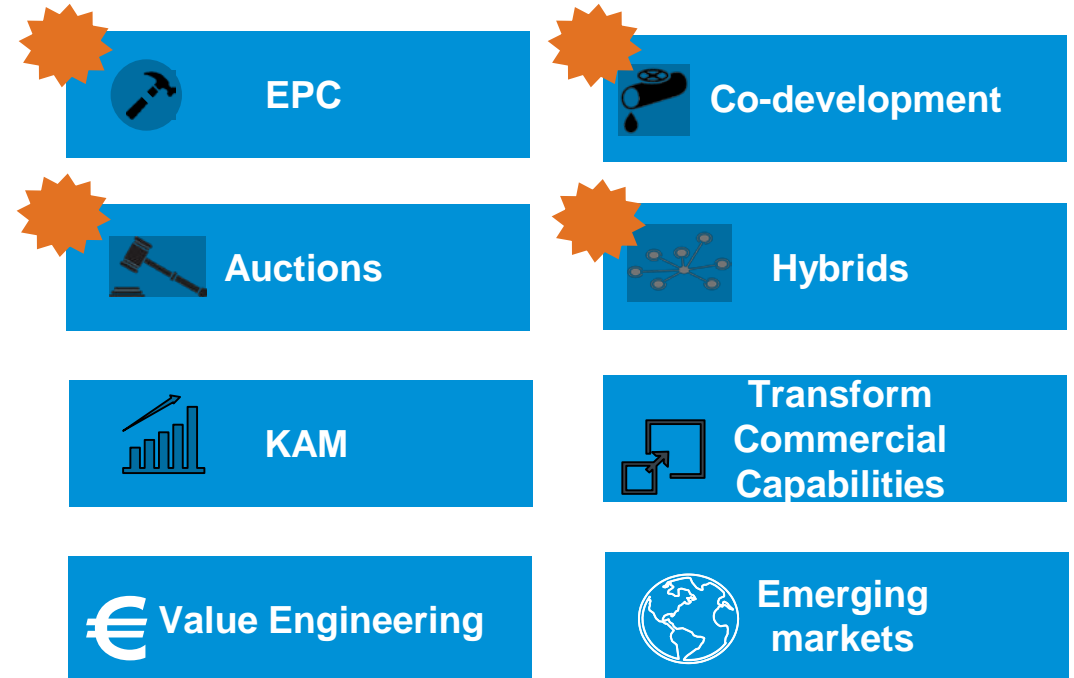
VALUE CHAIN MOVEMENTS

Responding to market trends

Moving across the value chain is the new normal



Commercial Strategy in place to ensure continuous growth



New players in the market, opportunities of new partnerships and new business models

AGENDA

Track record and Performance

Trends in the Sector

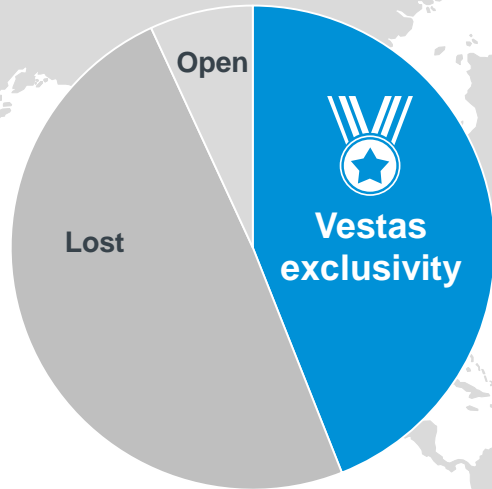
Commercial Strategy to maintain #1 position

Summary and Q&A

AUCTIONS

Strong share of wins around the world

YTD auction results



Examples:



Australia



Argentina



Bolivia



Brazil



Germany



Russia

2018 remaining auction pipeline*

~ 3 GW



Mexico 1GW (tech. neutral)
COD 2021



Denmark/Greece 0.3GW
COD 2020-21



Finland 0.6GW
COD 2020-21

2019 expected auction pipeline

~ 24-30
GW*

Key notes

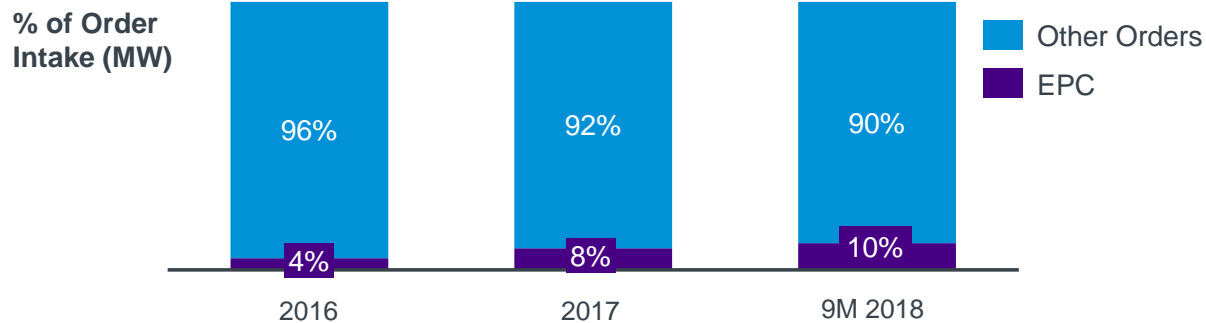
- In 2018, Vestas has obtained its fair share in auctions across the world
- Most order intake from auctions in 2018 expected in 2019
- Continued growth of auction scheme, with latest countries announcing auctions: China, Finland, Colombia, and Poland

*Onshore Wind & Tech Neutral Auctions and Tenders, BNEF Q4'18 calendar

EPC & CO-DEVELOPMENT

Being present across the value chain is crucial

Engineering Procurement and Construction



Strategic

- Grow revenue: Project revenue increases ~30%
- Support further LCoE reduction

Support other strategic priorities

- Co-development
- Solar/hybrid
- Repowering

Enable more sales

- De-risking projects for institutional investors by simplifying interfaces
- Standard operating model for various customers in Australia, India, and African markets (South Africa, Jordan, etc.)

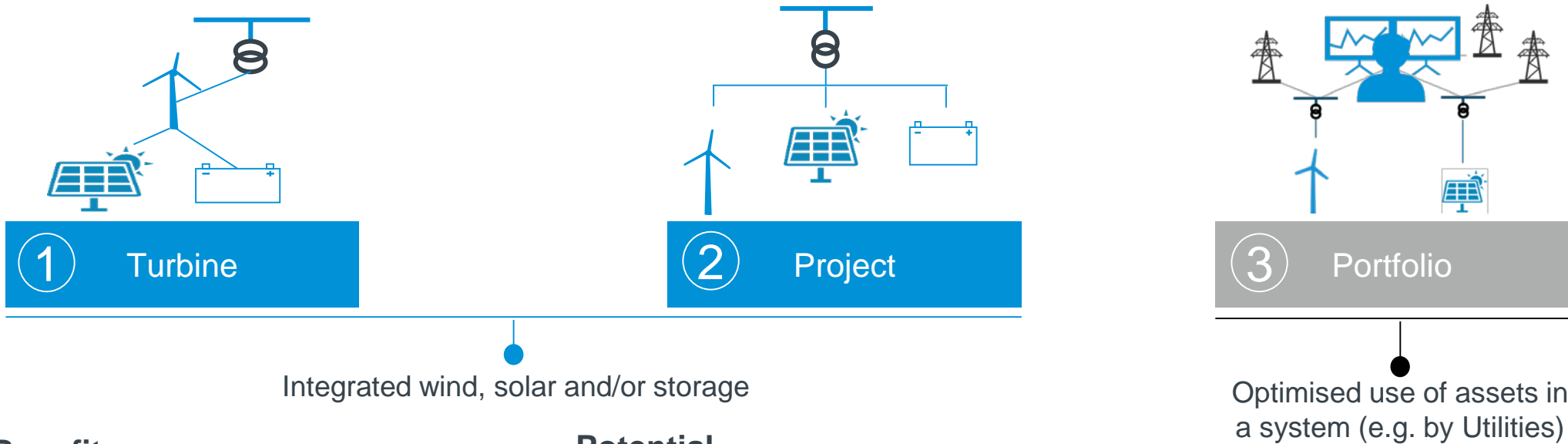
Co-development

- Development of own projects to serve customers' needs
- Capture additional revenue
- +700 MW of firm orders so far
- Successful exits in US, Australia, India, and Spain



HYBRIDS

Capture value in increasingly complex market



Benefits



- Grid stability and utilisation
- Project optimisation



EDPR & Vestas project, Spain

Potential



- Mainly Australia and India
- Growing in other parts of the world



Kennedy project, Australia





AGENDA

Track record and Performance

Trends in the Sector

Commercial Strategy to maintain #1 position

Summary and Q&A

SUMMARY

- 1** Market leading performance, maintaining **#1 position**
- 2** Price stabilization in 2018
- 3** Positive outlook for wind energy in short-, mid- and long-term

NORTH AMERICAN MARKET CONTINUES TO BE ATTRACTIVE

Chris Brown
President, Vestas North America

Copenhagen, 29 November 2018



CHRIS BROWN

Vestas, North America



● 1996 -- SVP (Singapore Power)



● 2005 -- EVP (Detroit Edison Energy)



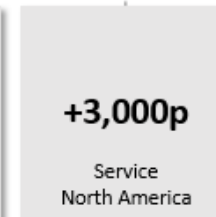
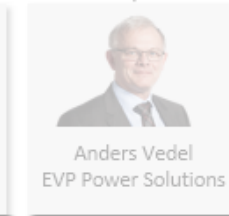
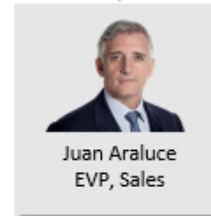
● 2008 -- Founder (Deepwater Wind)



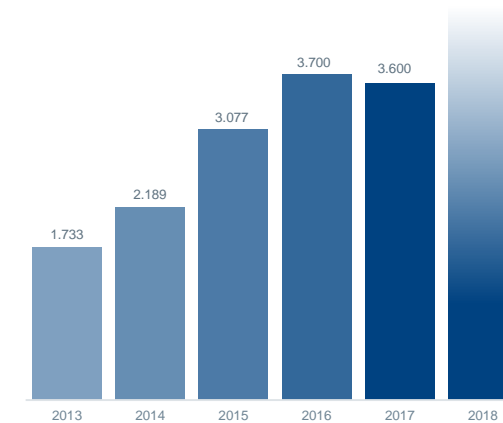
● 2011 -- COO (City of Detroit)



● 2012 -- GSVP (Vestas)



Vestas WTG Sales
North American Order Intake (MW)





AGENDA

North American Market

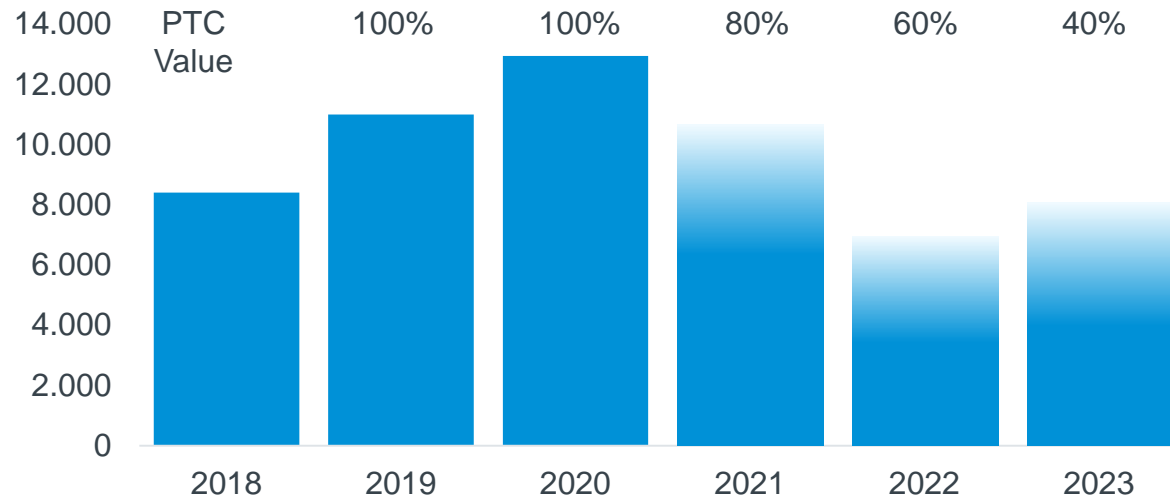
Vestas North America

Summary and Q&A

PTC GLIDEPATH CARRIES US MARKET THROUGH 2023

US Industry has 5+ years of policy certainty

North American Installations (MW)



Source: MAKE and Vestas

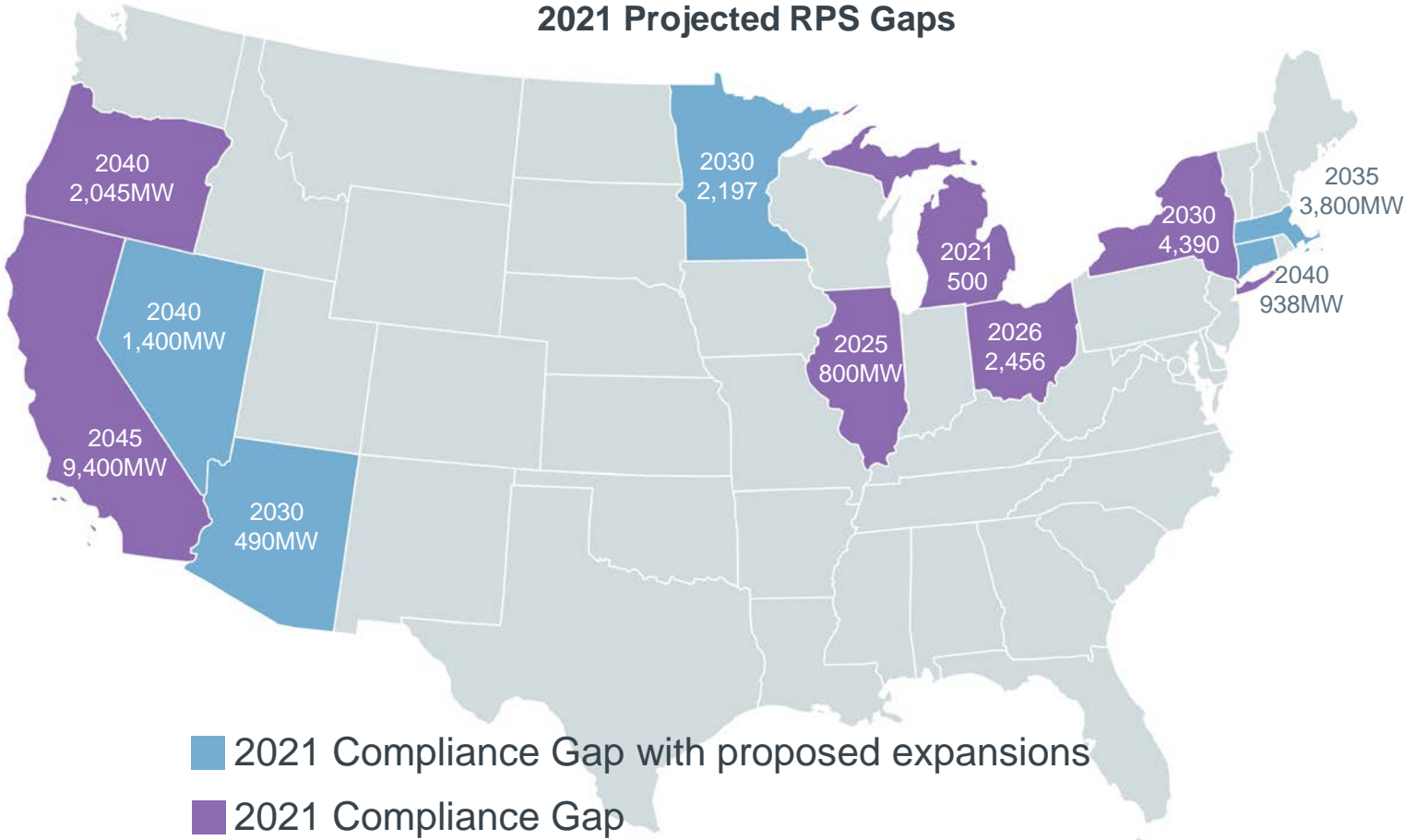
Key highlights

- Organic demand for renewable energy continues to grow ... 43% of Fortune 500 companies have RE goals, 9 states strengthening RE goals
- 11 GW of 2021 installations enabled by 80% PTC components. 80% and 60% levelized economics equivalent to today
- Largest US utilities (MidAmerican, PacifiCorp, AEP, Xcel) leading the industry



RPS DEMAND EXPECTED TO REMAIN IN 2021

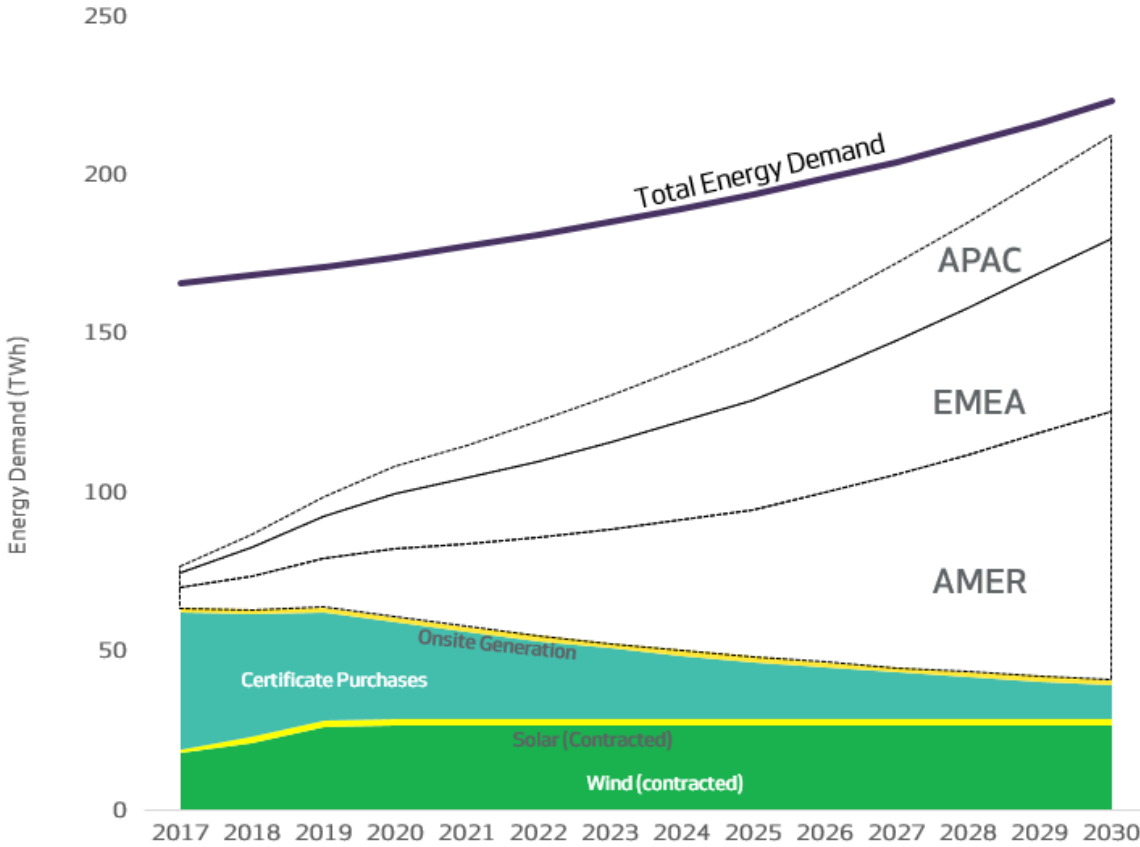
States continuing with renewable targets despite lack of federal support



ORGANIC GROWTH OF RENEWABLES CONTINUES

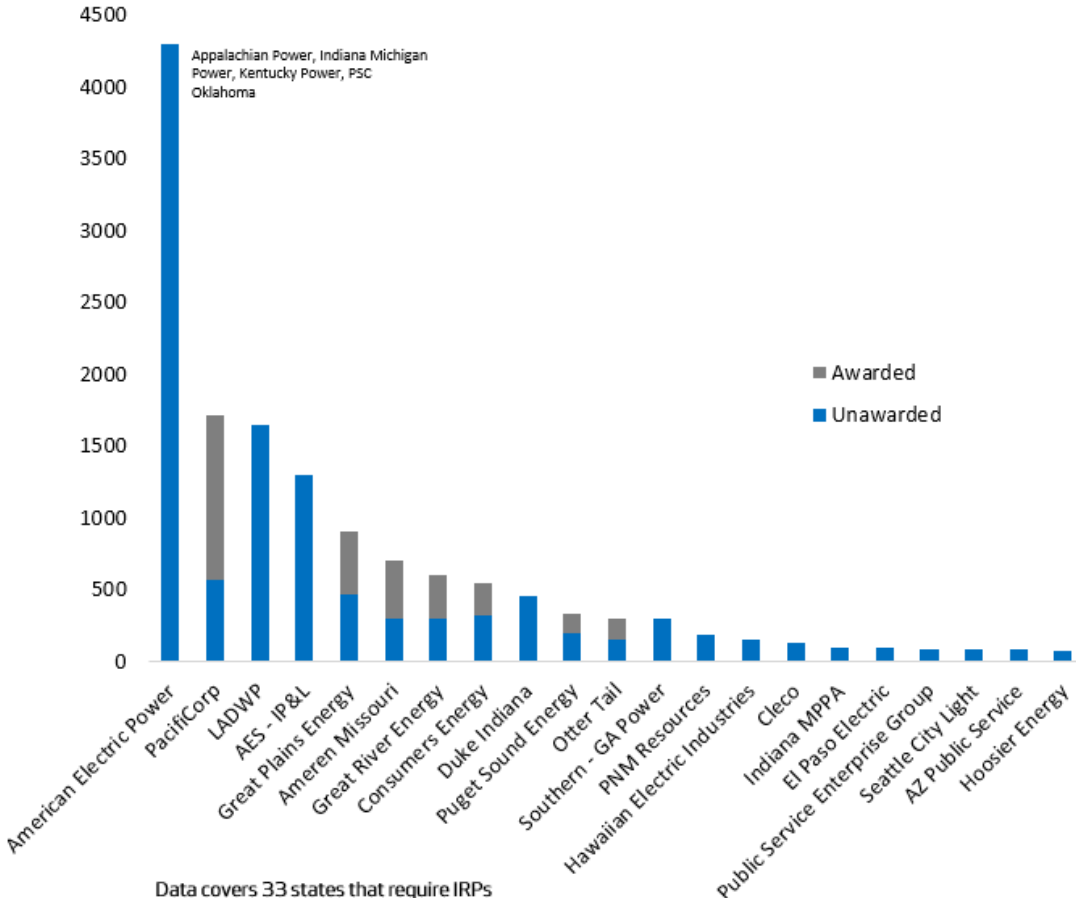
Despite headwinds, renewable energy remains in demand

22GW of Unmet N America Demand of RE100



Source: BNEF

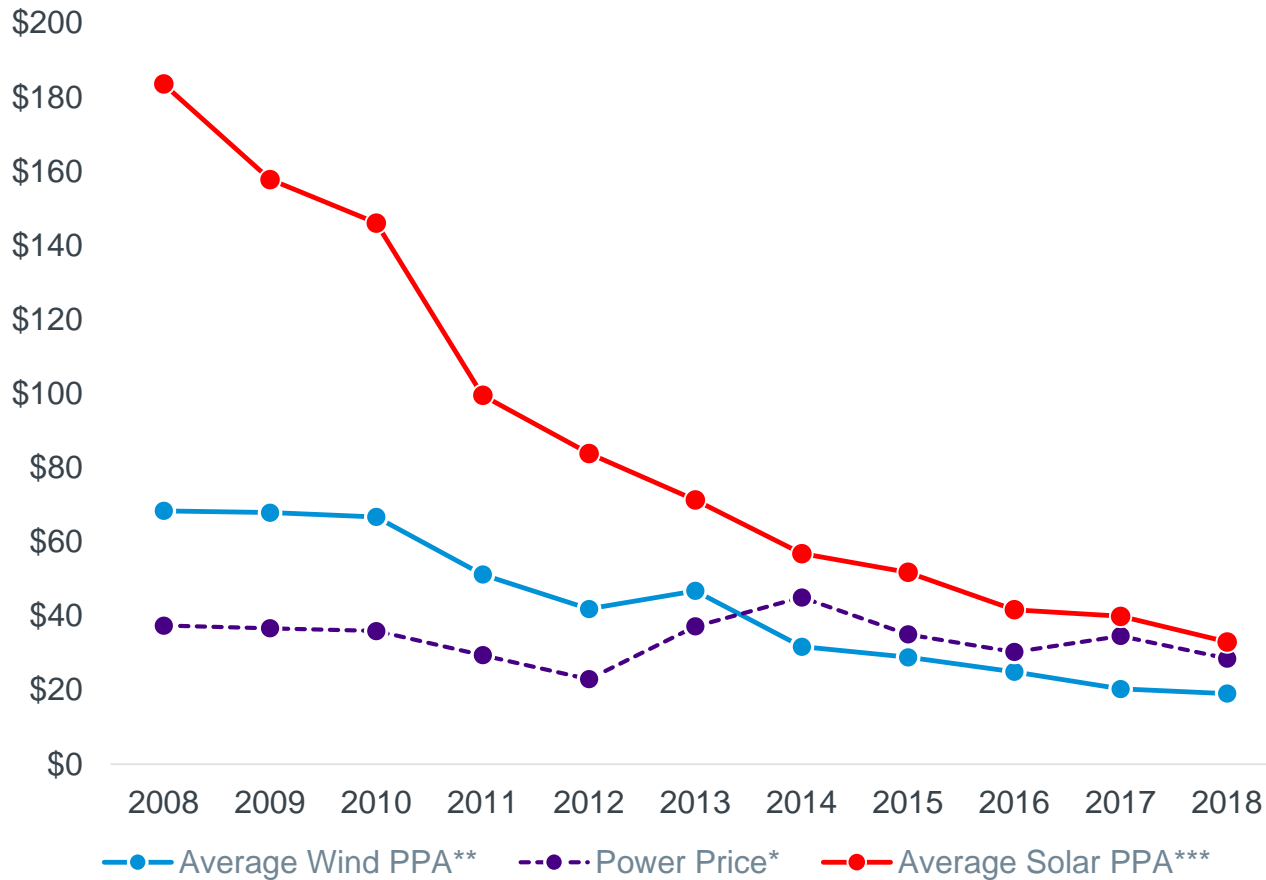
11GW of outstanding IRP Demand



Data covers 33 states that require IRPs

PPA PRICES IN USA

US PPA Landscape



*Source: S&P Global Market Intelligence
**Source: Wind PPA US DOE
***Source: Solar PPA BNEF

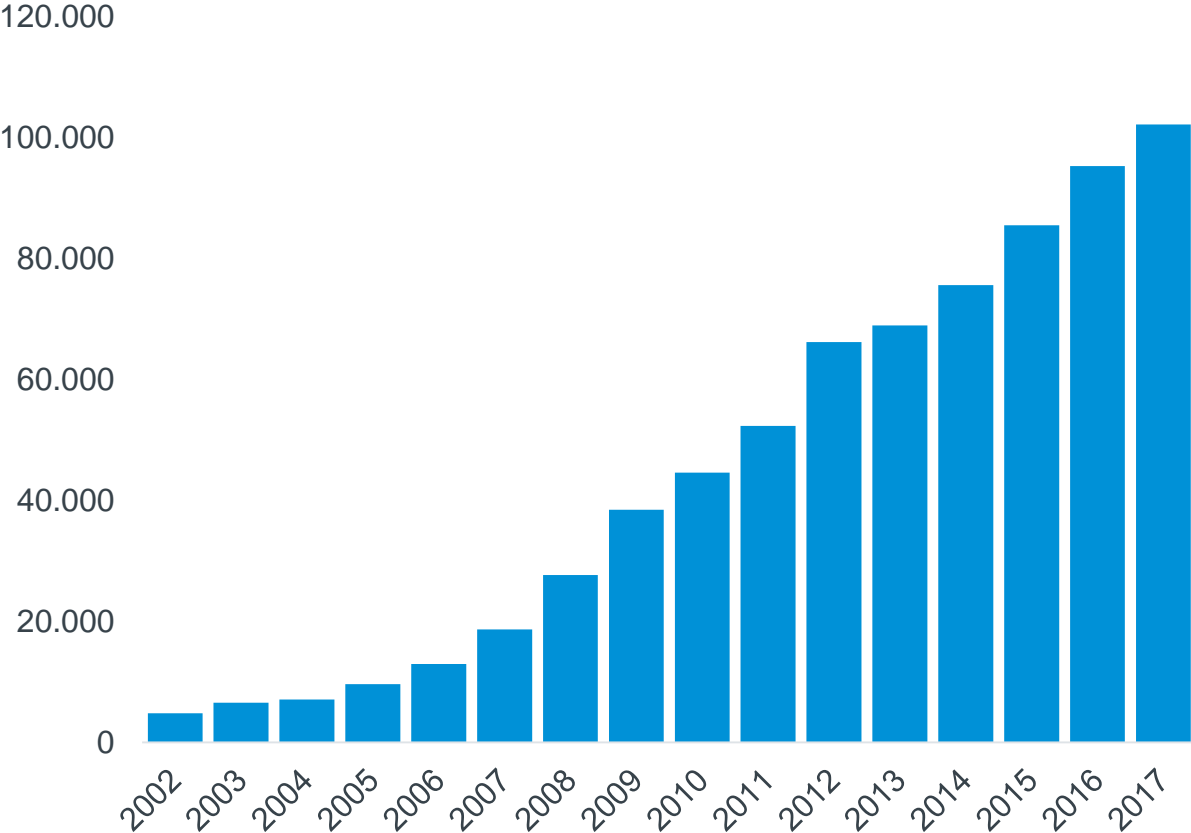
Key highlights

1. PPA prices have fallen 76% since 2009
2. Product dimensions double in 3 years:
2017: V110 @ 2MW, 9,498m of swept area
2020 V150 @ 4.2MW, 17,663m of swept area
3. Asset class maturity attracting institutional capital, driving down Cost of Capital
4. Project durations growing to 30+ years

NORTH AMERICAN WIND INDUSTRY FULLY MATURE

Wind infrastructure is built and here to stay

Cumulative North American installations (MW)



Source: AWEA

Key highlights

- NORTH AMERICA TO BREAK 100 GW IN 2018:** Supply chain, transportation, and service infrastructure fully mature
- SUPPLY CHAIN ACROSS ALL 50 STATES:** Wind bi-partisan political support stems from >500 manufacturing facilities and 100,000+ jobs across the country
- WIND POWERS AMERICA:** Wind energy now delivers over 30% of the electricity produced in four states: Iowa, Kansas, Oklahoma, and South Dakota.
- WIND FOR FUEL:** Utilities across the country are retiring coal plants and replacing with new wind generation
- GROWTH OF REPOWERING:** 2.1 GW of projects repowered in 2017



AGENDA

North American Market

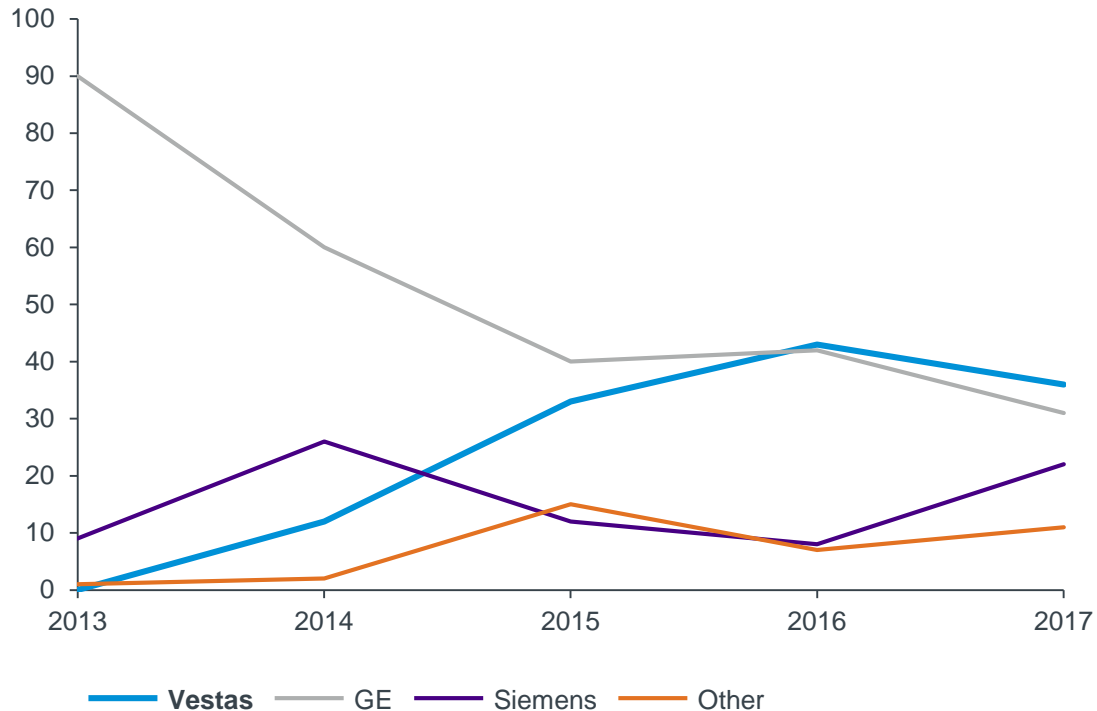
Vestas North America

Summary and Q&A

VESTAS TAKES TOP SPOT IN US INDUSTRY

Commercial success a function of best products, best team

U.S. market share of wind turbine manufacturers by MW



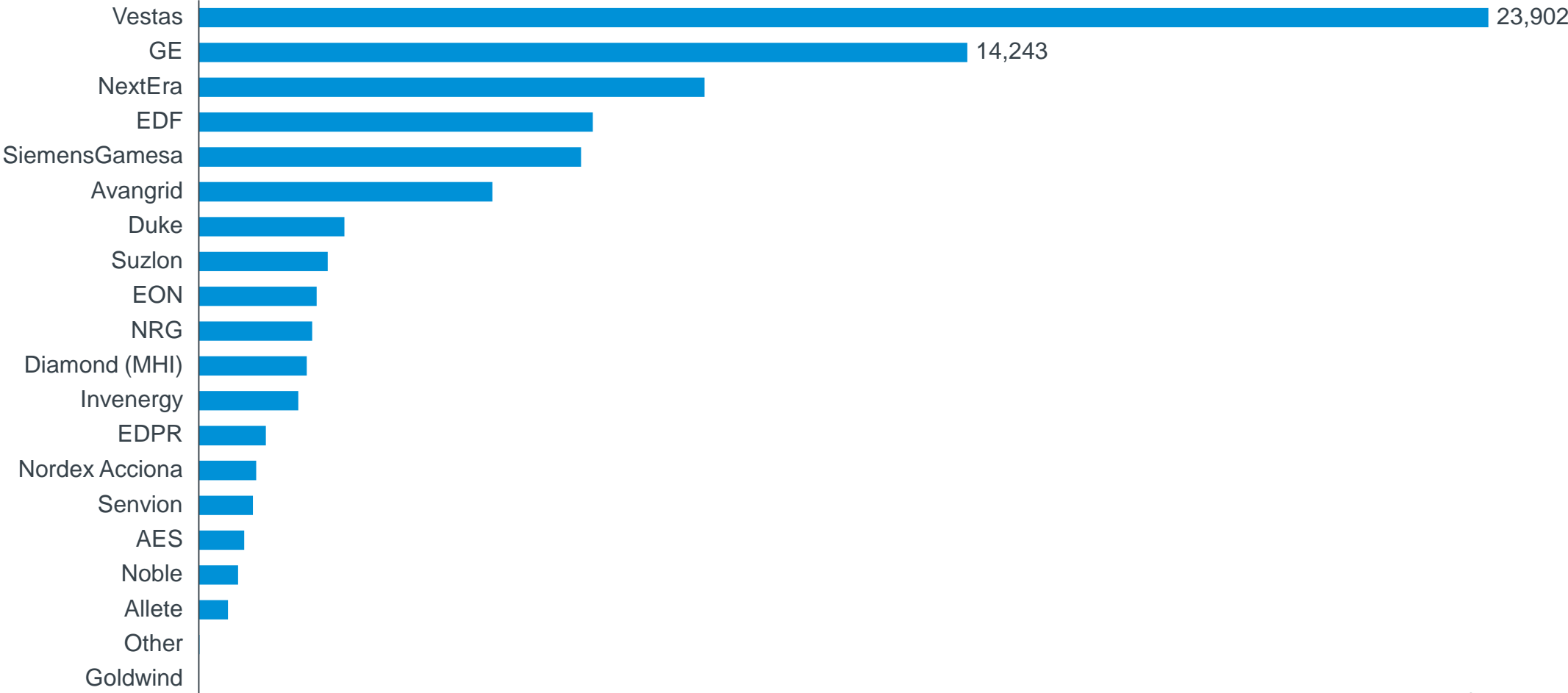
Source: AWEA

Key methods to gaining market share

1. **Making Markets:** Introducing utility customers to the value of wind ownership and educating them on how to be successful
2. **Best Products:** 2MW and 3/4MW offerings
3. **Efficient Manufacturing:** Strategically located manufacturing plants for transport optimization
4. **Best Team:** Relentless focus on customer intimacy and value engineering to drive loyalty in the market

VESTAS IS THE LARGEST OPERATOR IN NORTH AMERICA

Scale and technology enable Vestas to have the lowest operating costs



Source: MAKE

VESTAS TRANSITIONING FROM TURBINE SUPPLIER TO SOLUTIONS PROVIDER

Bringing the widest breadth and depth of solutions to serve the industry

	Equipment Supply	Construction	Service	Repower
2014	V100	Logistics & Commissioning	Full Suite of Service Offerings	
2015	V110, V136	Logistics & Commissioning	Full Suite of Service Offerings	
2016	V116, V136	Logistics & Commissioning	Full Suite of Service Offerings Multibrand	
2017	V120, V136, V150	EPC	Full Suite of Service Offerings Multibrand	Clipper 2.5, V80
2018	V120, V136, V150, Hybrid Systems	EPC	Full Suite Multibrand Variable Pricing	Clipper 2.5, V80, MM92 + more to come

PROJECT DEVELOPMENT

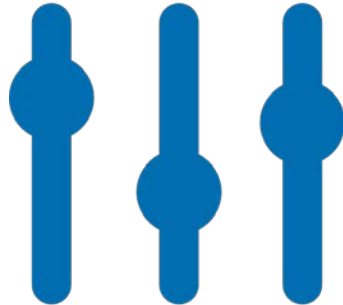
Entering earlier in the value stream brings value to our customers and to Vestas

Optimize Technology



Entering the process earlier allows Vestas to tailor the technical solution and increase the impact of value engineering

Value Creation



By increasing influence on the levers that drive project returns, Vestas is in a stronger position to reduce price pressure in the market

Development



Ownership of development assets allows Vestas to bring more projects or qualification options to customers

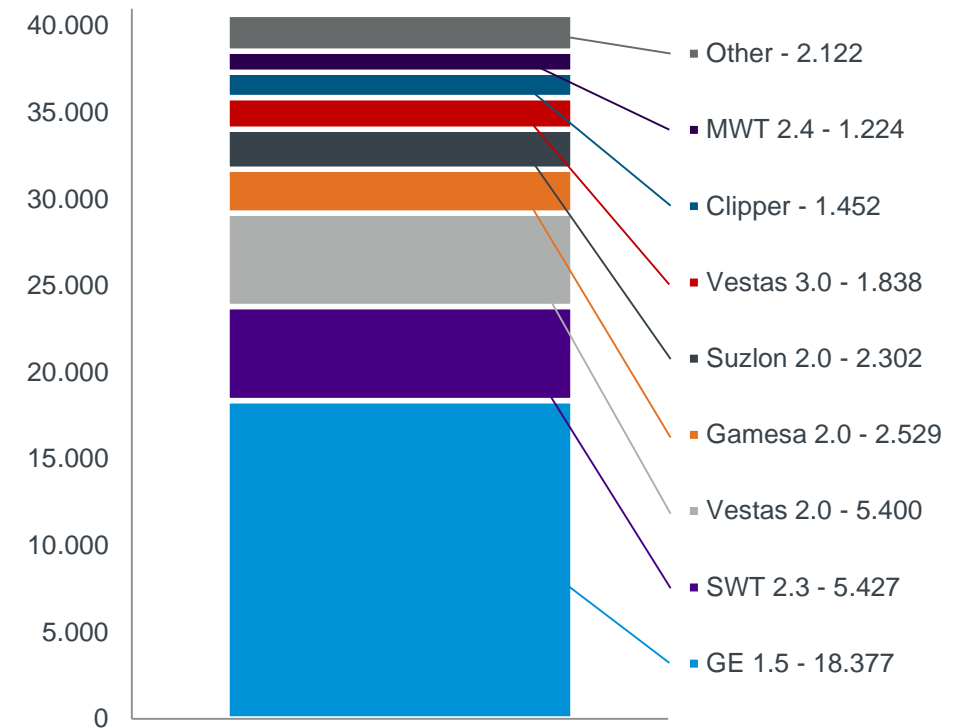
VESTAS MODULAR 2 MW PLATFORM CREATES UNIQUE OPPORTUNITY

With 90, 100, 110, 116, and 120m rotors, Vestas has maximum product flexibility

BP Clipper Prototype Adapter Installation - Flat Ridge, Kansas



Repower Platforms (2005-2011 Vintage)

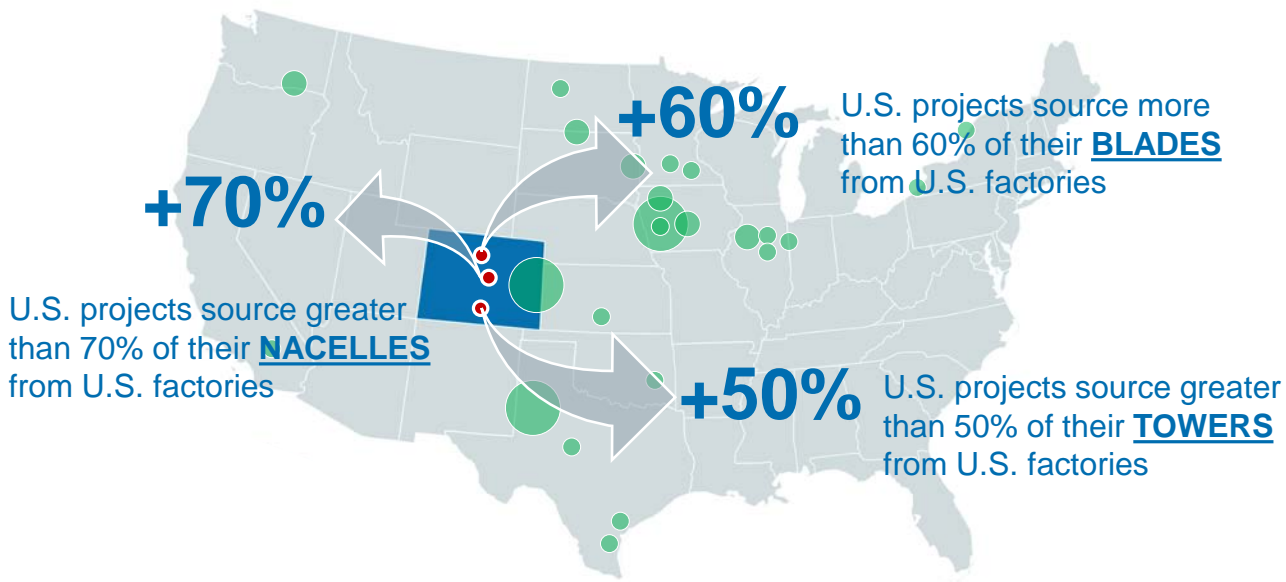


TARIFFS

Strong footprint in the USA and a global setup provides flexibility

Key highlights

1. US projects use US products: supply for projects in the USA already source nearly 60% of their needs from US factories
2. World's largest tower factory is in the USA. Pueblo sources 100% of their steel from US companies already





AGENDA

North American Market

Vestas North America

Summary and Q&A

SUMMARY

- 1** **USA remains strong market** both short and long-term
- 2** Vestas remains a **market leader in the USA** with tailored product line, efficient manufacturing, and productive customer relationships
- 3** **Expanded offerings add value**

CONNECTING FUTURE AND LEGACY

Anders Vedel

Executive Vice President & CTO

Copenhagen, 29 November 2019





AGENDA

Market trends

Technology strategy

Summary and Q&A

TECHNOLOGY TRENDS IN A CHANGING RENEWABLES INDUSTRY

**Auctions and
Forward-Selling**

**Value of energy
increasingly
important**

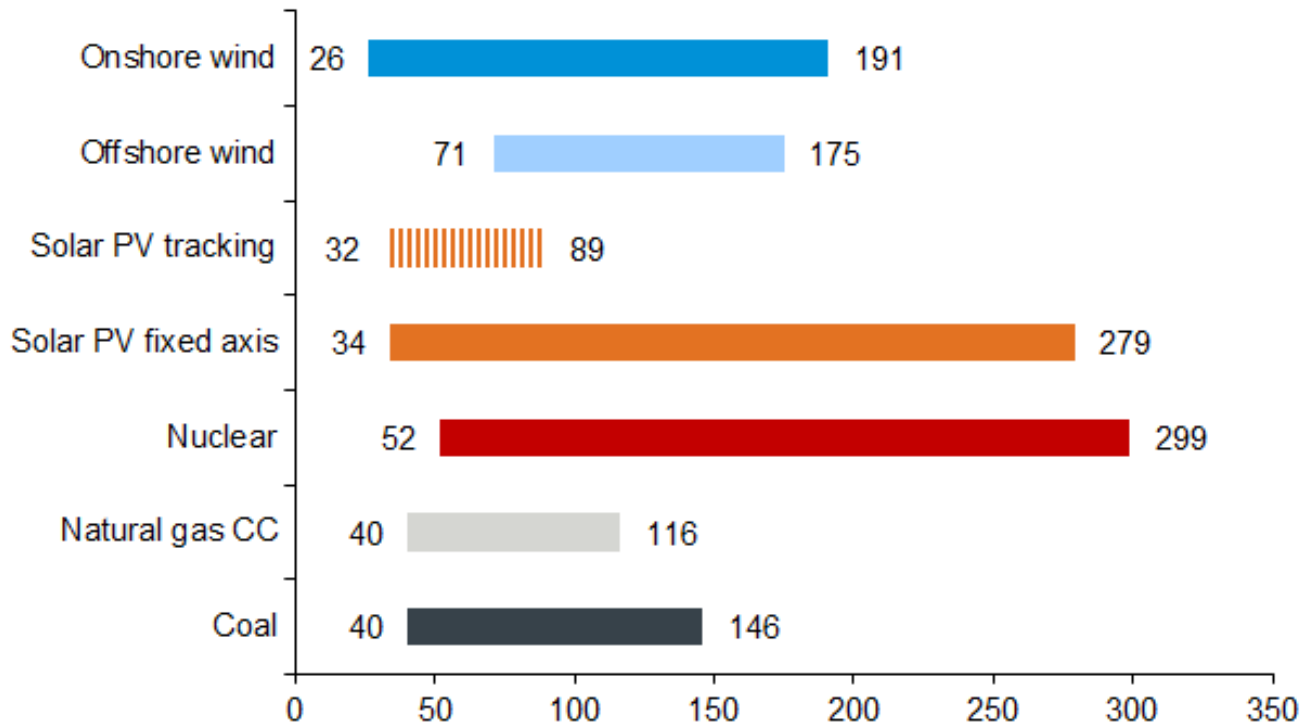
**Faster development
cycles**

**LCOE trend to
continue**

LEVELISED COST OF ENERGY (LCOE)

Onshore wind among the most cost-efficient sources of electricity

Levelised cost of energy USD/MWh



Source: BNEF, 1H 2018 Wind LCOE Update, 03/2018; BNEF; BNEF 1H 2018 LCOE Global Report, 03/2018; BNEF

Key highlights

- Global average LCOE of onshore wind declined from **96 USD/MWh in 2009** to **55 USD/MWh in 2018** – a reduction of **48 percent**
- This impressive cost decrease has mainly been driven by **declining wind turbine prices** and **increased power output**
- **Onshore wind is today among the most cost-efficient** power generating technologies – and its LCOE is set to **decrease further**



AGENDA

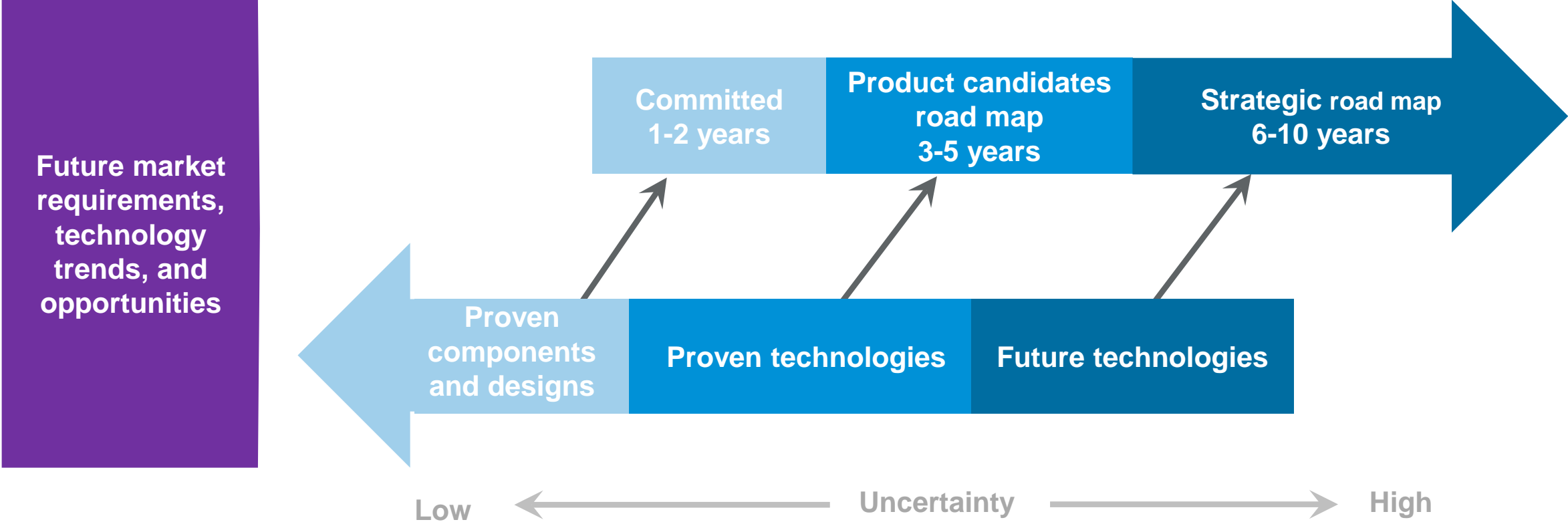
Market trends

Technology strategy

Summary and Q&A

OUR RESPONSE TO ENSURE CONTINUED TECHNOLOGY LEADERSHIP

Short-, medium-, and long-term focus to ensure new technology opportunities are fed into product portfolio

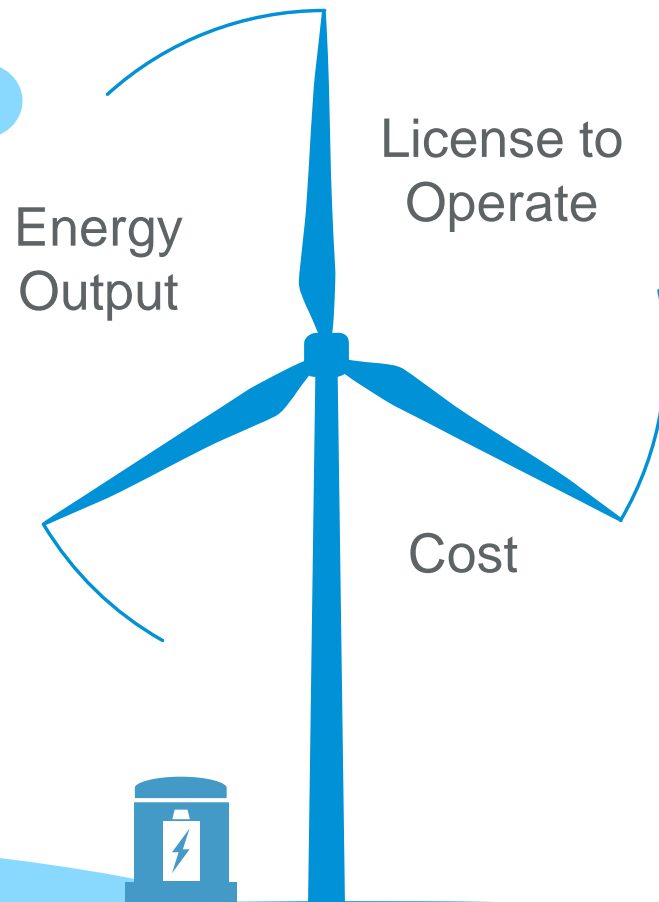


PRODUCT STRATEGY DEFINED BY OUR CUSTOMERS' EXPECTATIONS

Broad product range enables tailored solutions for specific markets

What customers need

What Vestas does



- Proven technology: 2 & 4 MW platforms
- Standardisation and modularisation
- Full supply chain perspective
- Tailored solutions for specific markets
- Compliance with local requirements
- Various options: advanced tower solutions, climate package, and noise optimisation

VESTAS' GLOBAL PLATFORMS MEET MARKET-SPECIFIC NEEDS

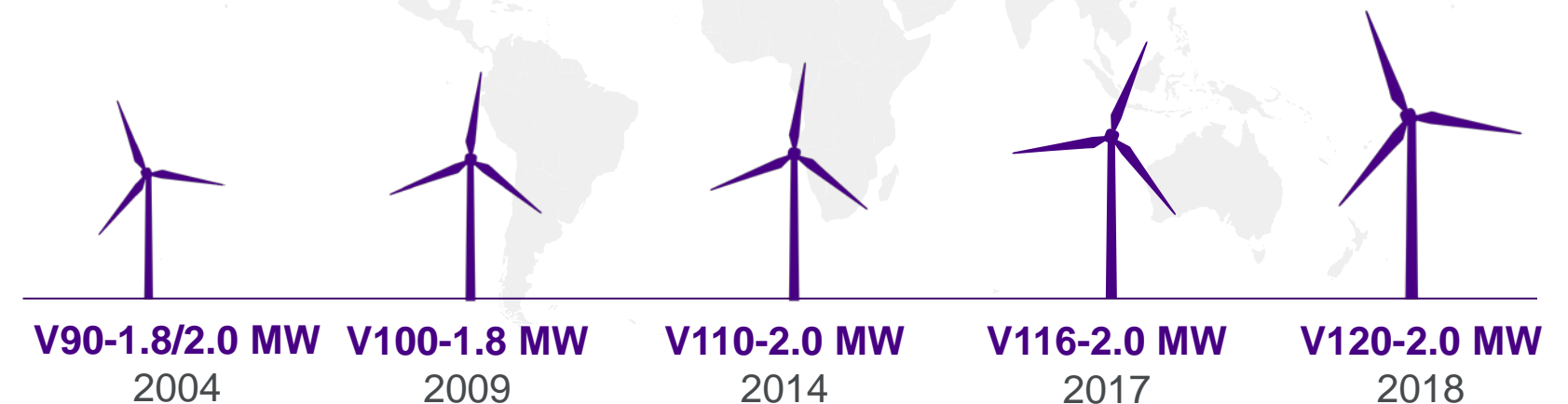
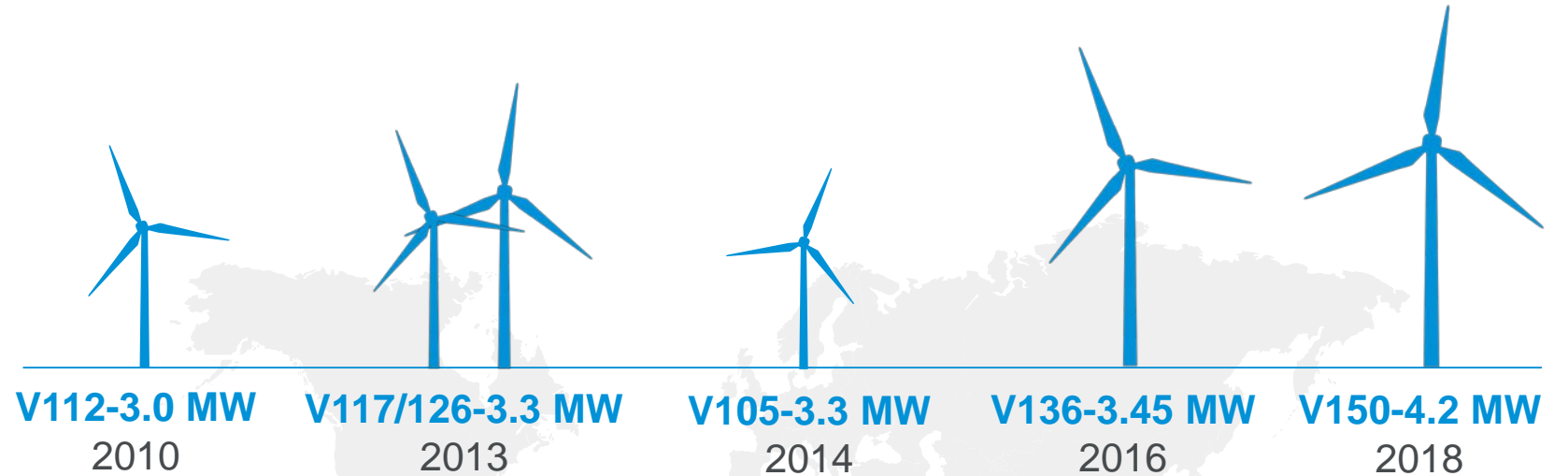
Scale benefits, flexibility, and service simplicity

4 MW PLATFORM

- Rotor size: 105 - 150m
- Power range: 3.45 - 4.2 MW
- Installed globally: +19 GW*

2 MW PLATFORM

- Rotor size: 90-120m
- Power range: 2.0 - 2.2 MW
- Installed globally: +41 GW**



* As of 30 June 2018, including V112-3.0 MW™

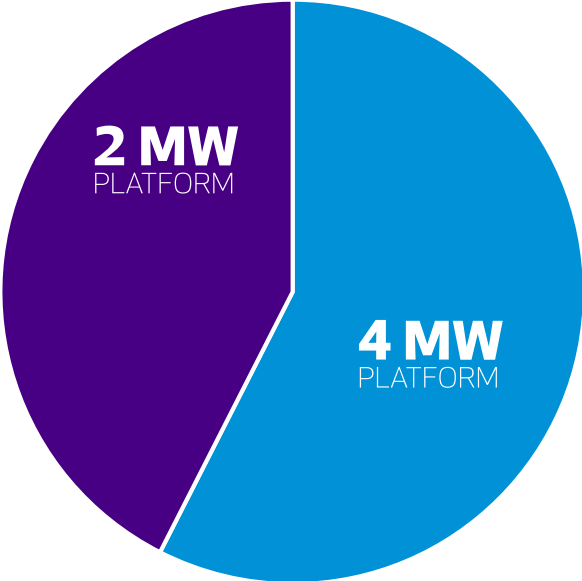
** As of 30 June 2018, including V80-1.8/2.0 MW™ and V90-1.8/2.0 MW™

Classification: Restricted

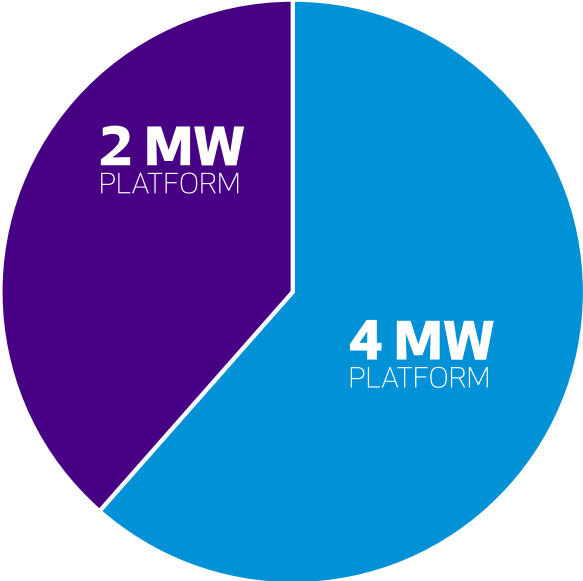
4 MW PLATFORM CONTINUES TO REPRESENT LARGER PART OF SALES

Shift in market demand from 2 MW to 4 MW

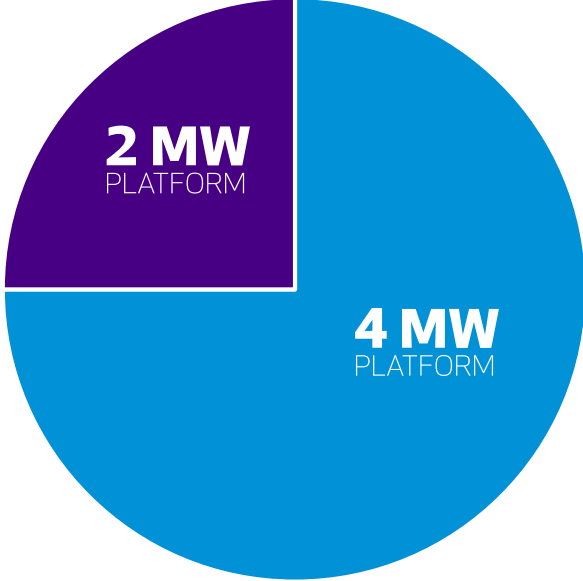
Order intake 2016 FY



Order intake 2017 FY



Order intake 2018 9M

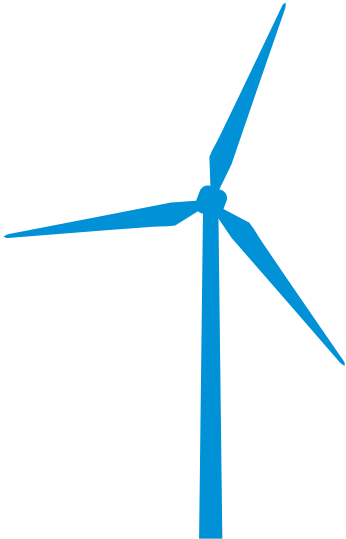


OUR NEXT STEP: MODULARITY

Increasing modularity of our products

TODAY

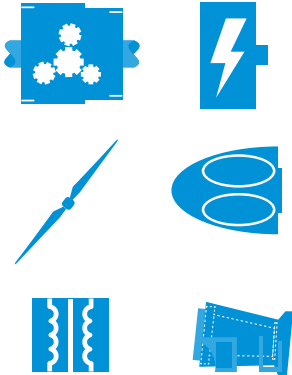
Singular product development



Single product variant

FUTURE

Modular product development



Individual modules



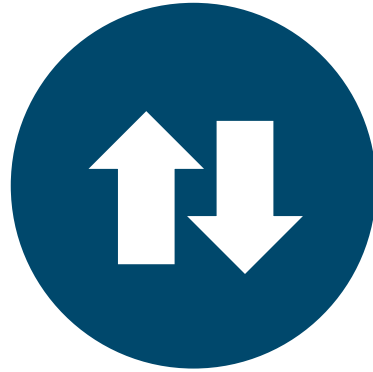
Multiple variants

BENEFITS OF MODULARISATION

Modularisation enhances the flexibility of our solutions, while maintaining benefits of scale



Enabling more customised solutions to match customer needs



Expanding number of variants, lowering number of components



More standardised components enable efficiency and scale



Increased opportunities to build supplier partnerships

PIONEERING SOLUTIONS TO EXPAND LEADERSHIP

Combining technologies with wind at the core that enable further penetration

Hybrid demonstrator

Test project in Spain with EDPR to explore combination of wind and solar



Kennedy Energy Park

The world's first on-grid utility-scale hybrid integrating wind, solar and storage



Northvolt partnership

Technology collaboration: Lithium-ion battery platform for Vestas power plants





AGENDA

Market trends

Technology strategy

Summary and Q&A

SUMMARY

1

Levelized Cost of Energy accompanied by other significant value drivers

2

2 MW and 4 MW are strong, **proven platforms** that continue to deliver customer value

3

Modular products next step on our journey to maximize flexibility and maintain scale

A COMPETITIVE SUPPLY CHAIN

Jean-Marc Lechêne
Executive Vice President & COO

Copenhagen, 29 November 2018





AGENDA

Safety & Quality

Competitive Footprint

Value chain Cost-outs

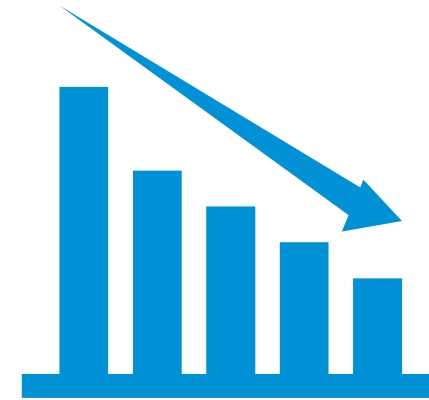
Summary and Q&A

BUSINESS STARTS WITH SAFETY

Continuous improvements through targeted efforts

Vestas Safety Principles

1. All injuries can be prevented
2. Every hazard can be managed
3. Management is accountable for safety
4. People are the most critical factor in a safety effort
5. Working safely is a condition of employment



- 2005-2018: **95%** reduction in Lost Time Injuries
- 2015-2018: More than **50%** reduction in Total Recordable Injuries
- 2017: **275** people injured



**SAFETY
MATTERS
TO OUR
CUSTOMERS**



AGENDA

Safety & Quality

Competitive Footprint

Value chain Cost-outs

Summary and Q&A

FLEXIBLE, ASSET- LIGHT, AND LOW-COST SUPPLY CHAIN FOOTPRINT

Increasing share in low cost locations and outsourcing percentage

OBJECTIVES

- Agility in ramp up and down
- Lowest landed cost

MEASURES

- Asset light setup
- Supply and manufacturing footprint in lowest cost countries
- More outsourcing to support growth

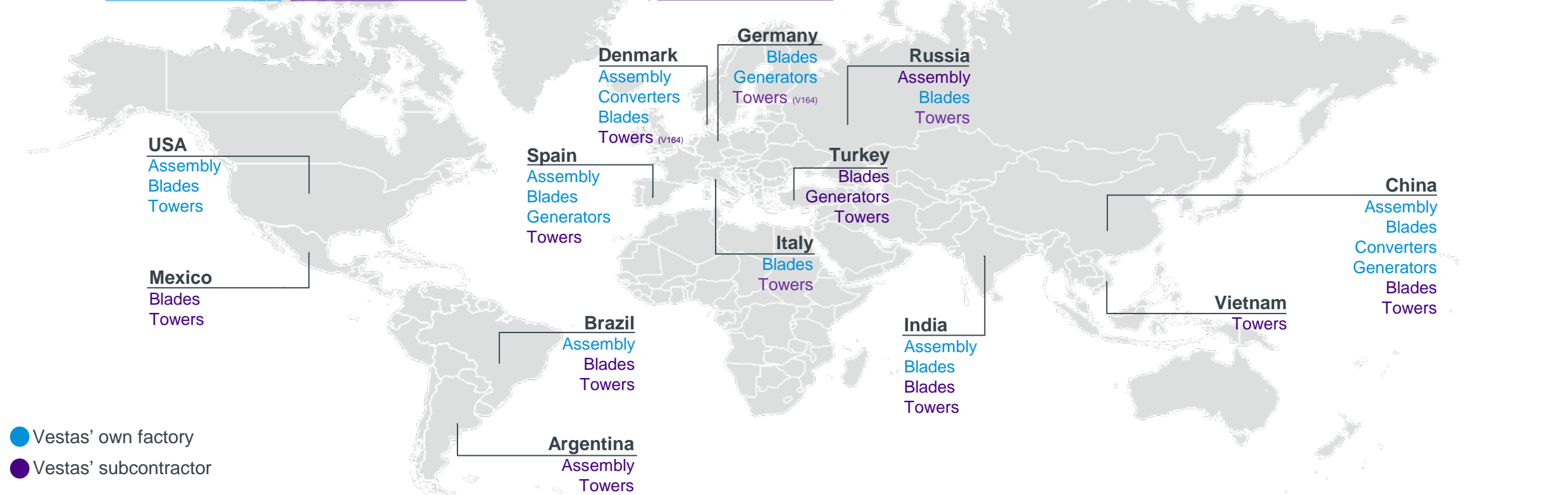
RAMPING UP PRODUCTION TO MEET HIGH MARKET DEMAND

Our new products V120, V136, and V150 represent 80% of our deliveries in 2019

Ramp up examples in 2018 and 2019



Country	Production Details
USA	Brighton: V136 in 2018/19 Windsor: V120 in 2019
Mexico	TPI ramped up V136 in 2018, adding V150 in 2019
Brazil	Aeris V150 in 2019 and new Vestas V150 assembly plans
Argentina	Assembly factory opened by our partner Newsan in 2018
Spain	Daimiel ramp up V150 lines during 2018 and 2019
Russia	Start of Blades, Assembly and Towers in 2018, ramp up in 2019
India	Ahmedabad blade factory ramp up to V120 during 2018
China	TPI new V150 setup in 2019, Aeolon V136 from 2019



STRENGTHENING OUR GLOBAL SUPPLY CHAIN TO WIN NEW BUSINESS

Focus on cost competitiveness and strategic partnerships

Russia: Blade / assembly factory



Argentina: Hub / nacelle assembly factory



Brazil: V150 assembly production



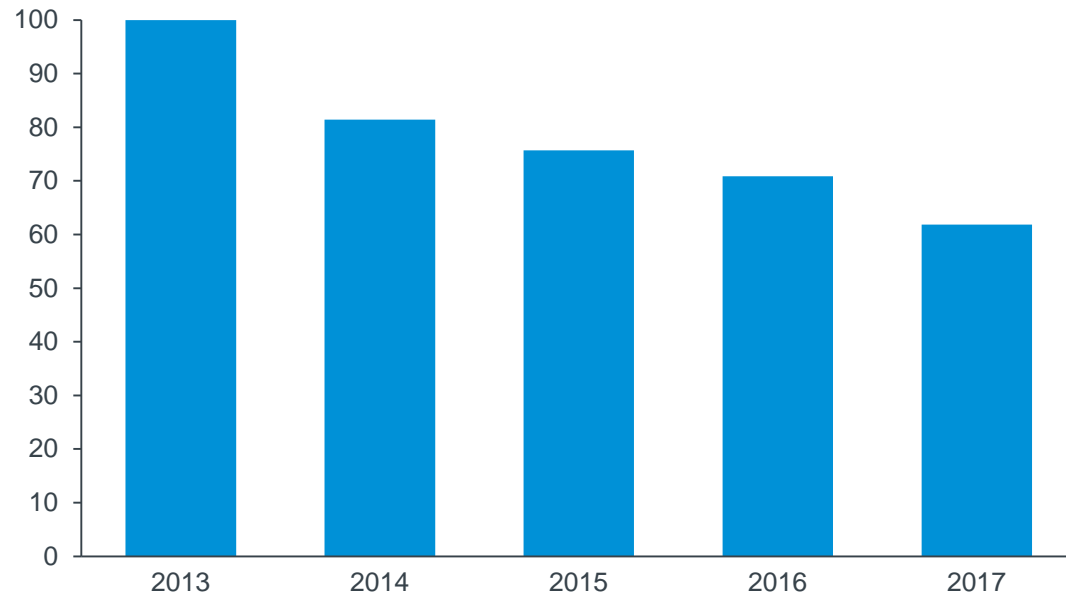
China: Blade supply agreements



IMPROVING PRODUCTIVITY WHILE INCREASING ACTIVITY

Efficient manufacturing and supply chain setup reduces cost

Manufacturing cost pr. MW
Index, 2013=100



Key highlights

- Production cost per MW decreases as operations gets more efficient



AGENDA

Safety & Quality

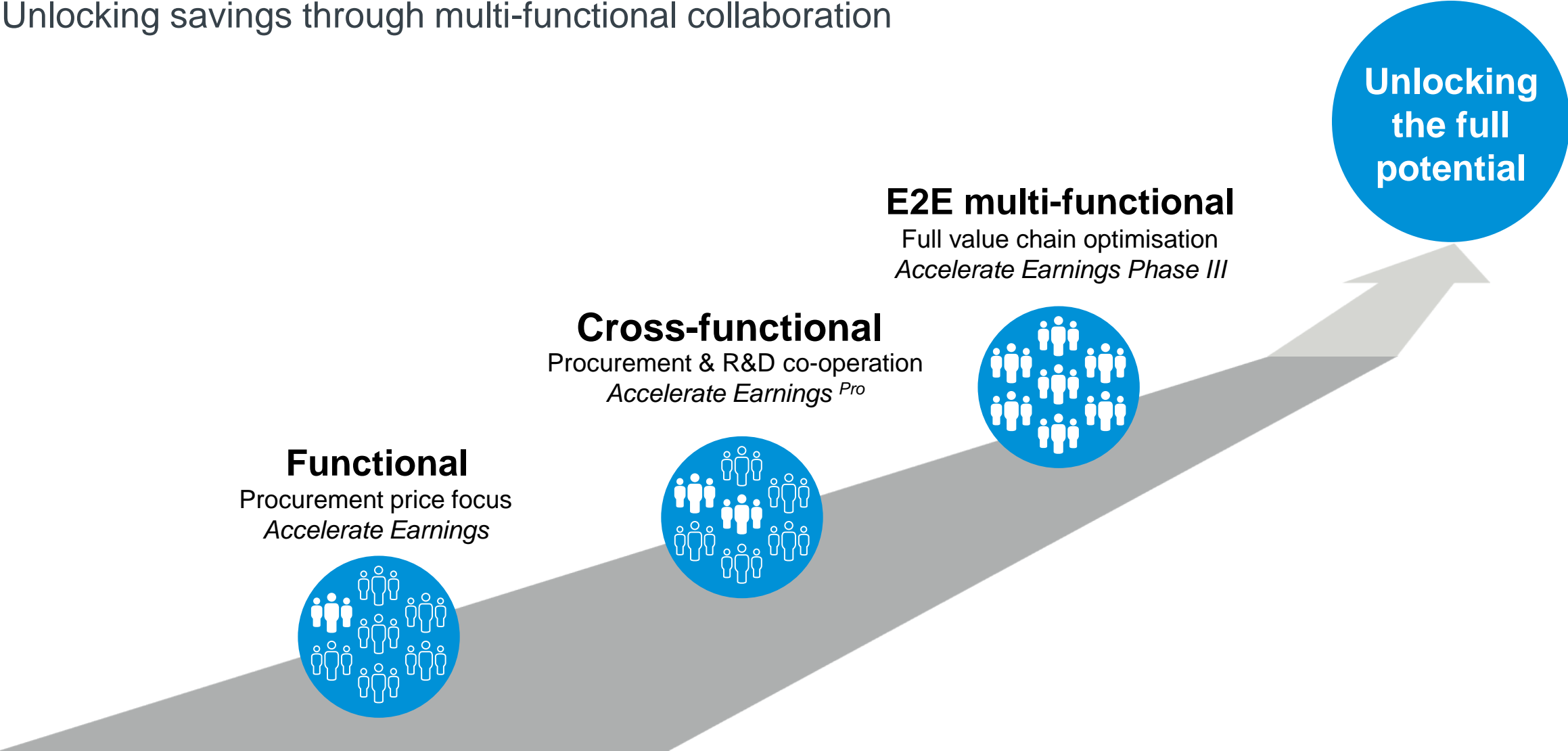
Competitive Footprint

Value chain Cost-outs

Summary and Q&A

E2E PROGRAM TAKES US TO THE NEXT LEVEL

Unlocking savings through multi-functional collaboration



E2E INITIATIVES OPTIMISE THE FULL VALUE CHAIN

Unprecedented levels of cross-functional collaboration



Functional



Cross-functional



End-to-end multi-functional

Optimising **THE FULL VALUE CHAIN** to develop the best solutions for **OUR CUSTOMERS**



AGENDA

Safety & Quality

Competitive Footprint

Value chain Cost-outs

Summary and Q&A

SUMMARY

1

Excellence in **Safety** and **Quality** remains the foundation of our competitive supply chain

2

Manufacturing and supply chain footprint secures ongoing action to deliver **lowest cost** and **agility to ramp up**

3

Our organizational maturity unlocks further **saving opportunities** across the full value chain

THE LEADING SERVICE PROVIDER IN A GROWING MARKET

Christian Venderby
Group Senior Vice President & Head of Vestas Service

Copenhagen, 29 November 2018



A person wearing a dark blue vest and harness is standing in a desert landscape. The vest is equipped with various tools and equipment, including a radio and a blue bag. The background shows a clear blue sky and several wind turbines in the distance.

AGENDA

Introduction

Market trends and strategy

Deep dives

Summary and Q&A

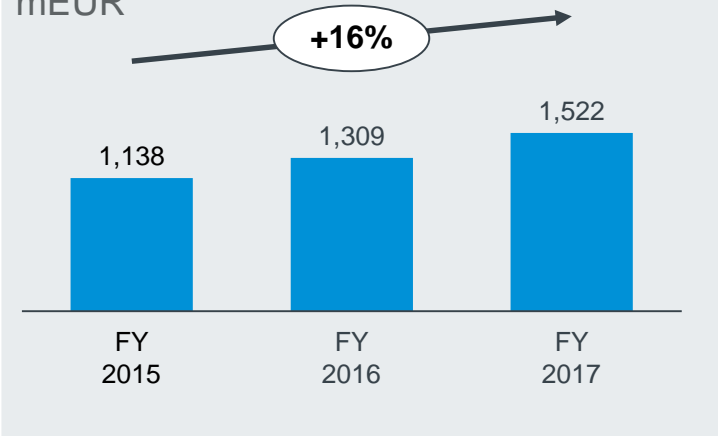
“

**Our aim is to
grow the service
business, while
taking out cost.**

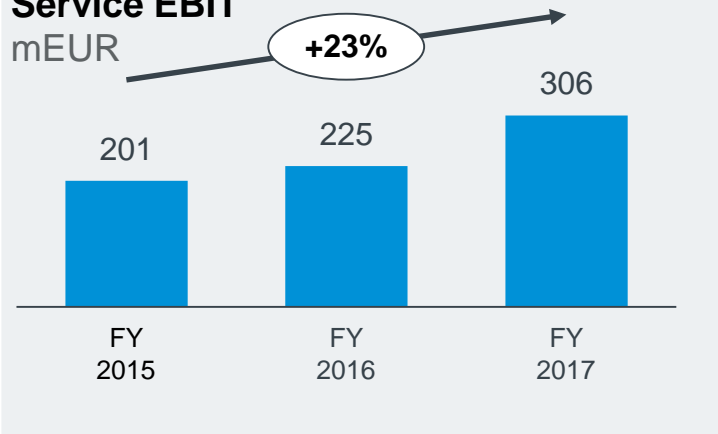
VESTAS SERVICE PERFORMANCE

The service business has delivered a CAGR of 16-23% on all key metrics from 2015 to 2017

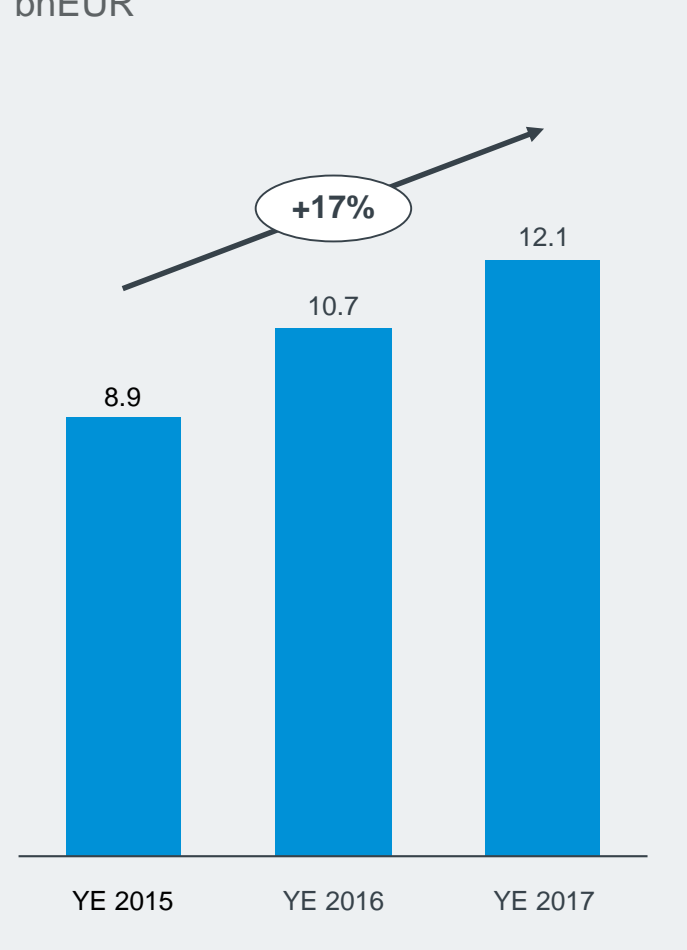
Service revenue
mEUR



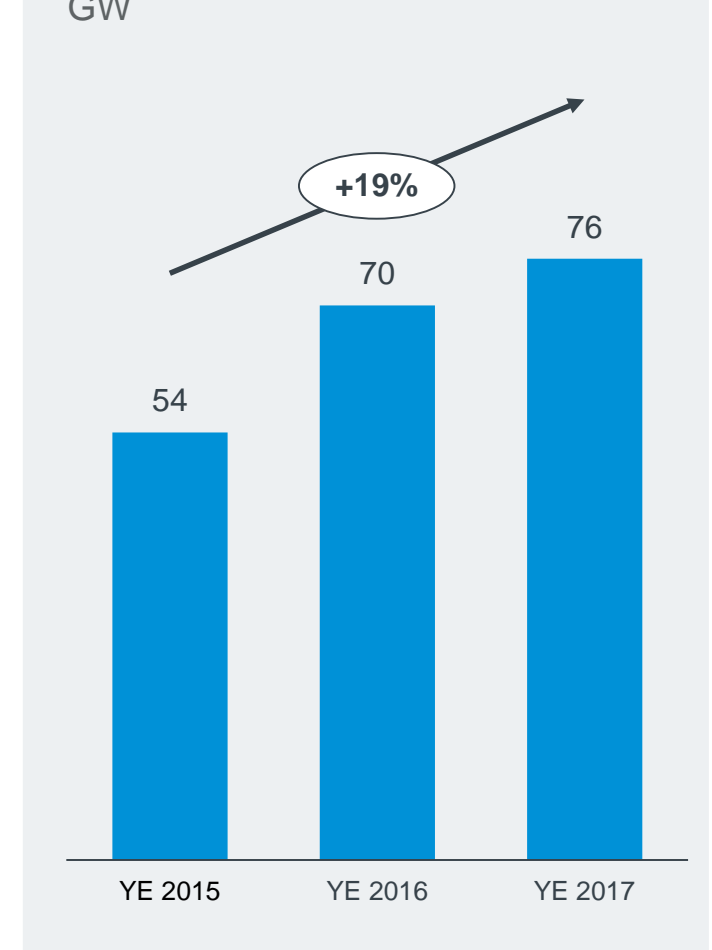
Service EBIT
mEUR



Service order backlog
bnEUR



Fleet under service
GW



KEY FACTS

True global player with 83 GW under service and 20% larger fleet than nearest competitor



AMERICAS
30.8 GW

EMEA
43.0 GW

APAC
9.2 GW

Fleet under service per region, Q3 2018

+10,000 employees
dedicated to service

Servicing **+8,000 MW** of non-Vestas turbines

Operating in
64 countries

€13.2bn
Service backlog

+40,000 turbines
under service



AGENDA

Introduction

Market trends and strategy

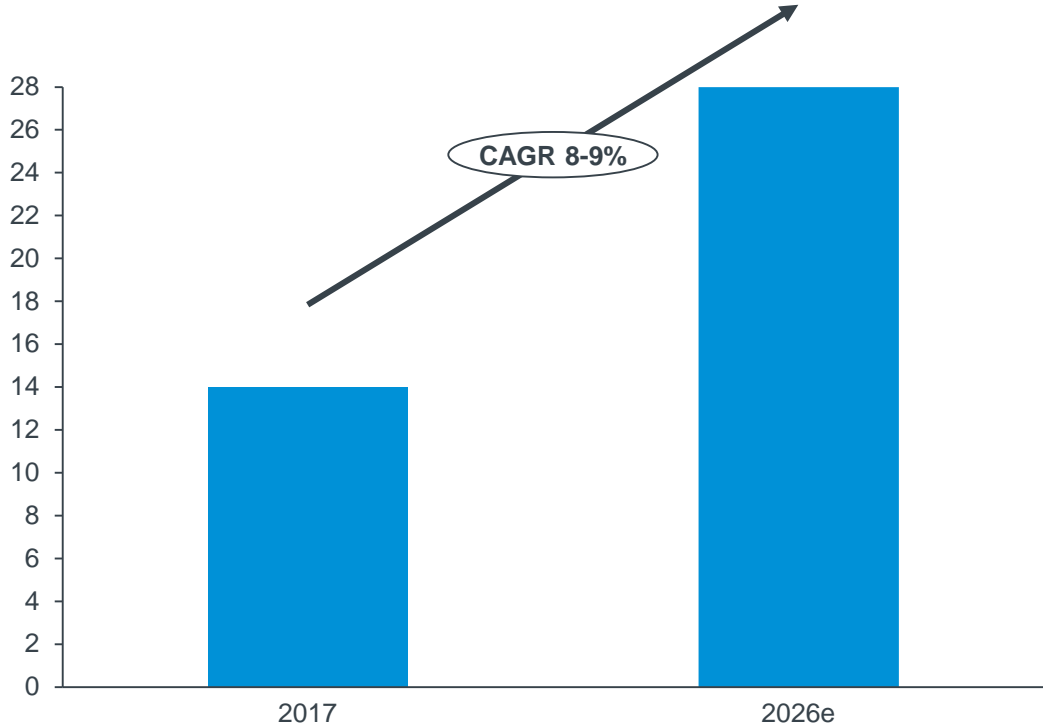
Deep dives

Summary and Q&A

THE POTENTIAL

The global wind O&M market is expected to grow 8-9% annually until 2026

Global wind O&M market, 2017-2026
BnUSD

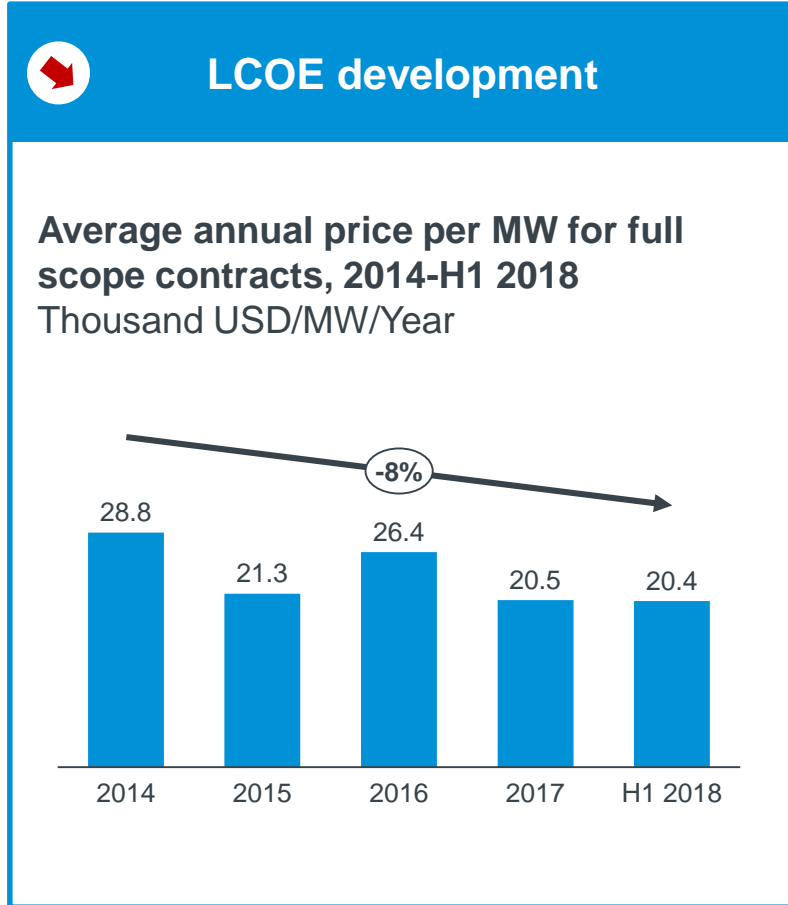
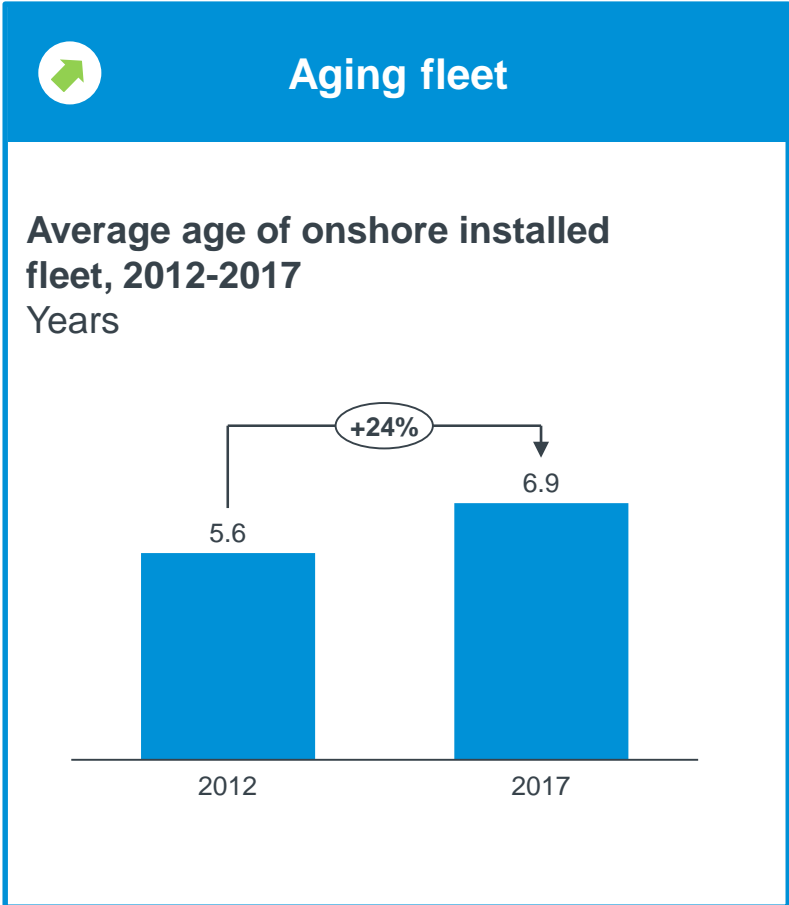
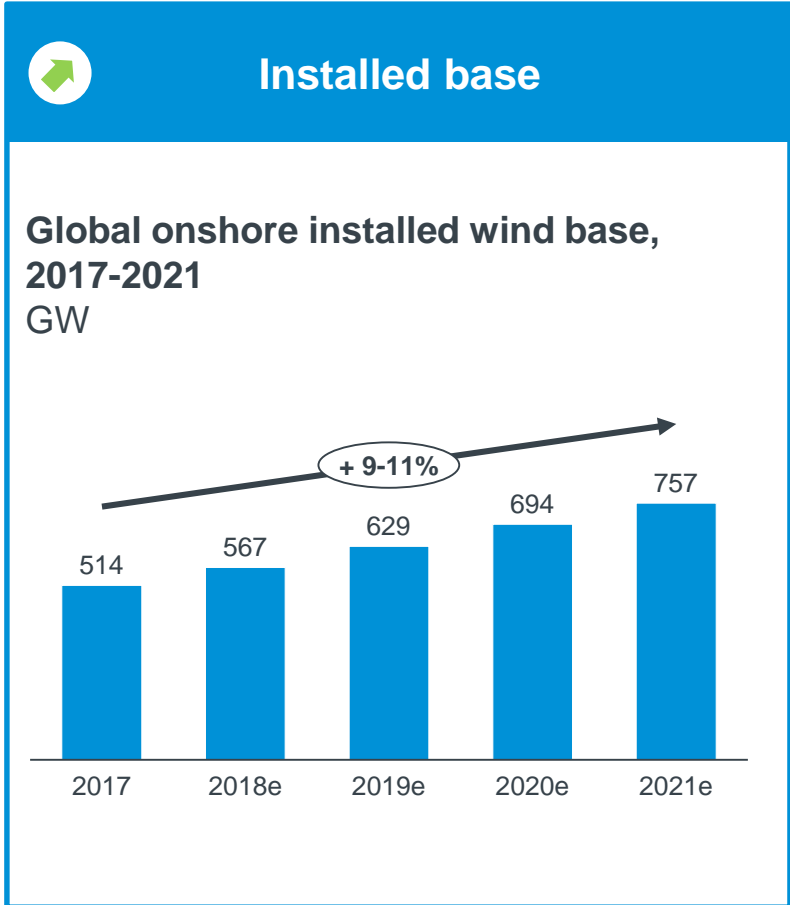


Source: Make 2017



MARKET GROWTH DRIVERS

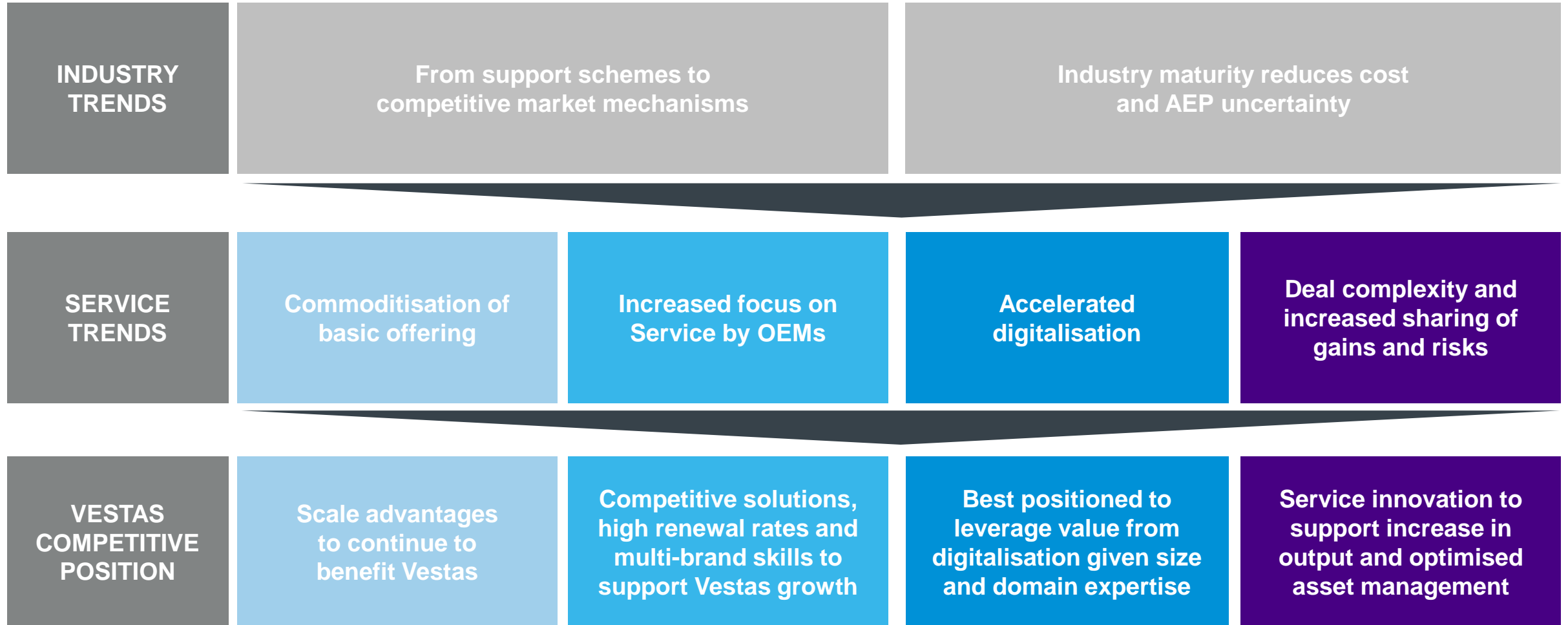
The market growth is supported by an expected 11% annual growth in installed fleet and an aging fleet that are not outweighed by price development that historically has decreased 8% annually



Source: Make Q3 2018 ; Bloomberg NEF 2018

KEY MARKET TRENDS

Vestas is well positioned to maintain leading position



CAPTURING THE GROWTH OPPORTUNITIES

Customised offerings supporting main customer segments

		MAIN CUSTOMER SEGMENTS	
		Financial investors	Active asset managers
Customer needs	<ul style="list-style-type: none">• Business case certainty• Performance optimization support• Few suppliers with aligned incentives	<ul style="list-style-type: none">• Flexibility• Ease of doing business• Low response time across regions• Knowledge transfer	
Value proposition	<ul style="list-style-type: none">• Asset lifetime contracts with aligned incentives• Product upgrades• Digital solutions for optimised asset operation	<ul style="list-style-type: none">• Global footprint and scale advantages• Tailored solutions• Framework agreements• Digital solutions and training services	

+70% renewal rates and average initial contract duration increased from 9-10 years in 2015 to ~13 years in 2017/18

8-9% annual growth in transactional sales since 2015

CAPTURING SCALE ADVANTAGES IN OPTIMISED OPERATING MODEL

INITIAL FOCUS

~5% reduction in back-office cost over the last two years from creating centers of excellence in India and Poland

Footprint optimisation

Process optimisation

~5% reduction in labour cost over the last two years from application of Lean methods

Use of artificial intelligence for automation of repetitive processes, e.g. drone inspections, image recognition, etc.

Automation

Digitalisation

Increased digitalisation of core processes and application of advanced analytics to optimise maintenance cost



AGENDA

Introduction

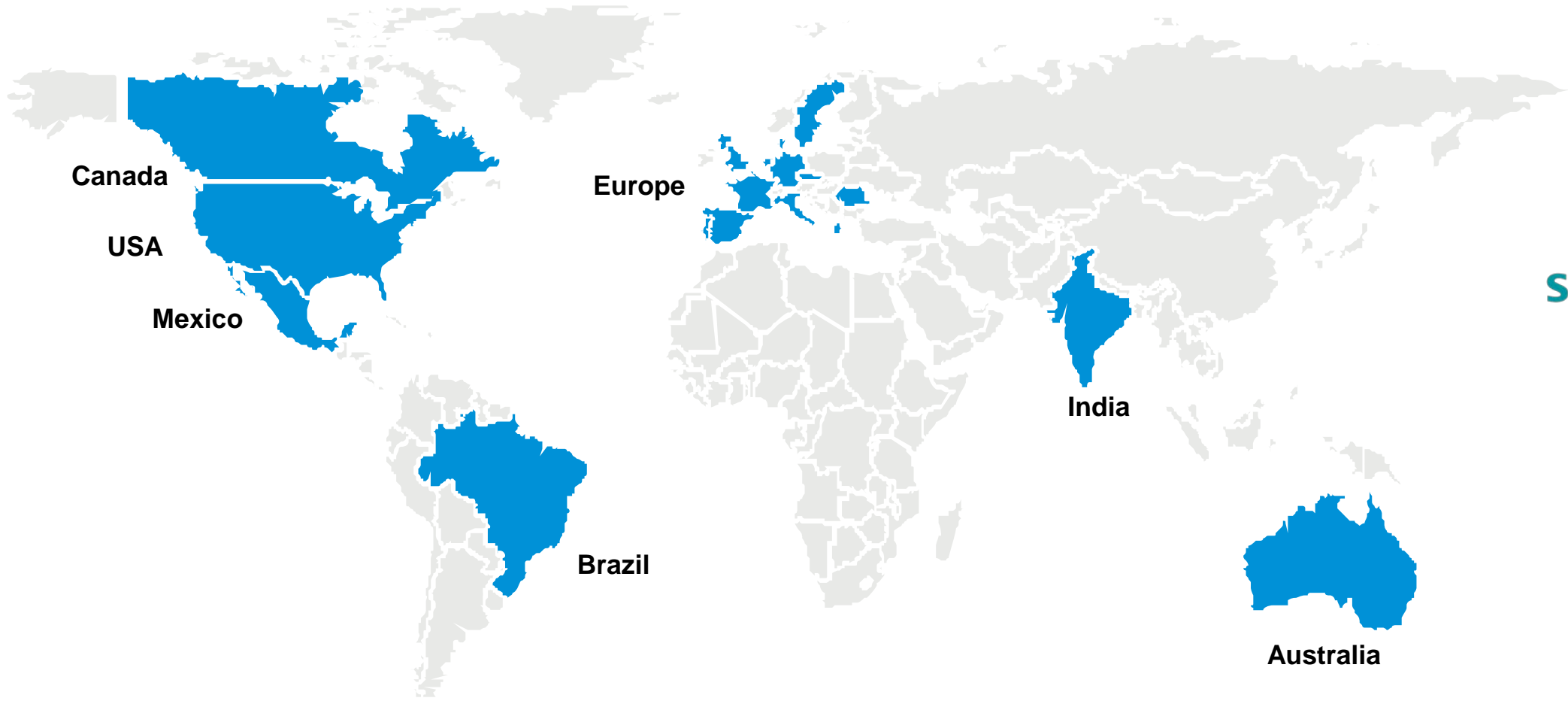
Market trends and strategy

Deep dives

Summary and Q&A

MULTIBRAND FOOTPRINT

Vestas is servicing all major platforms across 345 sites, 17 countries and 5 continents



SUZLON

SIEMENS Gamesa
RENEWABLE ENERGY



MULTIBRAND CASE STUDY

Proven capabilities on non-Vestas platforms



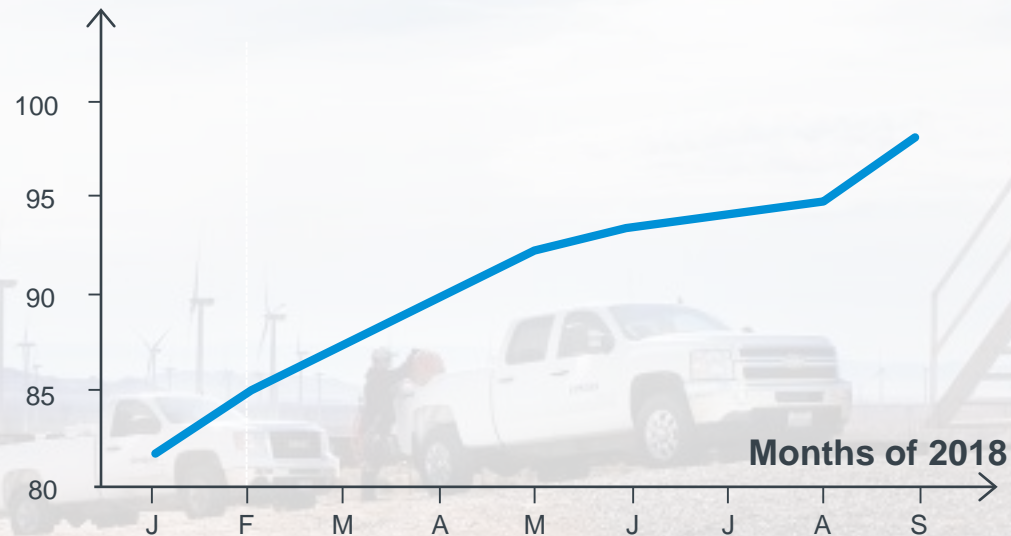
Multiple sites

Location: Brazil
Size: 58 WTGs
Scope: AOM 4000

Highlights

- Vestas Service team takes over service in January 2018
- Tailored service recovery plan for immediate operational improvements
- Turbine availability performance lifted from 84% to 97% by September 2018

Contractual Availability (%)



OUR AMBITION

Positioning Vestas for accelerated digitalisation



Our ambition is to become the digital leader in sustainable energy

Industry-leading volume of data across turbine technologies

Industry-leading technology stack from Utopus Insights

Industry-leading ability to capture value through scale - internally and externally

UTOPUS INSIGHTS: A DIGITAL POWERHOUSE

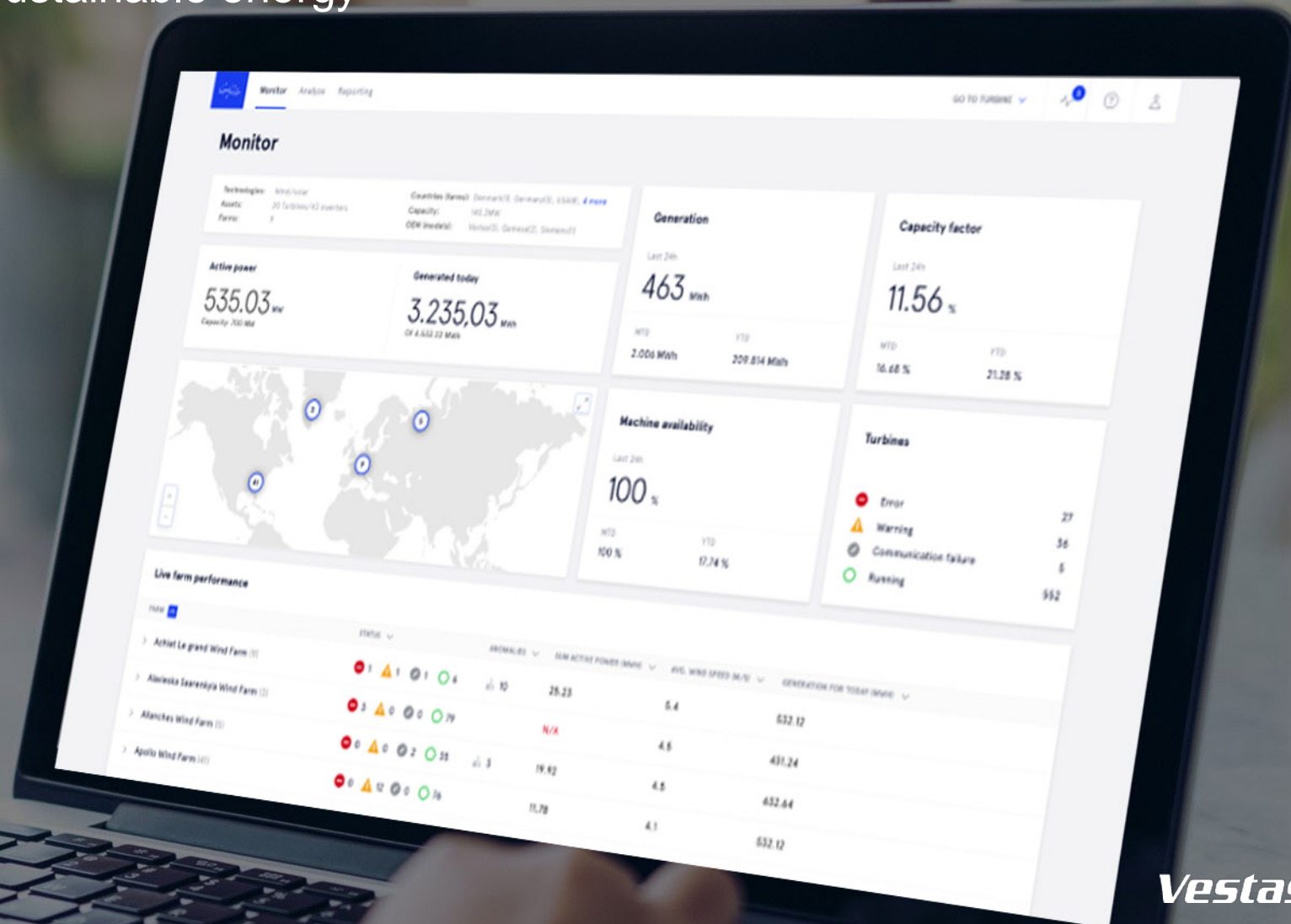
With the acquisition of Utopus Insights, Vestas has created a platform for future digital solutions to make Vestas as the digital leader in sustainable energy

Advanced analytics capabilities

Scalable platform and applications

Multi-brand focus to cover all major platforms

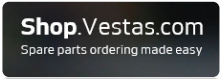



Multi-asset focus to cover all major renewable technologies



BRIDGING TO THE FUTURE OF DIGITAL ENERGY

Vestas' digital journey

Vestas' digital offerings

- 1** 
Shop.Vestas.com
Spare parts ordering made easy
- 2** 
- 3** 
Firestorm
conditioning monitoring
- 4** 
World's largest
data repository

MAESTROS

Scalable, secure and flexible energy analytics platform for data ingestion and curation

PULSE

State-of-the-art predictive analytics that enable proactive asset maintenance

XPLORE

Intuitive, interactive and customizable energy asset data visualization and performance monitoring

HYPERCAST

Hyperlocal renewable energy forecasting powered by advanced energy-specialized weather forecasting



SUMMARY

1

Worlds largest service provider with 83 GW under service and largest multi-brand service provider

2

Vestas expects to continue **being the market leader** given strong value propositions on both core and advanced offerings like digital solutions

3

Capturing additional scale advantages in the digital transformation of the operating model to support **strong profitability**



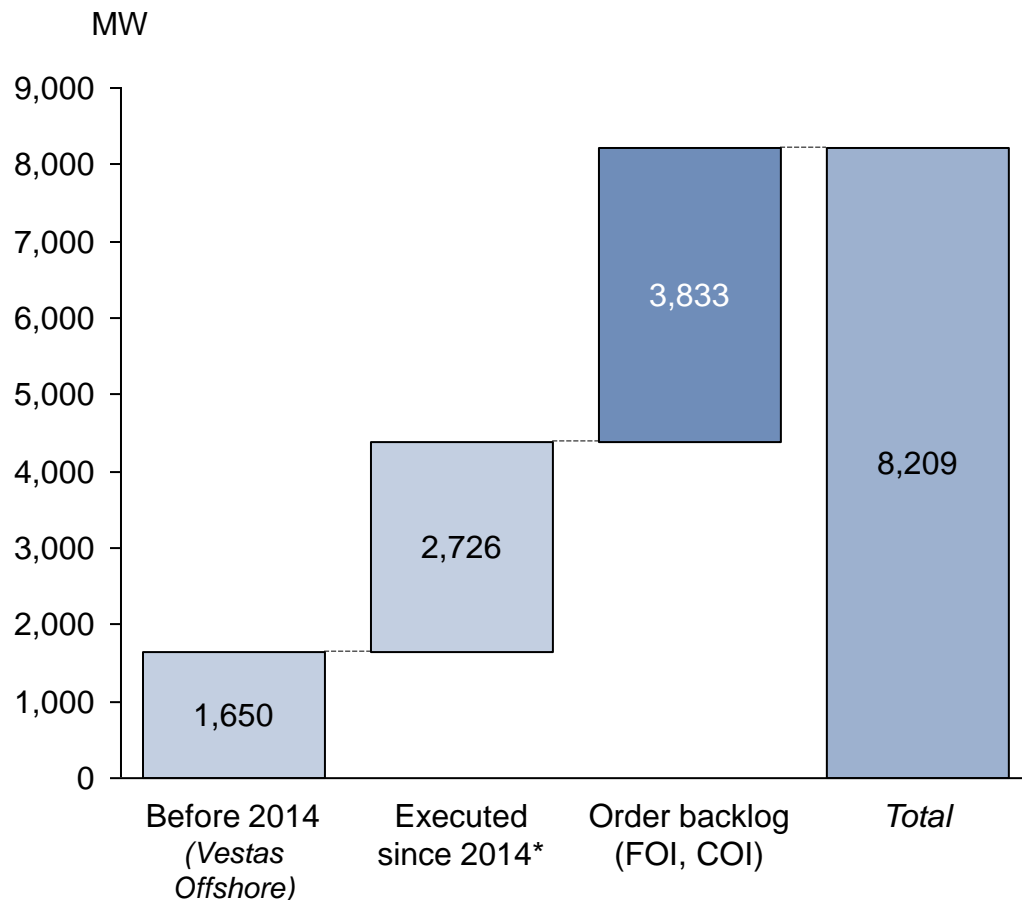
Vestas Capital Markets Day

MHI Vestas Offshore Wind A/S

Journey since the Joint Venture was established in 2014

Installations and focus areas

2.7 GW installations and 3.8 GW order backlog since the beginning of the JV



*Including expected installations for this fiscal year

Focus areas

Establishing MVOW (2014-2018)

Safety performance

- Strong Health and Safety discipline from shareholders

Winning market access through:

- Establishing a brand
- Successfully deploying the V164 in the first projects

Claiming the position by:

- Improving CoE and product performance
- Establishing tight partnerships with customers and suppliers
- Increase order backlog

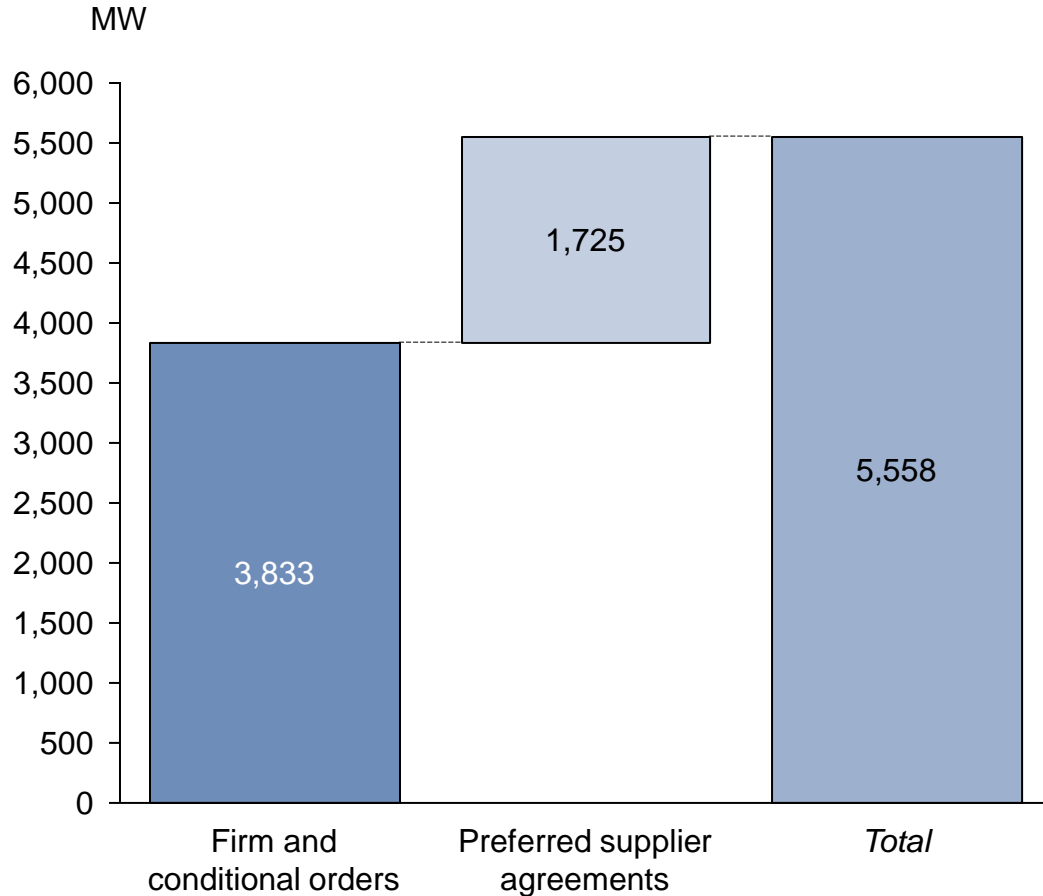
Growth (2018 and onwards)

- Continuous safety performance
- Sustainable profitability through:
 1. Core market execution
 2. Expanding reach
- Continuous platform capacity improvement

Current Pipeline

5.6 GW of projects selected V164

Overview of the order pipeline



Project pipeline

Firm orders

- Horns Reef 3 (Vattenfall), DK - 406 MW (49 x V164-8.3 MW) inst. 2018
- Norther (Norther NV), BE - 370 MW (44 x V164-8.4 MW) inst. 2019
- Northwester 2 (Parkwind), BE - 219 MW (23 x V164-9.5 MW) inst. 2019
- Windfloat Atlantic (Windplus), PT – 25 MW (3 x V164-8.4 MW) inst. 2019
- Deutsche Bucht (British Wind Energy), DE – 277 MW (33 x V164-8.4 MW) inst. 2019
- Borssele 3+4 (Blauwind), NL - 731 MW (77 x V164-9.5 MW) inst. 2020
- Triton Knoll (Innogy/Statkraft), UK - 855 MW (90 x V164-9.5 MW) inst. 2021

Conditional orders

- Moray East (EDPR), UK - 950 MW (100 x V164-9.5 MW) inst. 2021

Preferred supplier agreements

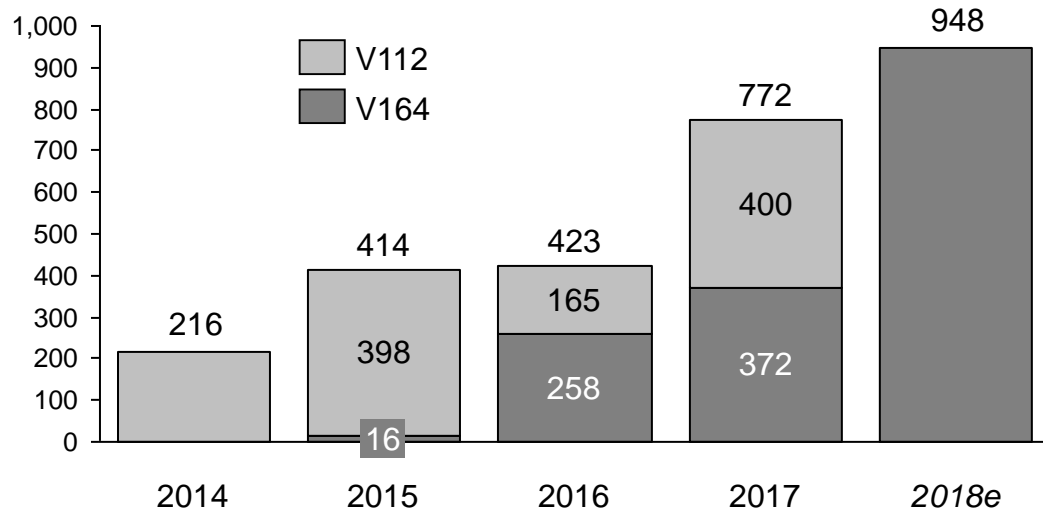
- Nautilus Offshore Wind (EDF), US – 25 MW (3 x V164-8.3 MW) inst. 2020
- Vineyard Wind (CIP/Avangrid), US – 800 MW (84 x V164-9.5 MW) inst. 2021
- Zone 27 (CIP), TW - 100 MW inst. 2022, 452 MW inst. 2023
- Xi Dao (CIP), TW - 48 MW, inst. 2023
- Zone 29 (CSC), TW - 300 MW (33 x V174-9.1 MW) inst. 2024

The V164

Technology split and platform evolution

Installed MW split by Technology since the beginning of the JV in 2014*

MW installed

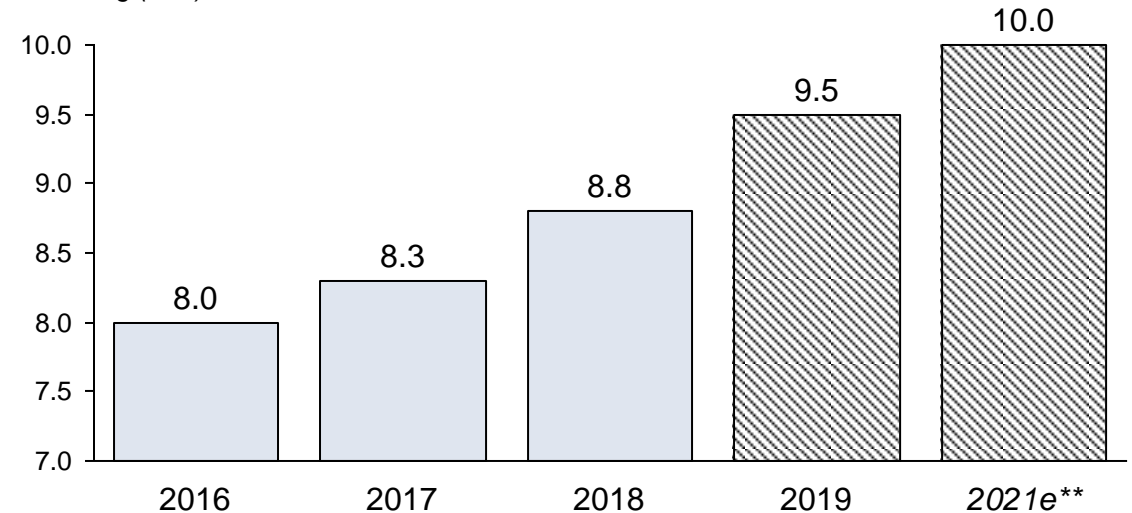


- Change in demand in current active markets towards the larger machines due to the CoE improvements and reliability of the V164 platform
- V164 the next offshore workhorse

*Illustration is based on FY, which runs from April to April

Installation years for the V164 platform

Power rating (MW)



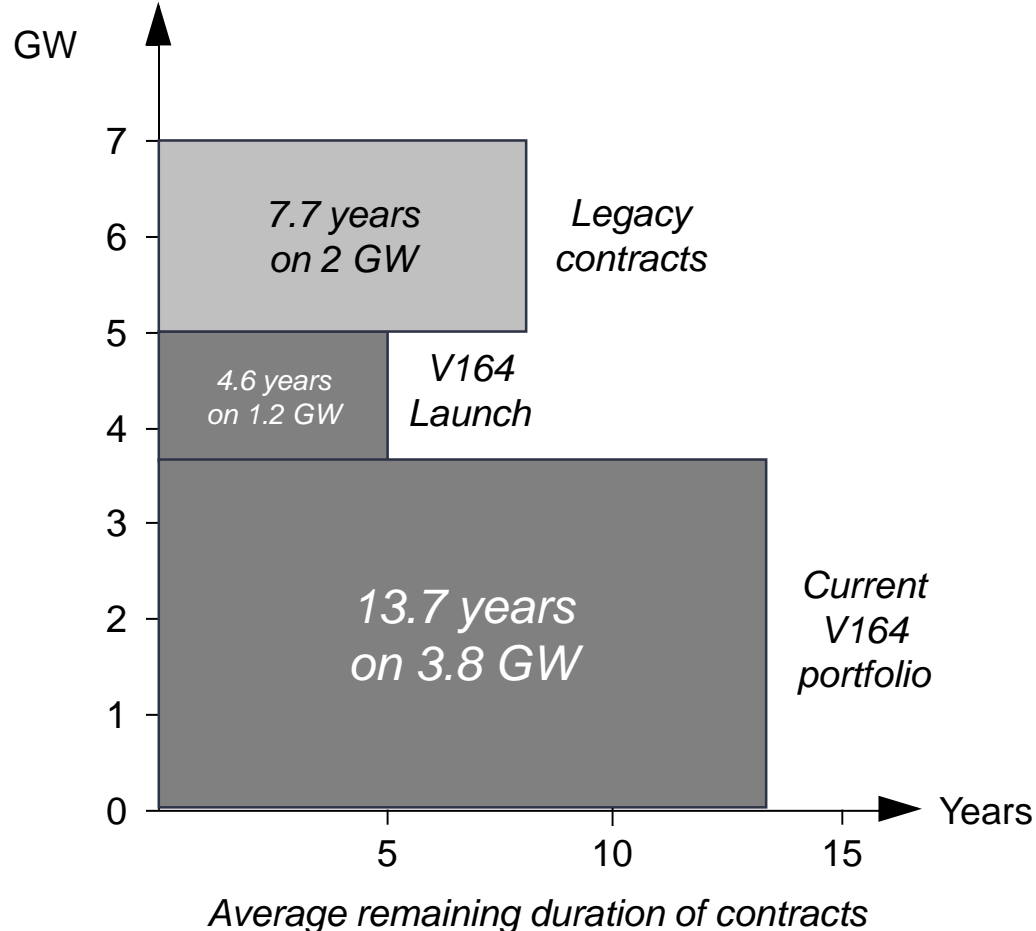
- The power rating continues to increase on the V164 platform
 - In 2017, MVOW revealed the V164-9.5 MW
 - In 2018, MVOW announced the V164-10 MW
- Continuous innovation on the product offerings including not only the rating, but also the MAX performance and the SMART turbine products

**Commercial installation ready from 2021

Service

The offshore service business

Average remaining contract durations of the Service Backlog (Incl. FOI, COI)



Time to invest in offshore services

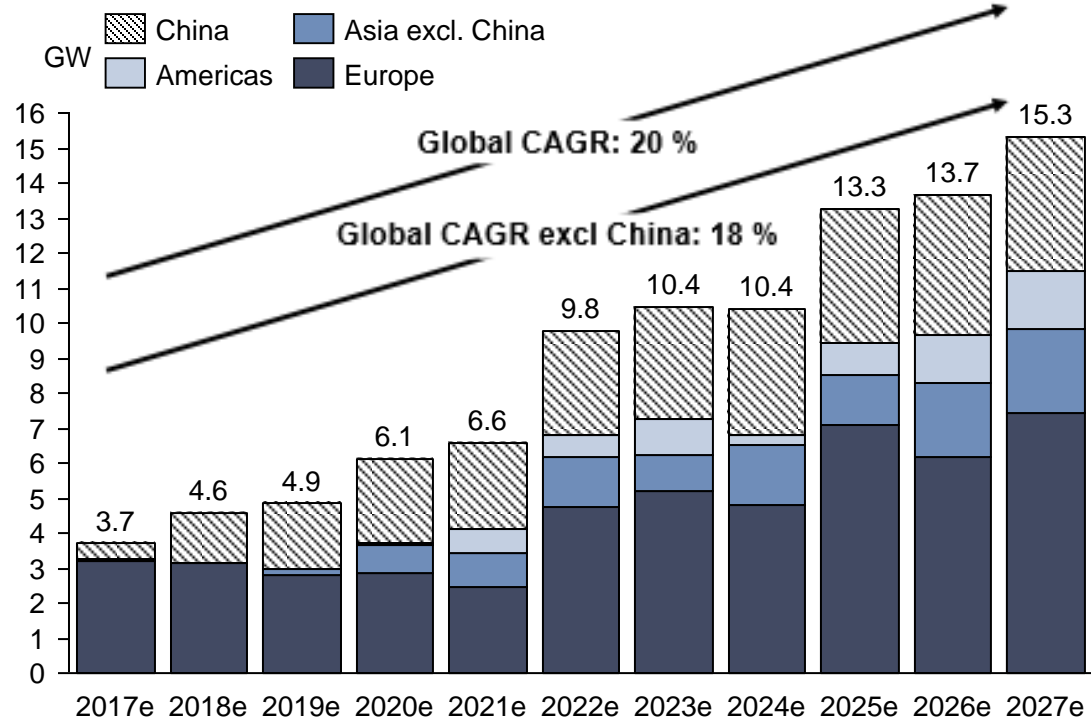
Past the initial launch phase, V164 brings long term services contract portfolio

1. OPEX optimization by mutualizing services infrastructure across larger windfarms
2. Technical upgrades for installed base, as V164 platform continues to increase performance
3. Synergies with world leader in services: Vestas

Global offshore market

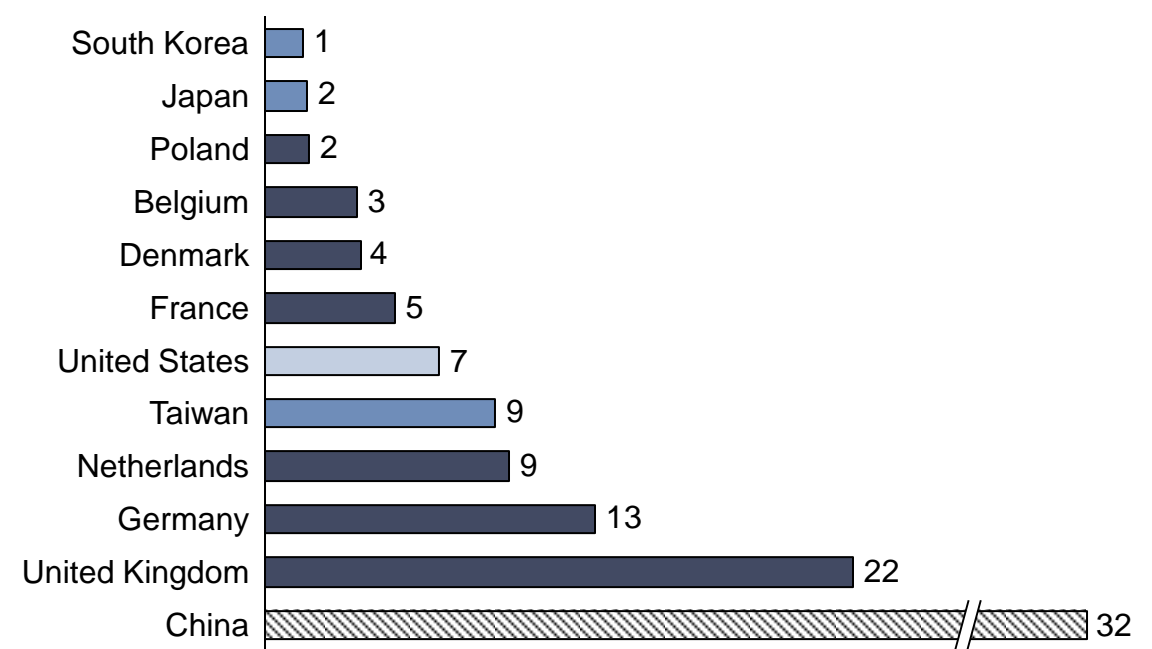
Volume outlook

Annual forecasted installed capacity split by region, 2017-2027 (GW)*



*Source: Make Consulting – Q3 2018 Global Wind Power Market Outlook

Future top 12 markets (accumulated installation in GW 2027e)*

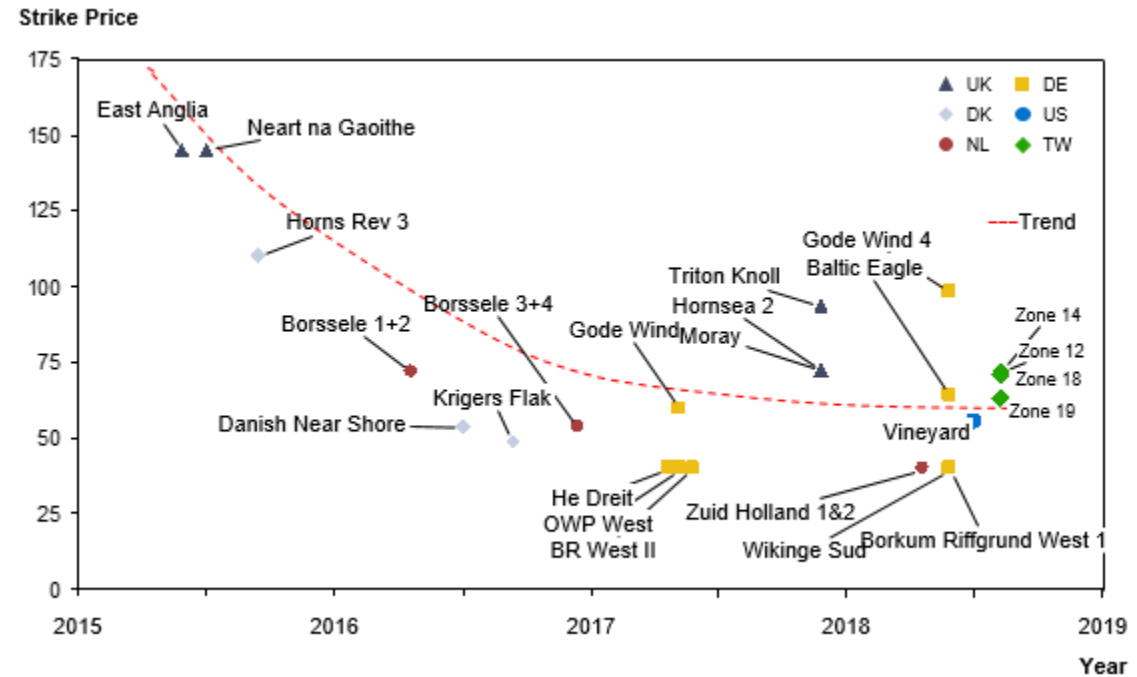


Continuous growth in Europe, significant additional volume expected in Asia and the US

Global offshore market

Price levels

Price Levels in Recently Awarded Global Projects (EUR/MWh)*



*Source: MAKE Consulting
 The illustration shows the results for the UK auctions converted into 2016 euros for ease of comparison with the euro-dominated auctions
 Vineyard results shows the price in 2017

Comments

Increasingly competitive prices

- Significant LCoE reductions achieved in recent years
- “Zero subsidy” bids in Germany and the Netherlands
- New markets leaning towards LCoE levels from established markets, yet under specific conditions

Offshore wind provides benefits for energy systems**

- Large scale projects
- High number of full-load hours
- High predictability of output
- Reduces need for balancing power plants

**Source: Fraunhofer Institute for Wind Energy and Energy Systems

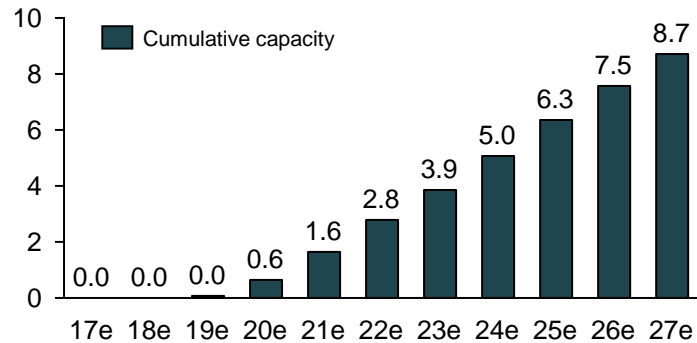
LCoE reductions and system benefits drive offshore wind growth

Expanding reach

Development in new MVOW markets



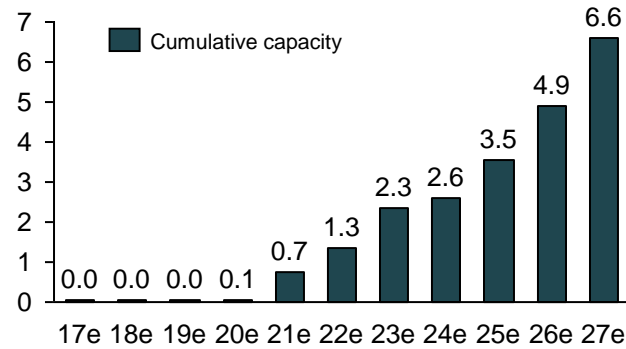
Forecasted installed capacity, 2017-2027e (GW)*



- Ambitious targets: 5.5 GW until 2025
- Plans for 1 GW p.a. from 2026-30
- Preferred supplier agreement: 900 MW package (CIP & CSC)
- On track to secure further pipeline
- Localization efforts in progress



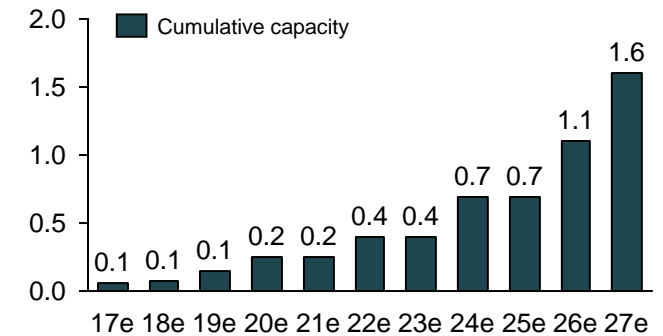
Forecasted installed capacity, 2017-2027e (GW)*



- Market expectation: 8 GW+ until 2030
- Significant East Coast volume potential
- Preferred supplier agreements: Vineyard (CIP, 800 MW) & Nautilus (EdF, 25 MW)
- MVOW in good position to support upcoming tenders



Forecasted installed capacity, 2017-2027e (GW)*



- Diet expected to pass offshore wind bill this year: 10 GW target by 2030
- Award of 5 offshore wind zones in 2019
- MVOW excellently positioned through MHI – on track to secure early volume
- MVOW's floating wind track record an advantage in Japan

*Source: Make Consulting – Q3 2018 Global Wind Power Market Outlook

MVOW global footprint – our offices, manufacturing & assembly facilities



MVOW to **double its business** and **increase profitability** over the next four years

Operational Excellence:

- Double revenue
- Build offshore service business
- Continuously improve profitability

Financial Discipline:

- Earn freedom to grow
- Selective investment in capacity
- Maintain high product development



Financial performance

Financial performance is progressing to exceed initial expectations

Financial performance

kEUR	2016/17	2017/18	2018/19
Revenue	531,243	942,155	↑
Gross profit	-11,892	20,001	
Profit before financial items and depreciation/amortization (EBITDA)	-38,558	-7,775	Positive
Operating profit (EBIT)	-119,453	-98,566	Positive
Profit/loss from financial income and expense	5	1,587	
Profit for the year	-120,525	-98,287	

Financial guidance and expected 2018/19 result for MVOW



Vestas[®]

Accordingly, MHI Vestas Offshore Wind expects to double its revenue over the three-year period from a base of its completed financial year 2015/16, EBITDA is expected to reach break-even by 2018 and pre-tax profit is anticipated to reach break-even by 2019.

Vestas Wind Systems A/S' Annual report 2017



MHI VESTAS OFFSHORE WIND[™]

2018/19 is set to be a watershed year for MHI Vestas as EBIT is expected to break-even by the end of the year.

MHI Vestas Offshore Wind A/S' Annual report 2017/18

Summary

- MVOW is **a market leader** in the offshore wind industry and will remain a market leader by:
 - ✓ Continuously **improving health and safety**
 - ✓ **Executing** and further **building** on the **strong pipeline** through:
 1. Execution in robust core markets
 2. Expansion in new markets
 3. Development of service
 - ✓ **Leverage and improving the performance** and reliability of the current V164 platform
- MVOW is **meeting financial targets** and is **expected to grow sustainably**
- MVOW to **double its business** and **increase profitability** over the next four years

FINANCIAL UPDATE

Marika Fredriksson
Executive Vice President & CFO

Copenhagen, 29 November 2018



LONG-TERM FINANCIAL AMBITIONS

Long-term ambitions reflect organic growth and profitability improvements



DIVERSIFICATION OF BUSINESS MODEL CONTINUES

Strong platform for future financial performance

Power solutions

- Wind power competing on market-based mechanisms
- RE targets in place in all parts of the world
- Order backlog of EUR 10.5bn



Service

- Growth in annual installed wind power capacity
- Increasing contract duration provides better visibility at opportunity to cost out
- Order backlog of EUR 13.2bn with average duration of 7 years



Offshore

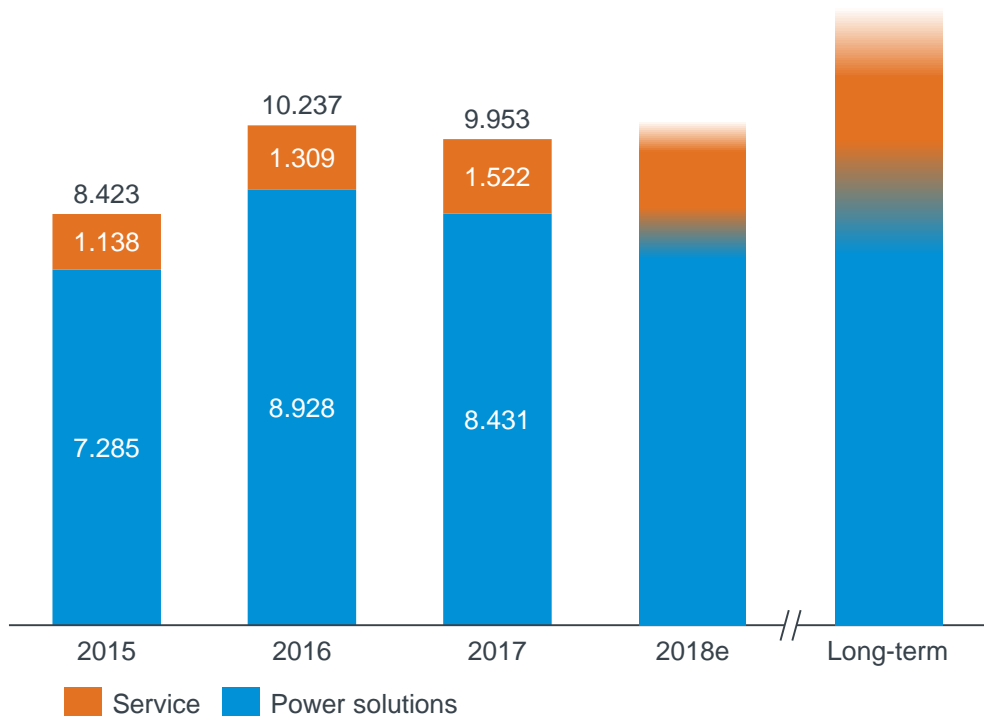
- JV on track to net profit breakeven in 2019
- Good position in a growing market with limited players
- 5 GW of pipeline projects secured



REVENUE GROWTH SUPPORTED BY STRONG MARKETS

Vestas is in a unique position to outgrow the market

Revenue
EURm



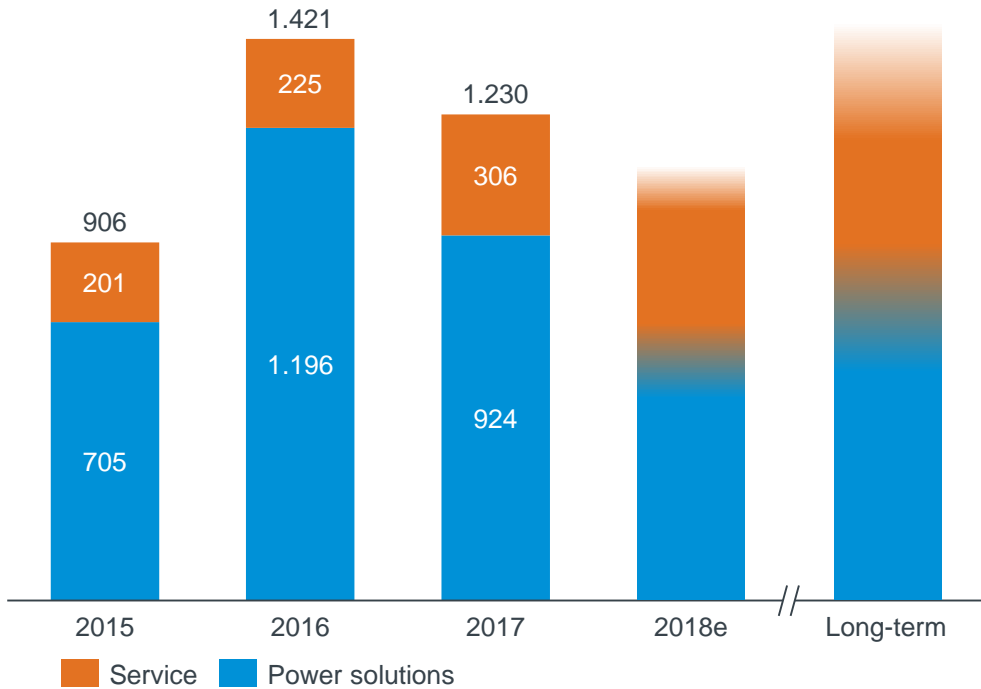
Future drivers

- ▲ 6-8 percent annual growth in onshore volumes towards 2021
- ▲ Drop in the US post 2020 expected to be offset by EMEA, and especially Asia Pacific
- ▲ Service increasingly supporting revenue growth
- ▼ Continuous reduction of LCOE for wind energy impacts Average Selling Price

DELIVERING MINIMUM 10 PERCENT EBIT MARGIN

Service accounts for an increasingly large part of profitability

EBIT before special items
EURm

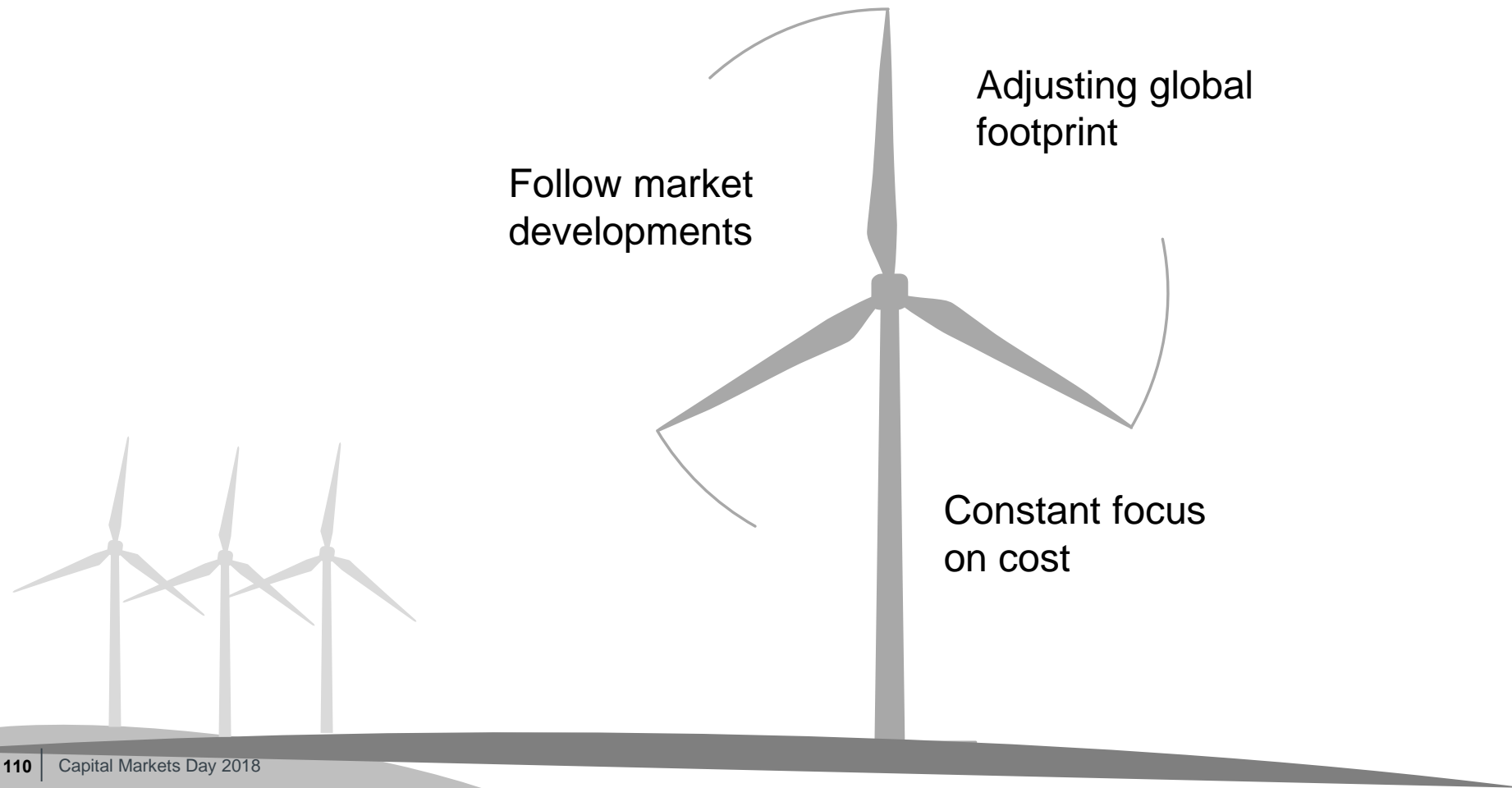


Future drivers

- ▲ Increased activity
- ▲ New products and technology
- ▲ Committed to cost-out and efficiency improvements
- ▲ Service to grow its share of profit
- ▼ Highly competitive markets
- ▼ Cost inflation from tariffs

● COSTS: KEEPING A GLOBAL BALANCE

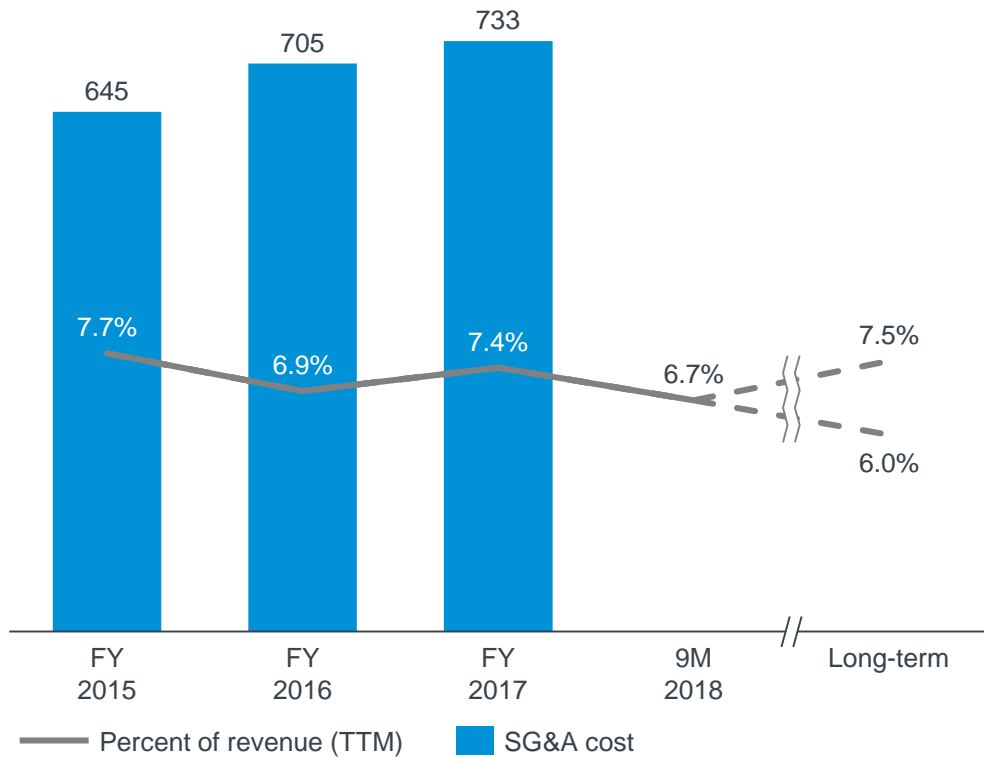
A global company constantly adjusting to reflect global market conditions



COST DISCIPLINE REMAINS A KEY PRIORITY

Controlling the fixed cost base

SG&A
EURm



Priorities

- Lean and flexible organisation
- Highest R&D spending in the industry securing best-in-class products

Drivers

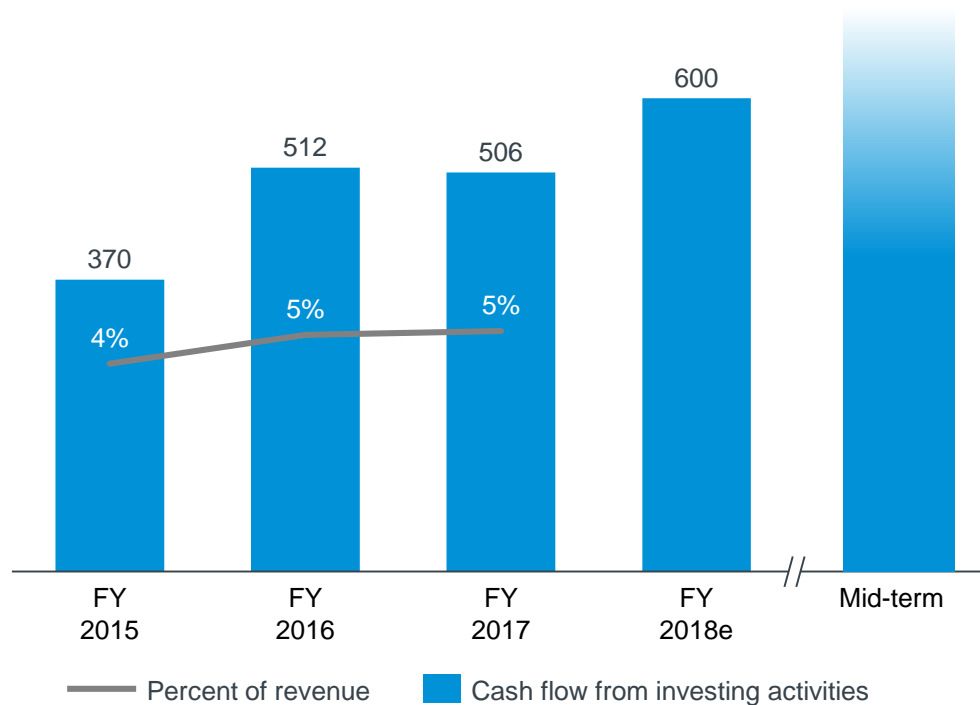
- ▲ Leverage
- ▲ Increased activity in low cost countries
- ▼ Higher amortisations and depreciations

● INVESTING IN ORDER TO CAPTURE THE GROWTH MOMENTUM

Investments expected to increase in the coming years

Investments

EURm, excl. M&A and divestments



Priorities

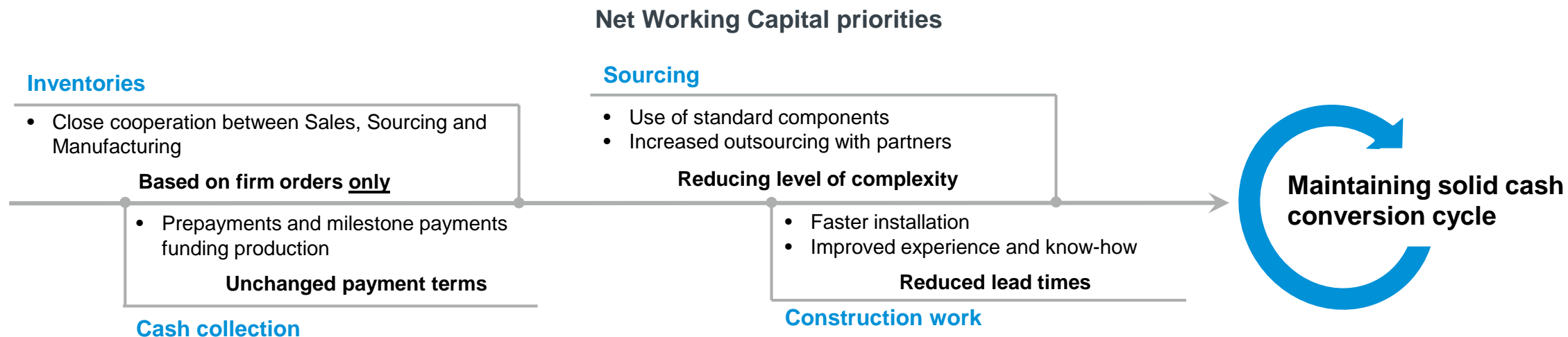
- Support organic growth initiatives
- Highest R&D spending in the industry securing best-in-class products

Future drivers

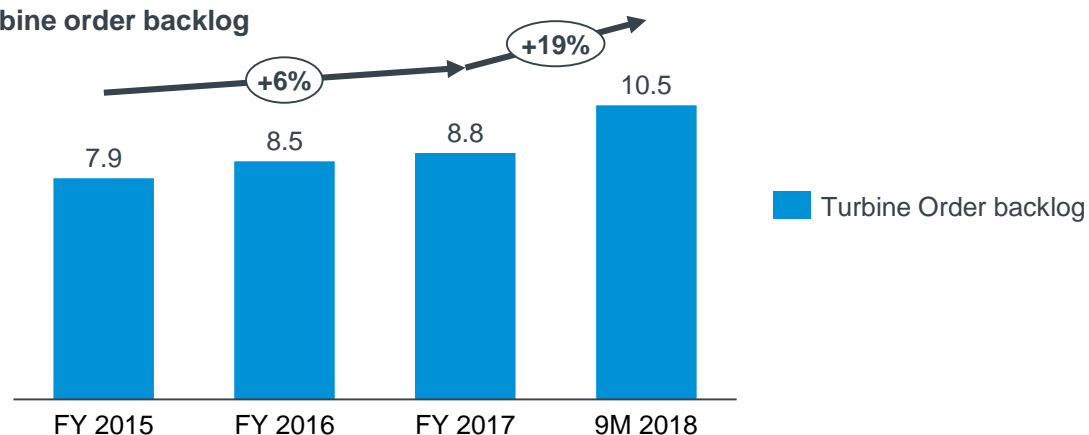
- ▲ Higher activity level requires more investments
- ▲ Increased R&D capitalisation as product cycles becomes shorter
- ▲ Leveraging industry leading data fleet to drive digitalisation
- ▼ Introduction of modular products

MANAGING WORKING CAPITAL IN A GROWTH ENVIRONMENT

Complex and large projects call for careful management, timing, and control of cash flows



Wind turbine order backlog
EURbn



SHORT-TERM CHALLENGES

Longer lead times in a capacity constrained environment

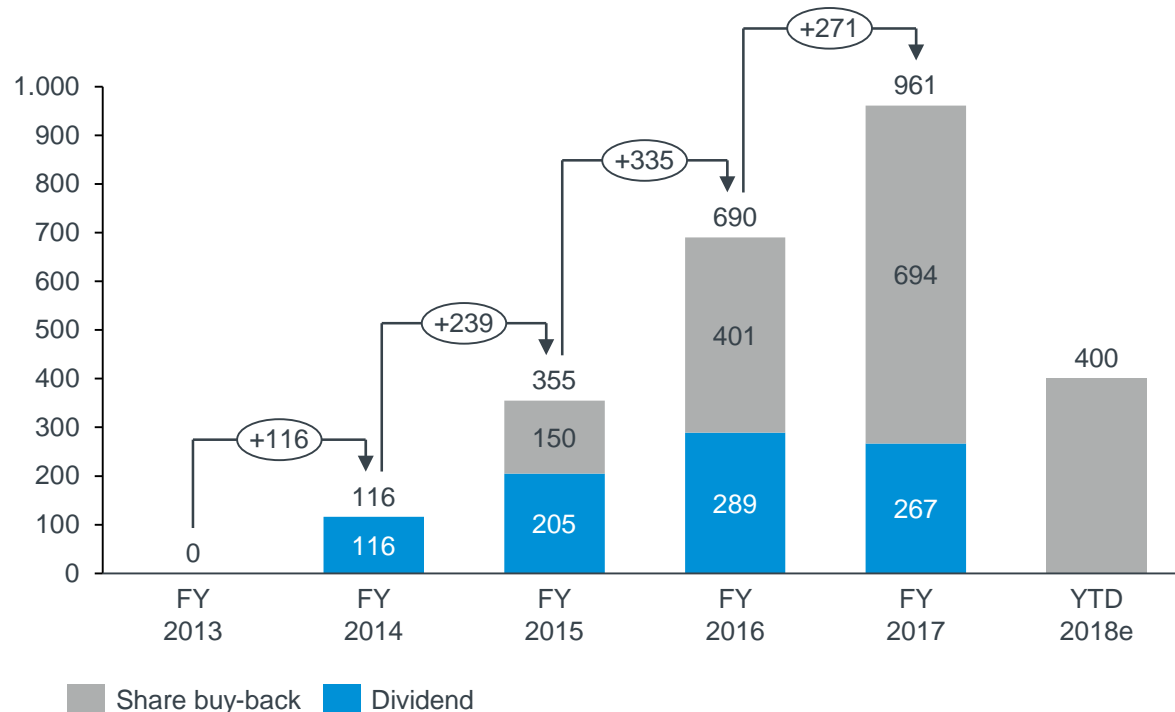
Increased transportation time due to strategic sourcing

Increased complexity due to tariffs

CAPITAL ALLOCATION

Priorities for capital allocation remain unchanged

Allocation to shareholders EURm



Capital allocation to shareholders

- EUR 2.5bn returned since 2014 – equaling around 20 percent of current market cap
- Priorities for capital allocation remain unchanged
 1. Organic growth
 2. Bolt-on acquisitions
 3. Dividend (25-30 percent of net profit)
 4. Share buy-back

ALL OPERATIONS TAKE A RESPONSIBLE APPROACH

Sustainability at Vestas



SUMMARY

1 Business model provides **stability** and **reduced risk profile**

2 Balance sheet remains **strong** and provides **flexibility**

3 **Value creation** shared with our shareholders

DISCLAIMER AND CAUTIONARY STATEMENT

This document 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. A number of factors that affect Vestas' future operations and could cause Vestas' results to differ materially from those expressed in the forward-looking statements included in this document, include (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, including adverse weather conditions; (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; and (m) customer created delays affecting product installation, grid connections and other revenue-recognition factors.

All forward-looking statements contained in this document 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 2017 (available at www.vestas.com/investor) and these factors also should be considered. Each forward-looking statement speaks only as of the date of this document. Vestas does not undertake any obligation to publicly update or revise any forward-looking statement as a result of new information or future events other than as 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 document.