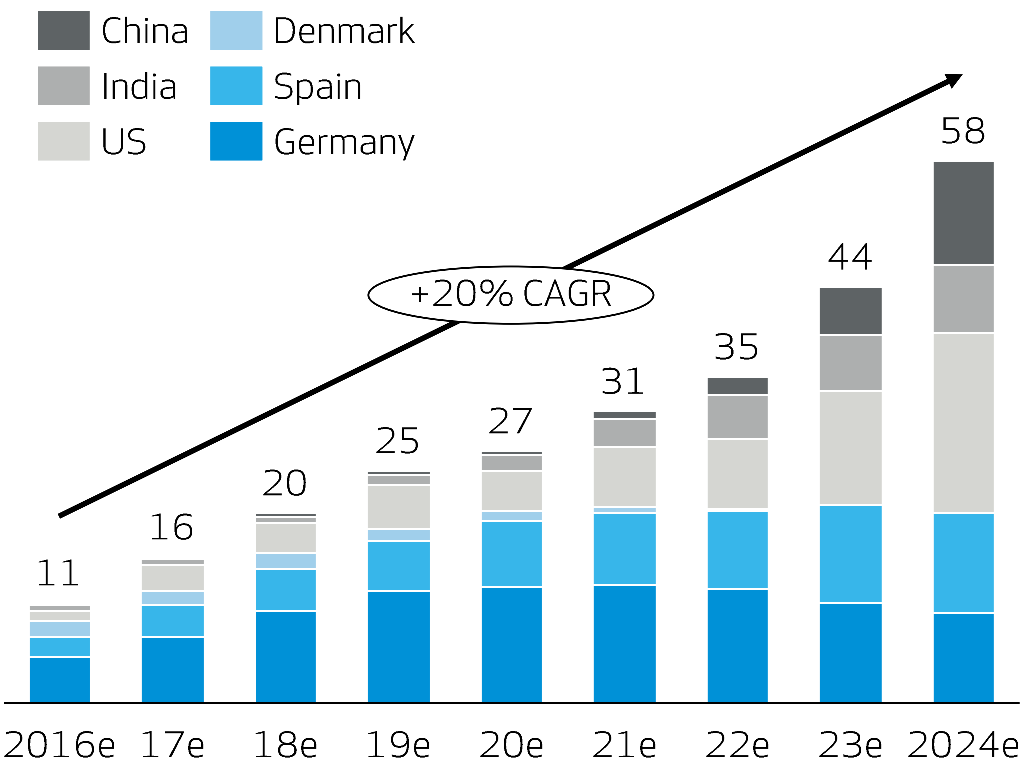
The repowering opportunity || The potential is increasing rapidly, with Germany offering the largest opportunity towards 2020

Wind fleet 15-20 years old in main repowering markets
GW



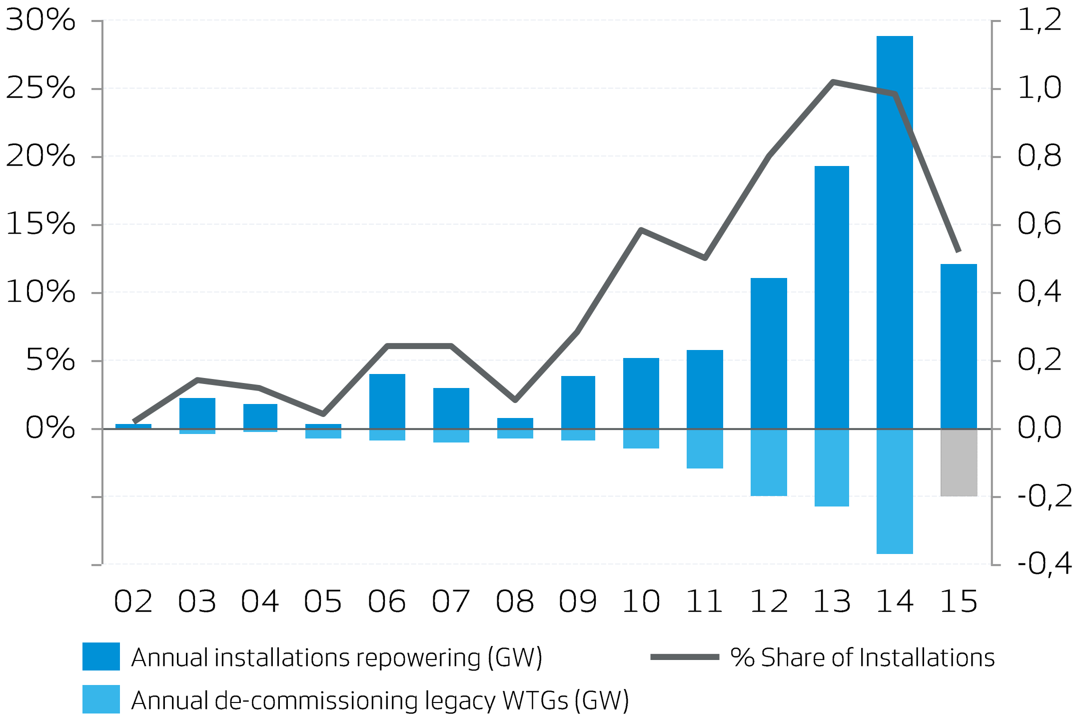
Key drivers affects the repowering potential of the ageing installed base…

Potential Repowering Drivers
Active Drivers ▪ Required by regulation ▪ Directly incentivised ▪ Indirectly incentivised (e.g. easy access to extension of subsidies) **Passive Drivers** ▪ Scarce wind resource availability ▪ Easy access to transmission infrastructure ▪ Easier permitting ▪ Ease of decommissioning ▪ Value of decommissioned WTGs

Note: Main repowering markets are those with +1 GW installed capacity by 2000 plus China; Repowering may happen earlier or later during the lifetime of the wind turbines
Source: BNEF New Energy Outlook June 2015. MAKE Consulting Global Wind Power Project Installation Database, April 2016

Repowering in Germany || Increasing share of repowering in new installations – further growth expected in auction system

Repowering makes up ~15% of all new WTG installations in Germany in 2015…



Repowering to increase share…

- Share has increased from below 5% to ~15% in 2015
- Despite slowdown in 2015 (due to expiring repowering bonus) share is expected to grow going forward

OEMs to take more responsibility…

- De-commissioning often asked to be a standard offering for repowering projects
- One-stop-shop solutions from OEMs to minimize interfaces and reduce construction risk

Repowering market in Germany already today established
Share of repowering expected to increase further as GER auction system increase demand for good sites

Source: Deutsche WindGuard

Repowering experiences so far || Many customer pain points exist today, will become larger with the increasing activity level

Example Germany

Typical pain points

Safety

- Poor safety awareness of de-commissioning teams
- Lack of adequate safety gear and tools
- No adherence to German safety standards

Communication

- German or English communication often difficult
- De-commissioning teams often 3rd party, no resp. contact person
- Lack understanding of timelines and contractual agreements

Documentation

- Often poor access to existing documentation of own WTGs
- Documentation got lost over the years / over park transactions

Finding a buyer

- Most WTGs go to less experienced and less developed markets
- Market lacks transparency – many agents work on commission
- Hard to find contract partners that are liable under local law

Asset owners see a market gap as a strong, credible "one-stop-shop" supplier does not exist fully yet

Our response || For Vestas, Repowering means expanding our activities along the wind project value chain together with EPC

Example Germany

Work packages for typical repowering projects

Standard Scope

Turbine supply
- Design & testing of turbines, components, systems
- Manufacturing of all major components

Turbine installation
- Transport of equipment
- Installation of turbines, site management etc.

Turbine Maintenance
- Maintenance & repairs
- Updates & upgrades

EPC

Electrical infrastructure
- Substation / grid feed-in point
- External and internal cabling, earthing,

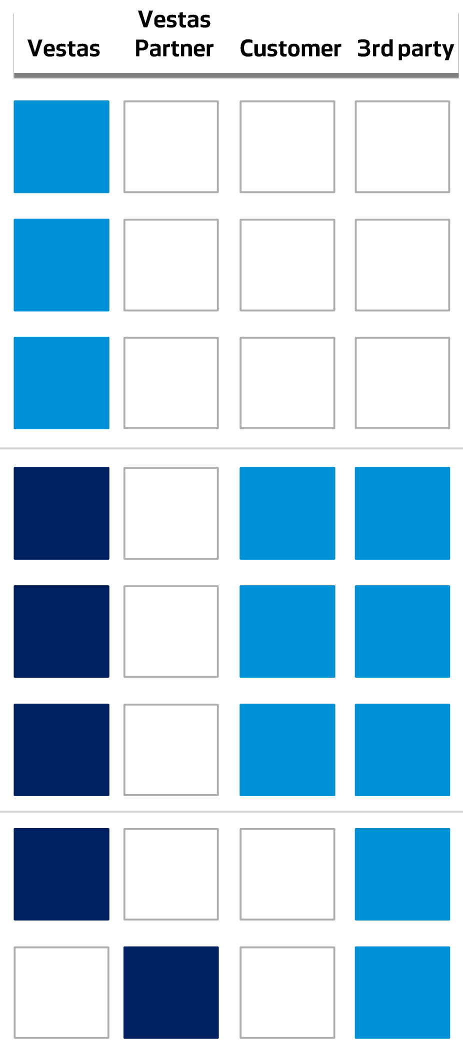
Civil works
- Roads, crane pads and site specific foundations
- Housing for substations and other special requirements

Design & engineering
- Layout / design / specification planning of site
- Required documentation for approval

Repowering

De-commissioning of legacy turbines
- Dismantling of turbine
- Foundation removal

Legacy turbine sales
- Selling legacy WTG to third parties on 2nd hand markets
- Scrapping / recycling old WTG if it cannot be sold



Vestas main focus is to supply and maintain wind turbines that minimize levelized cost of energy (LCOE) with the highest reliability

Vestas supports customers with supplying EPC solutions along the entire value chain to deliver turnkey projects when needed

For repowering projects, Vestas can now assist owners of old WTGs with de-commissioning and sales

Want to know more? || Our Head of Repowering is here to discuss your business challenge and how Vestas can help to solve it…

Mr. Jens Kück
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