



Design options for wind energy tenders

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WindEurope: Representing the entire supply chain

450
MEMBERS

Wind turbine manufacturers

e.g. **Vestas**  **ENVISION**  **GE Renewable Energy**

Wind farm developers

e.g.  **acciona**  **RES** **power for good**  **ERG Renew**  **Statoil**

Power utilities

e.g.  **enel** **Green Power**  **IBERDROLA**  **e.on**  **edf** **energies nouvelles**

Supply chain

e.g.  **BASF** **We create chemistry**  **ArcelorMittal**  **ABB**

Installation / Logistics

e.g.  **Fred. Olsen Windcarrier**  **Van Oord** **Marine ingenuity**

Financial services

e.g.  **Brookfield** **Renewable Energy Partners**  **Rabobank**  **Allianz**

Research institutes

e.g.  **TU Delft**  **CATAPULT** **Offshore Renewable Energy**  **DTU**  **Fraunhofer IWES**

+ National wind associations

Background

2014-2020 State Aid Guidelines

- EC reference when assessing the compatibility of national support mechanisms with internal market rules
- Tenders will be a reference model for all RES starting in 2017

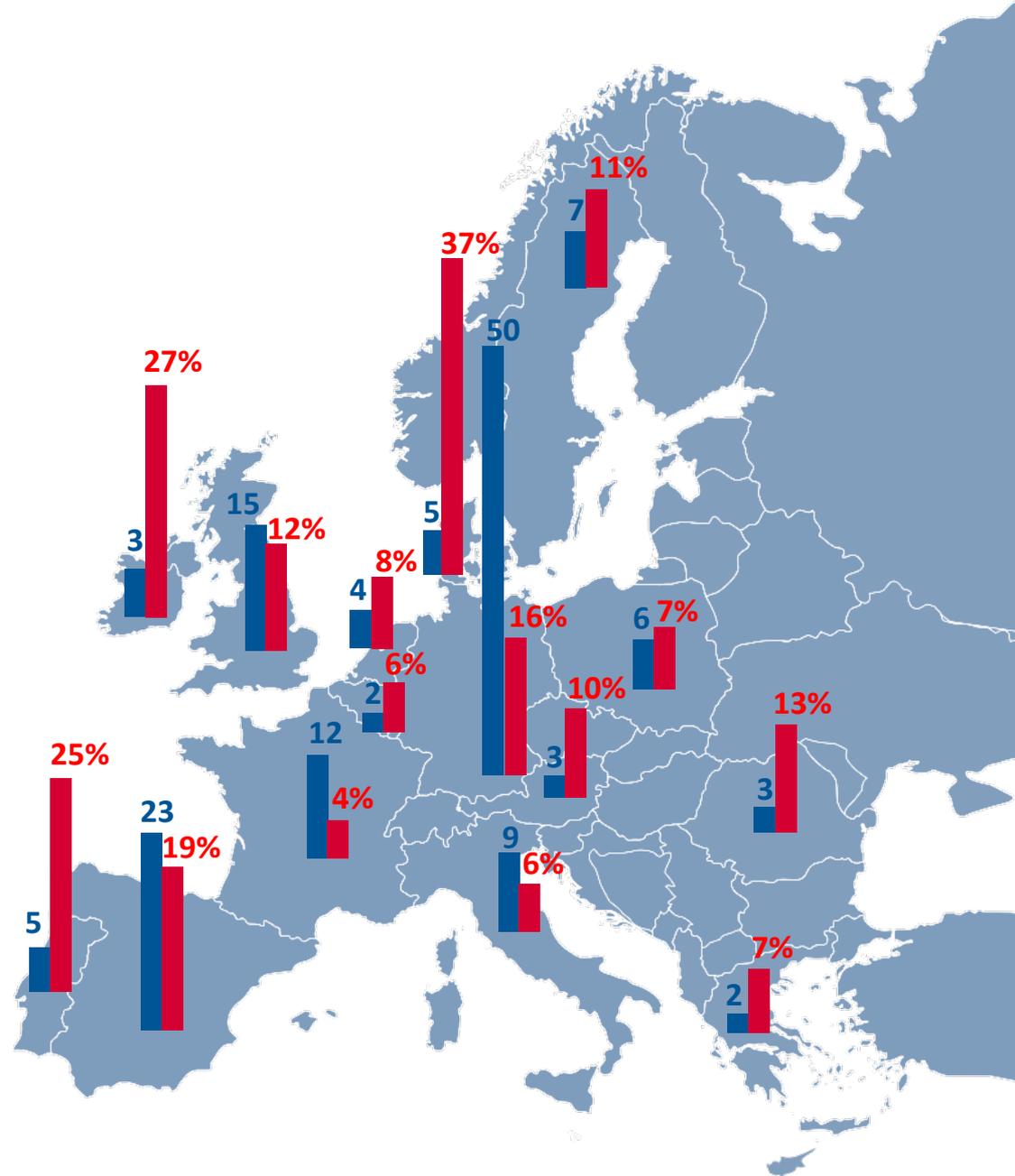


What is at stake?

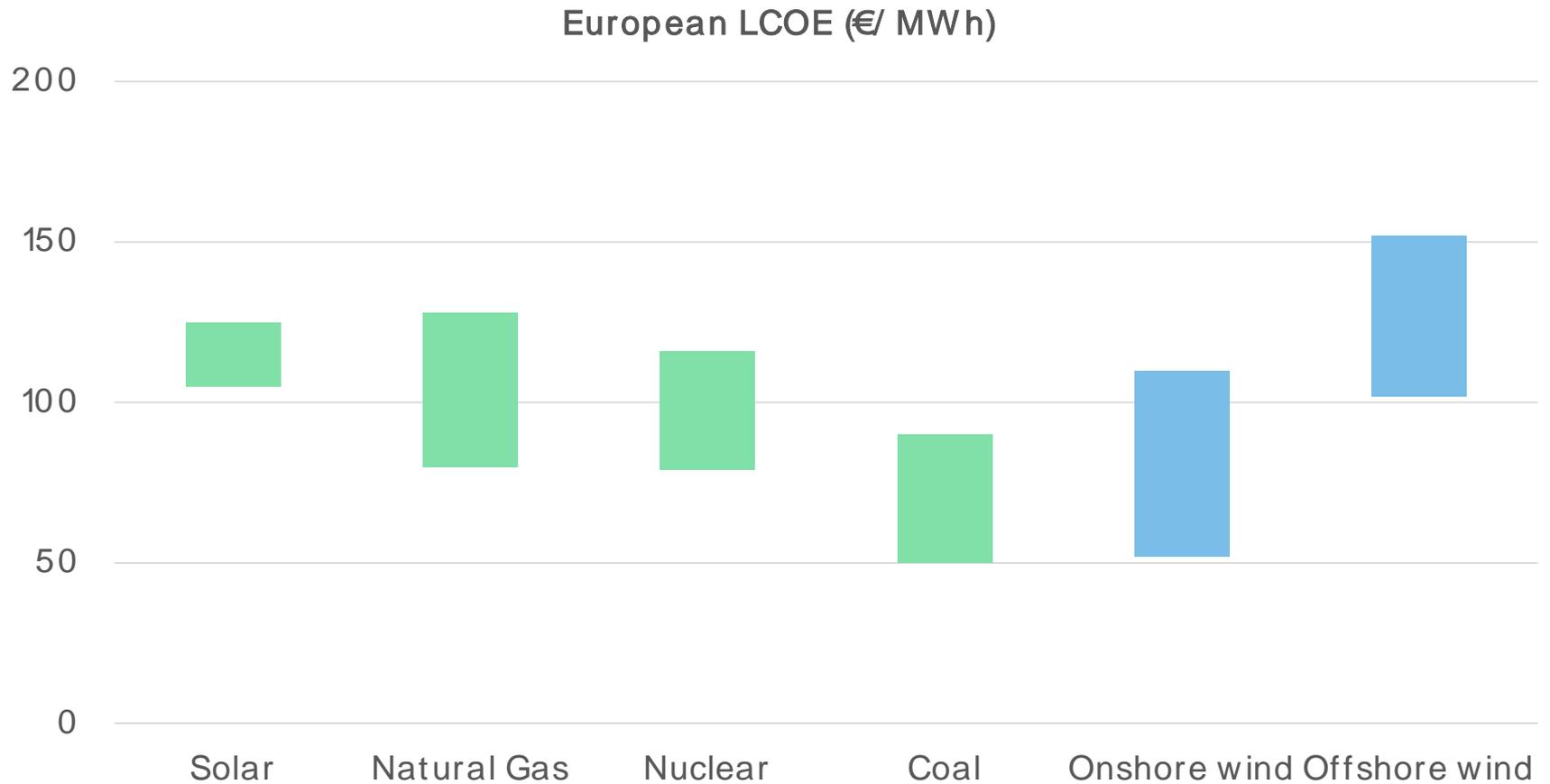
Deployment

154 GW

- GW installed
- Penetration

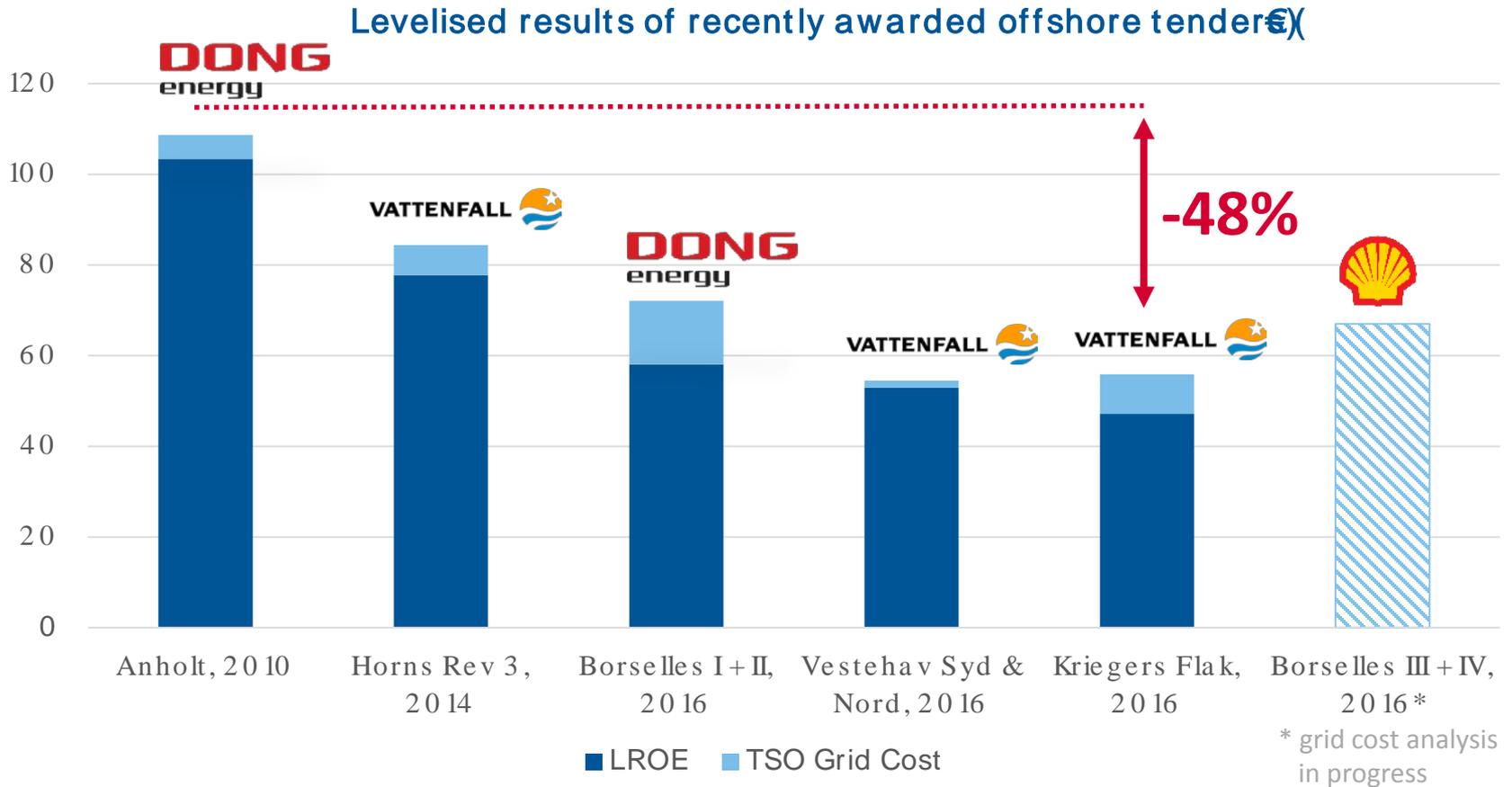


Cost reduction



Source: EC, 2014 and
WindEurope

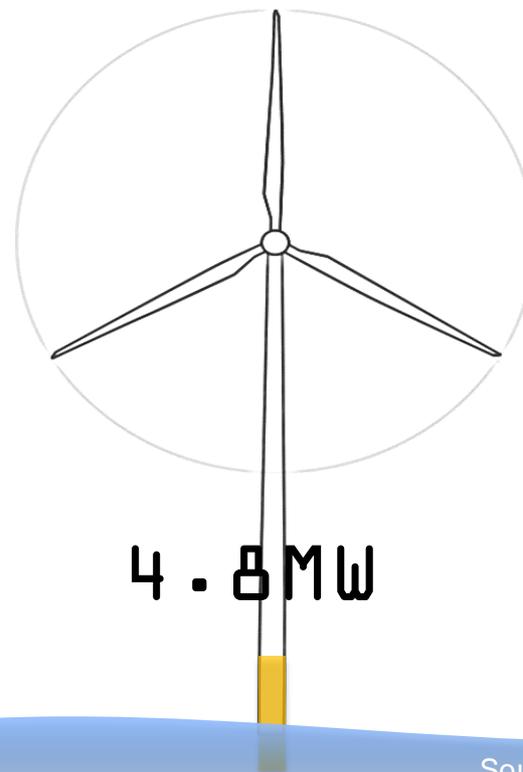
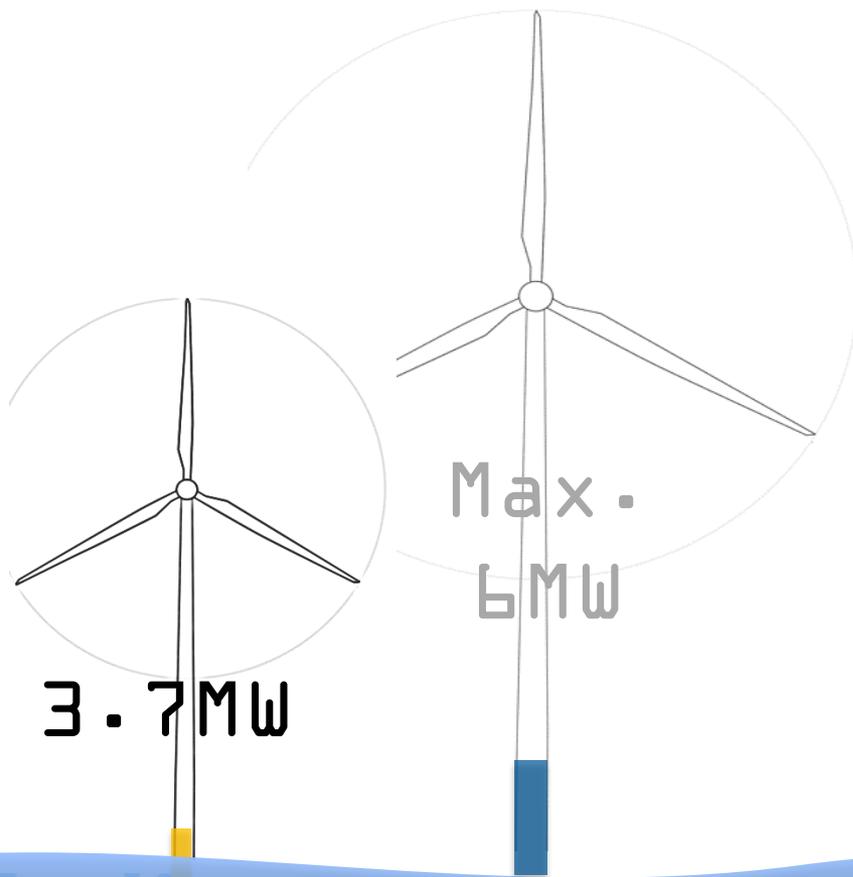
Cost reduction



Innovation

2014

2016



System reliability

- Daily wind energy
- Yesterday's country ranking
- Europe's electricity mix
- Hourly wind energy generation
- Capacity factors

Daily Wind Power Numbers

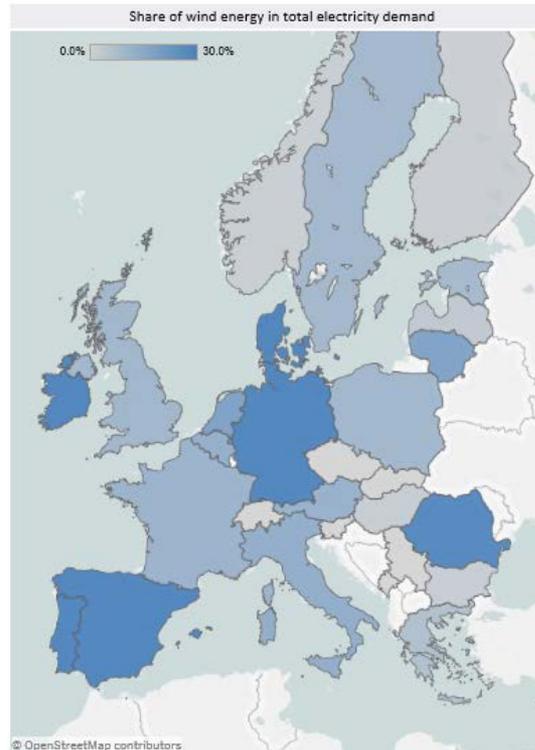
About wind / Daily Wind Power Numbers

windeurope.org/daily-wind/

How much wind was in Europe's electricity yesterday?

Share these figures [f](#) [t](#) [in](#) [G+](#)

Click on countries for national details
Ctrl + click for selecting various countries



Share of wind energy in electricity demand

16.5%



Onshore Wind (GWh)
1,224
Offshore Wind (GWh)
121

WHICH COULD POWER



Equivalent EU households*
136 million

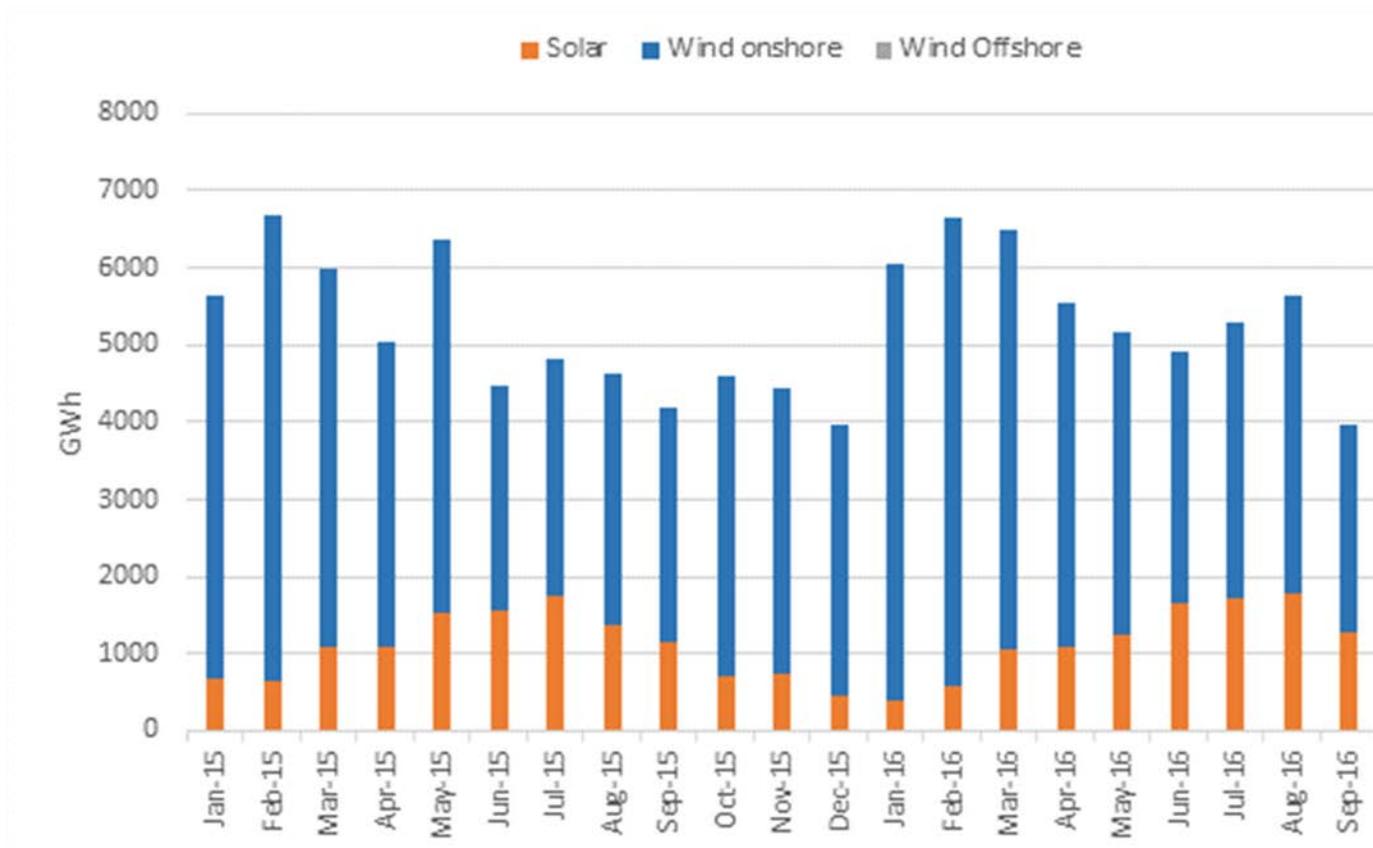
OR



Average industrial electricity demand**
47%

System reliability

Monthly production values of wind and solar (Spain, 2015)



2016: What have we
learned?

Mixed results

Netherlands

Borssele 3&4

€54,5/MWh



Spain

500 MW auction

€0/MWh



Auction design is crucial for outcome!

How to design wind tenders?

Design aspects for tender systems

Before

Ensuring certainty and visibility

- Scope of the auction (national, regional, or European)
- Technology neutral vs specific
- Capacity and frequency of auctions
- Size of systems included in an auction
- Pre-qualification criteria
- Entry-cost

During

Cost-effectiveness

- Price settlement (sealed-bid tender, descending clock)
- Caps
- Floors

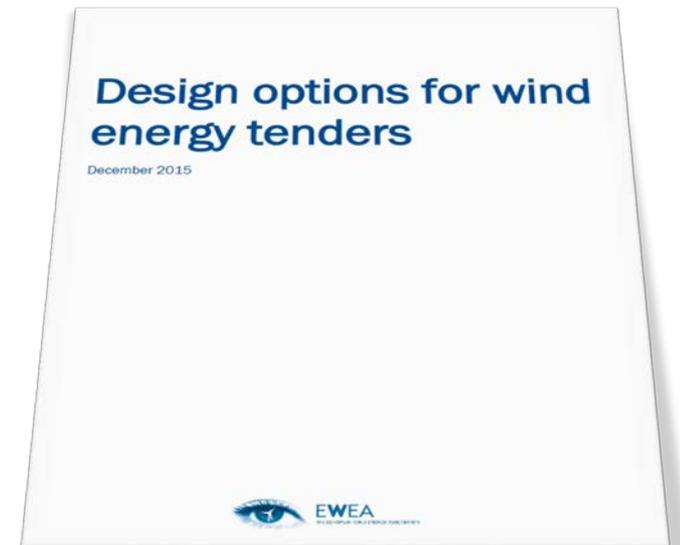
After

Ensuring project fulfilment

- Time to deliver
- Transparency on bids selected
- Liabilities and penalties in case of delay or non-fulfilment
- Secondary market and resubmission of unsuccessful bids

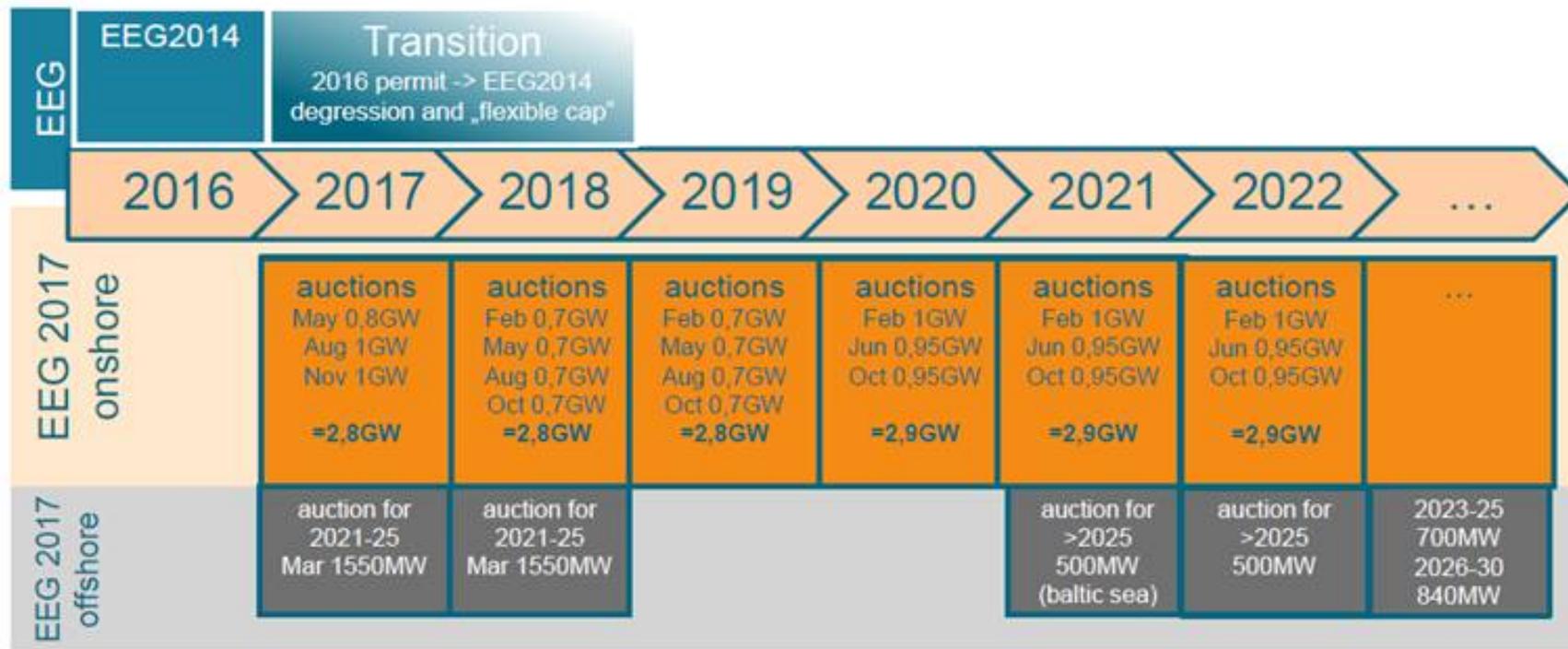
Wind industry recommendations

- Ensure coordination between different administrative levels
 - Set up adequate prequalification criteria
 - Calibrate penalties
- Organise regular auction rounds
 - Prioritise technology-specific tenders



Provide long-term visibility Germany

Stepping into an auctioning system
EEG 2014 to 2017

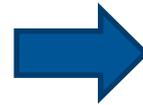


Tailor design to technologies

Netherlands

Borssele 1&2; 3&4

- ✓ Early clarity on tender rules for investors
- ✓ Favourable site conditions
- ✓ Pre-development done by government
- ✓ Minimised bureaucracy procedure



€72.2/MWh (July 2016)

€54.5/MWh (December 2016)

Consider market maturity and technical characteristics
(e.g. cost, size, risk profile, project lead time)



NEXT YEAR, THE **WIND INDUSTRY**
WILL BE MEETING IN

AMSTERDAM

28 - 30 NOVEMBER 2017

Amsterdam RAI Exhibition and Convention Centre

Wind[•]
EUROPE

**CONFERENCE
& EXHIBITION
2017** 28-30 NOVEMBER
AMSTERDAM

windeurope.org/confex2017

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