

OFFSHORE WIND ENERGY IN THE BALTIC SEA

Diletta Zeni, Public Affairs Advisor,
WindEurope

WindEurope: representing the entire supply chain

450
MEMBERS

Wind turbine manufacturers

e.g.   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

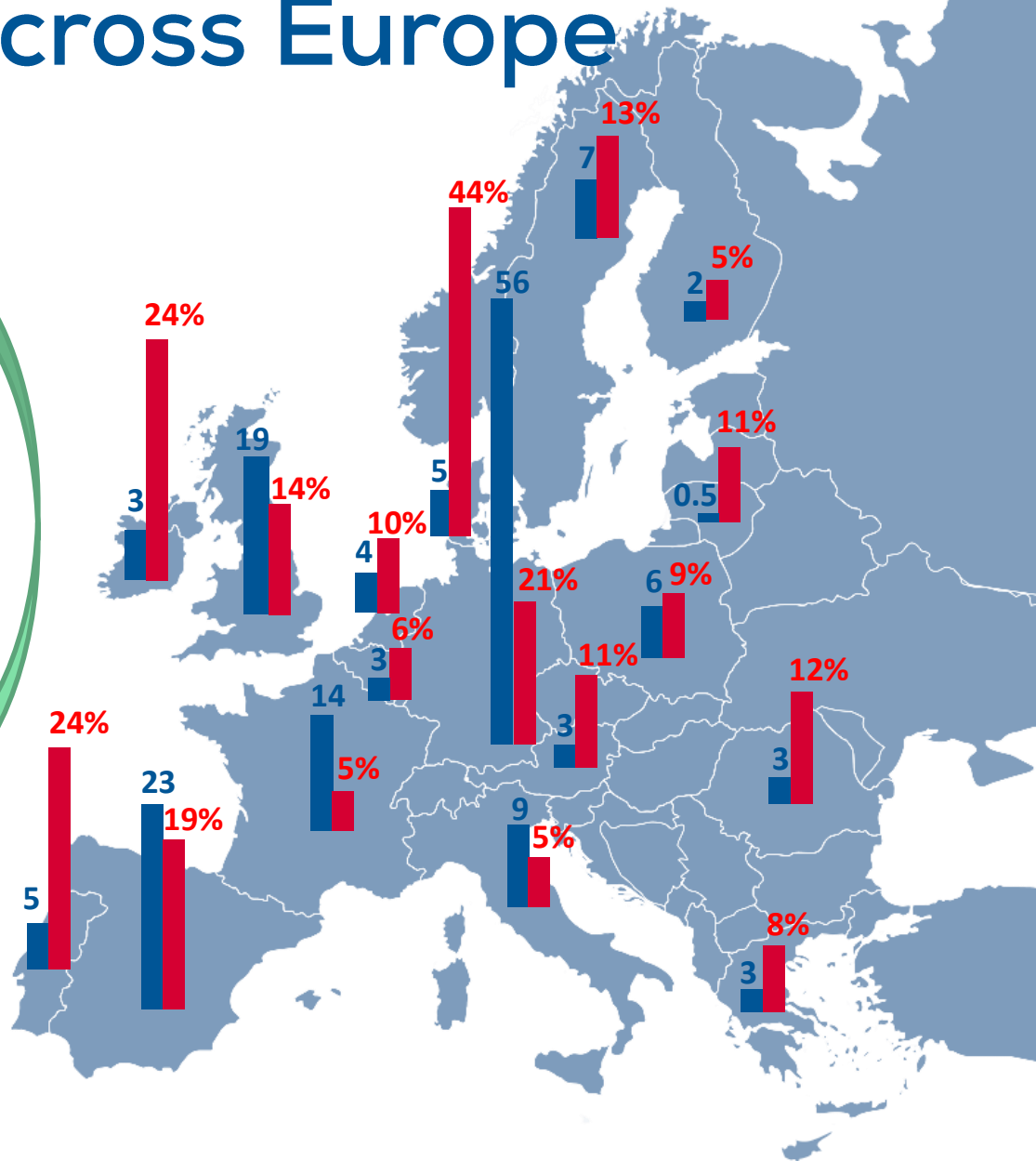
Wind power across Europe

169 GW

Of which:
16 GW
offshore

12%
of 2017 EU power
demand

○ GW installed
● Penetration



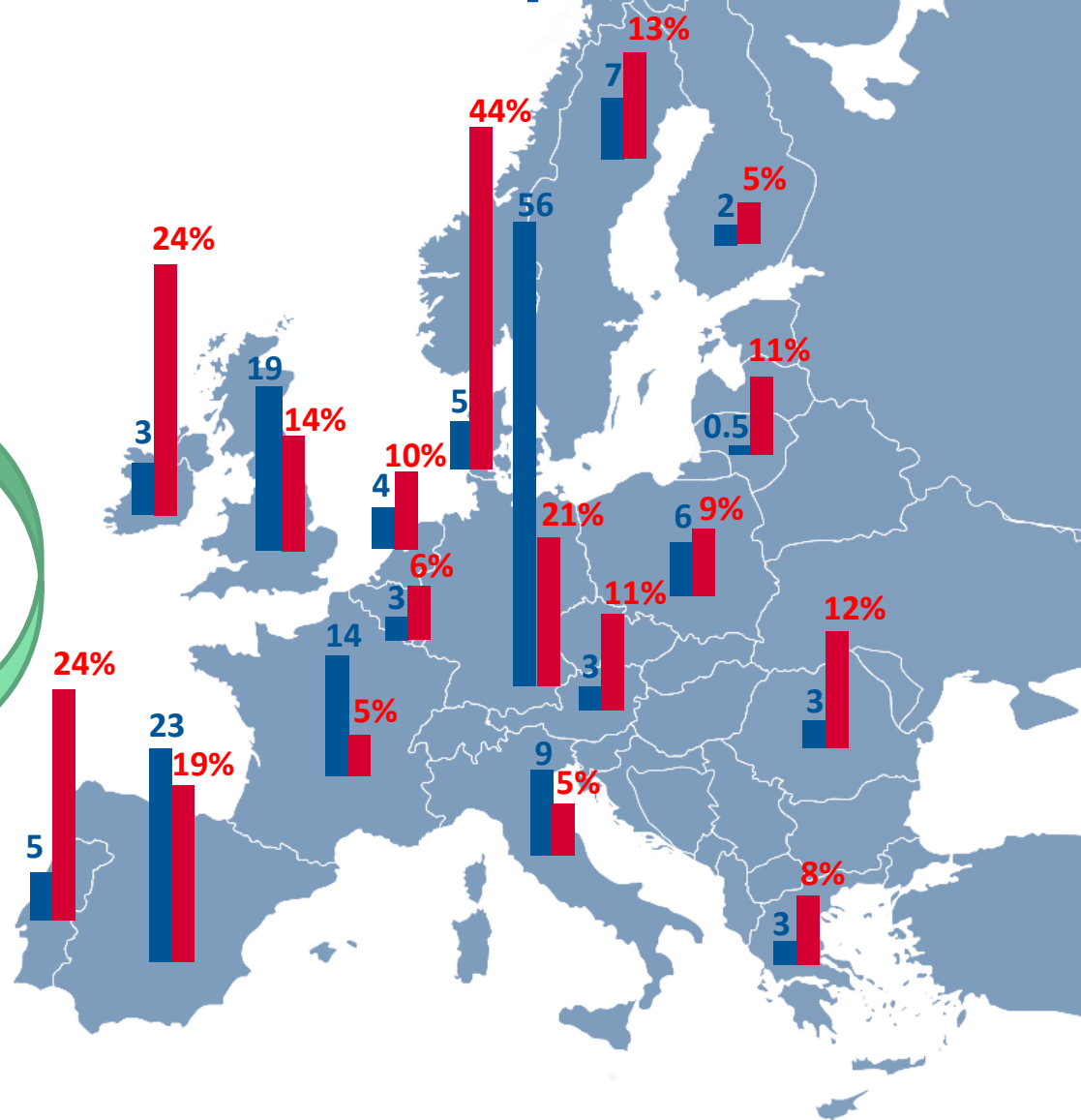
Wind power across Europe

169 GW

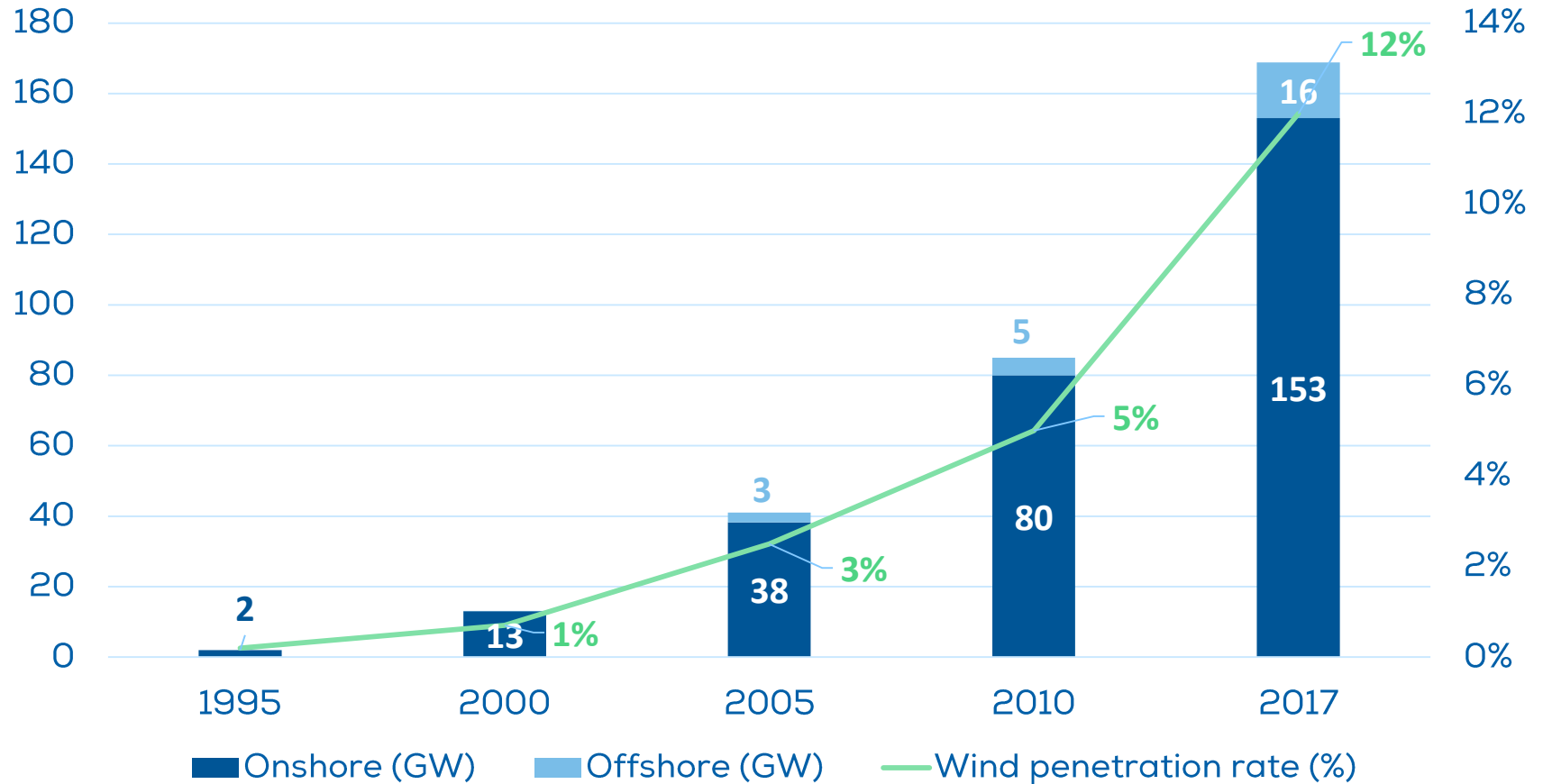
Of which:
16 GW
offshore

1.5%
of 2017 EU power
demand

○ GW installed
● Penetration



2010 – 2017: EU offshore wind tripled



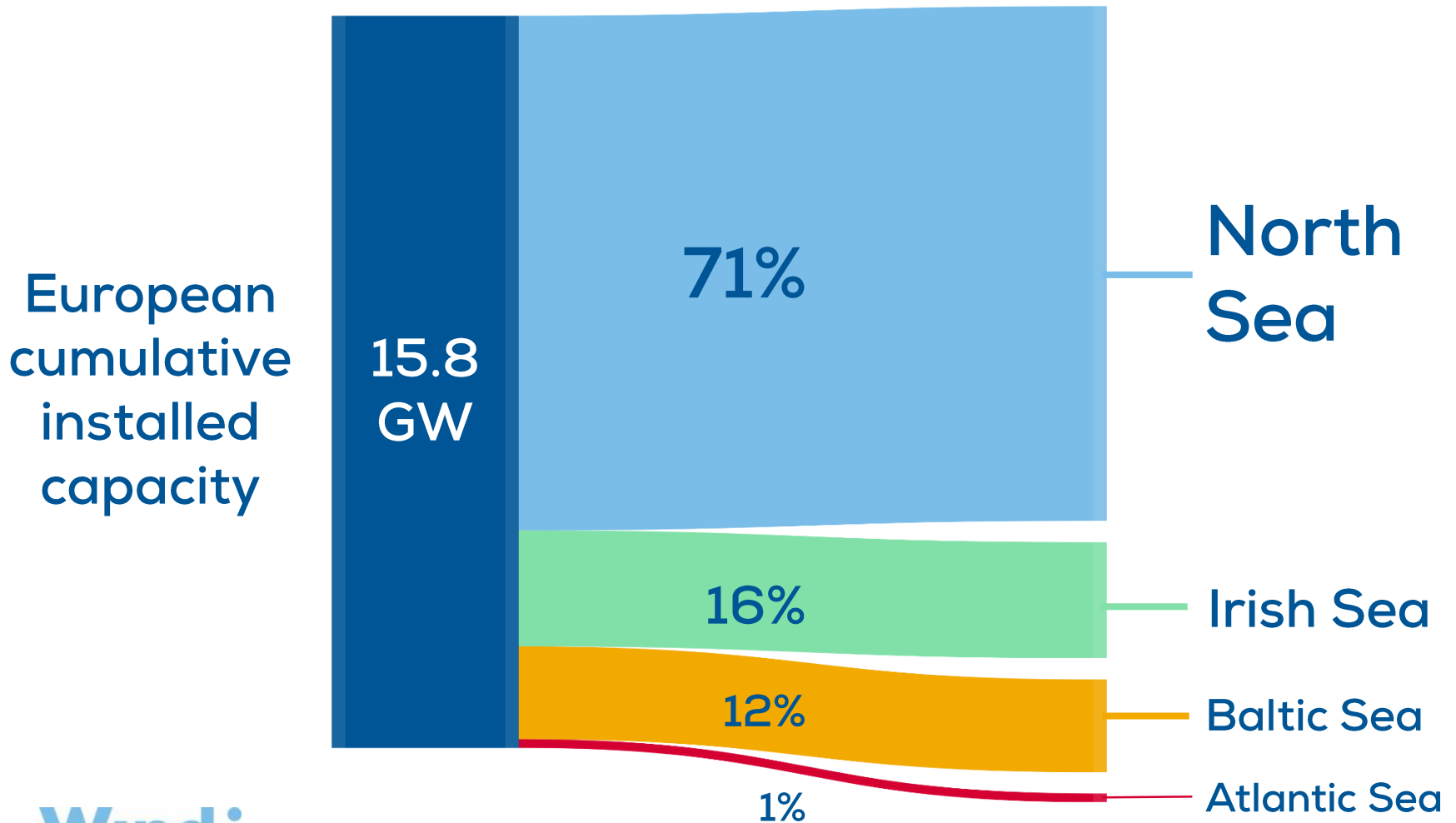
2017 Record
year

3,148 MW

installed & grid-connected

Share by Sea Basin

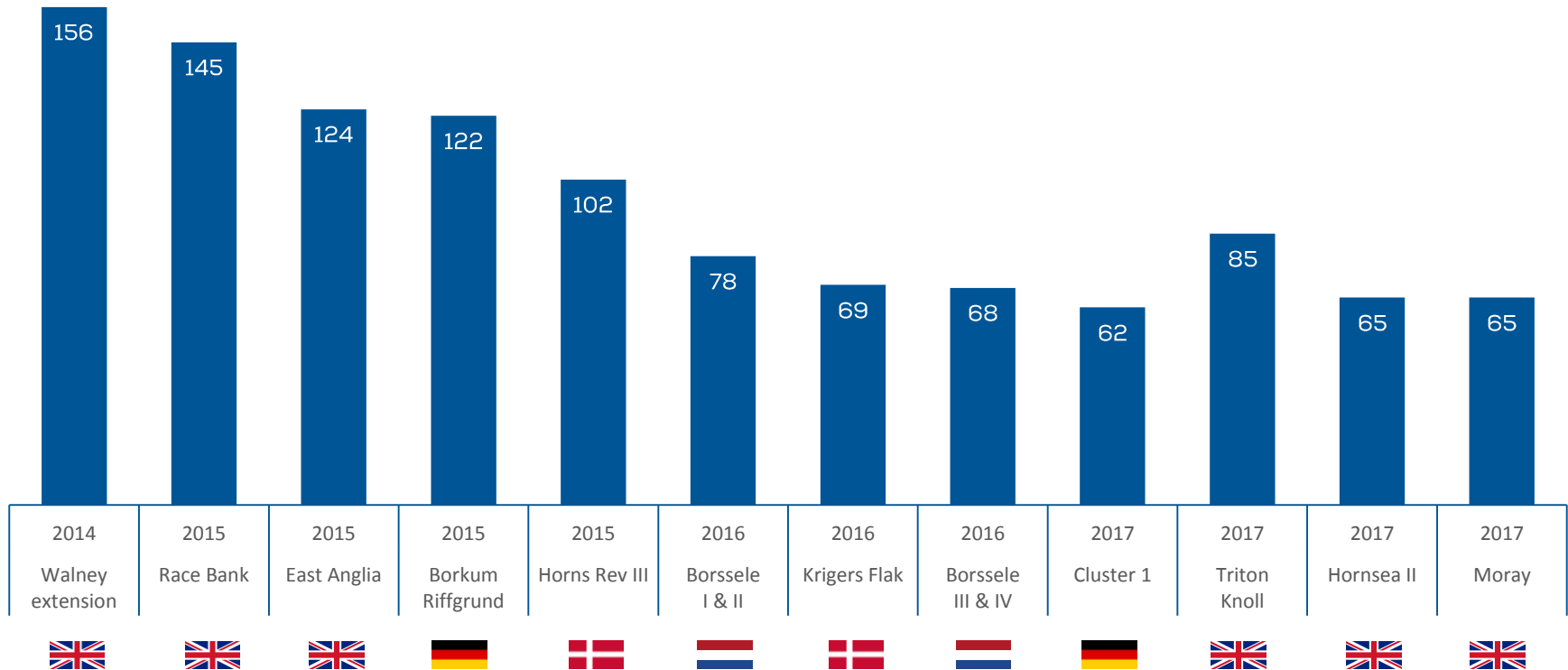
Cumulative



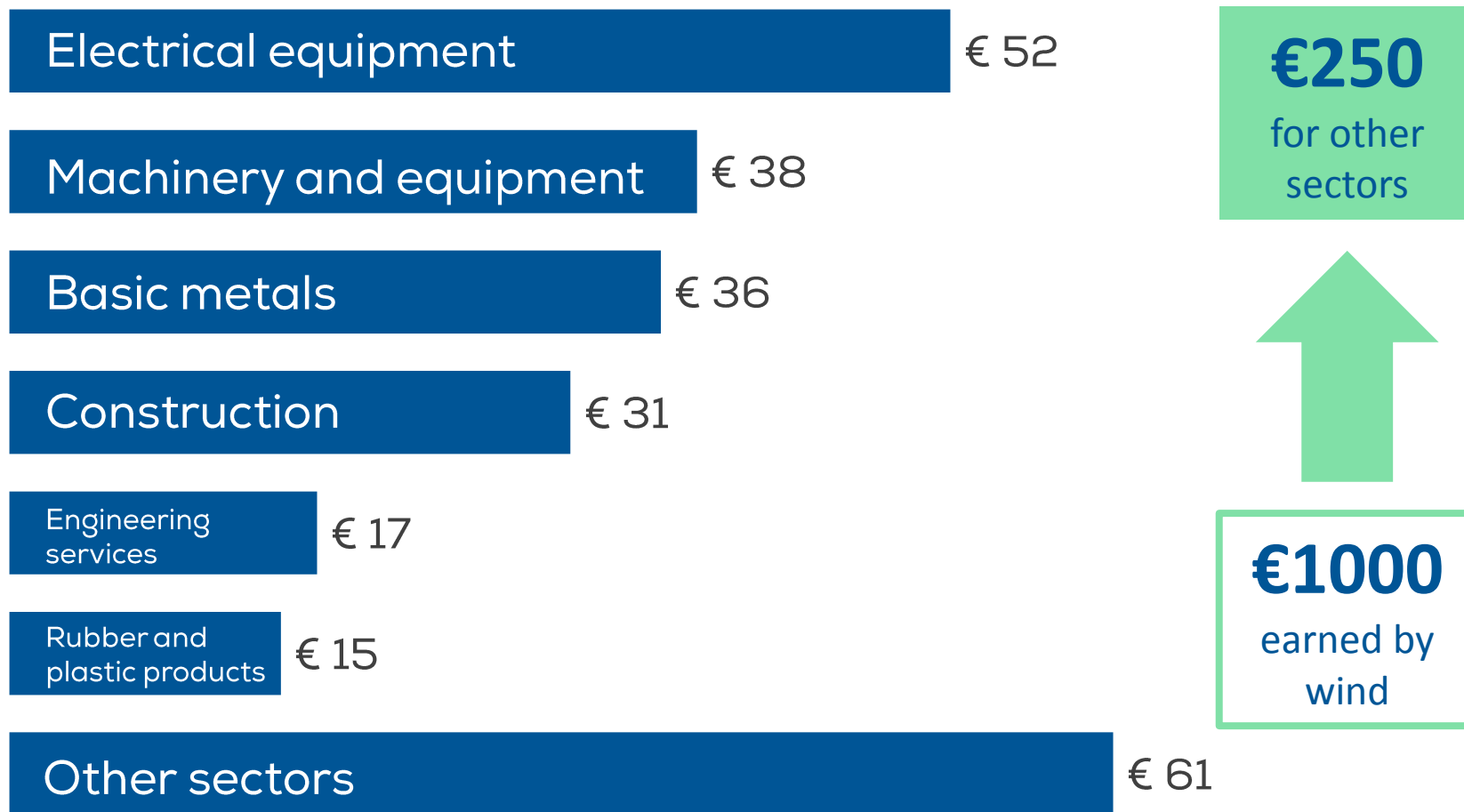
Price reduction: Offshore wind

Levelised revenue of electricity, incl. transmission costs

EUR/MWh¹, 2016-prices



On- and offshore contribution to other sectors



Baltic Sea

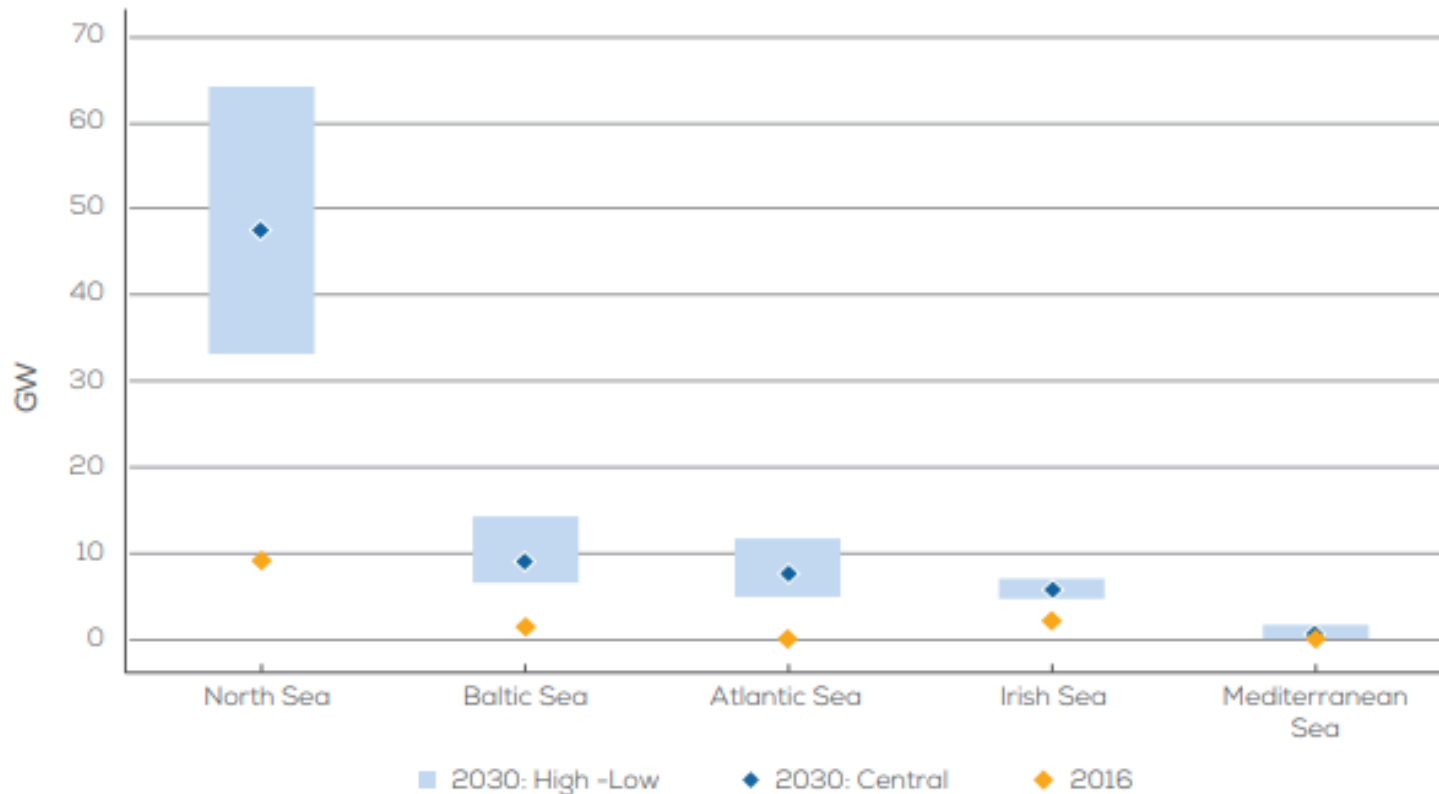
Strong & stable winds

**Less extreme sea
conditions**

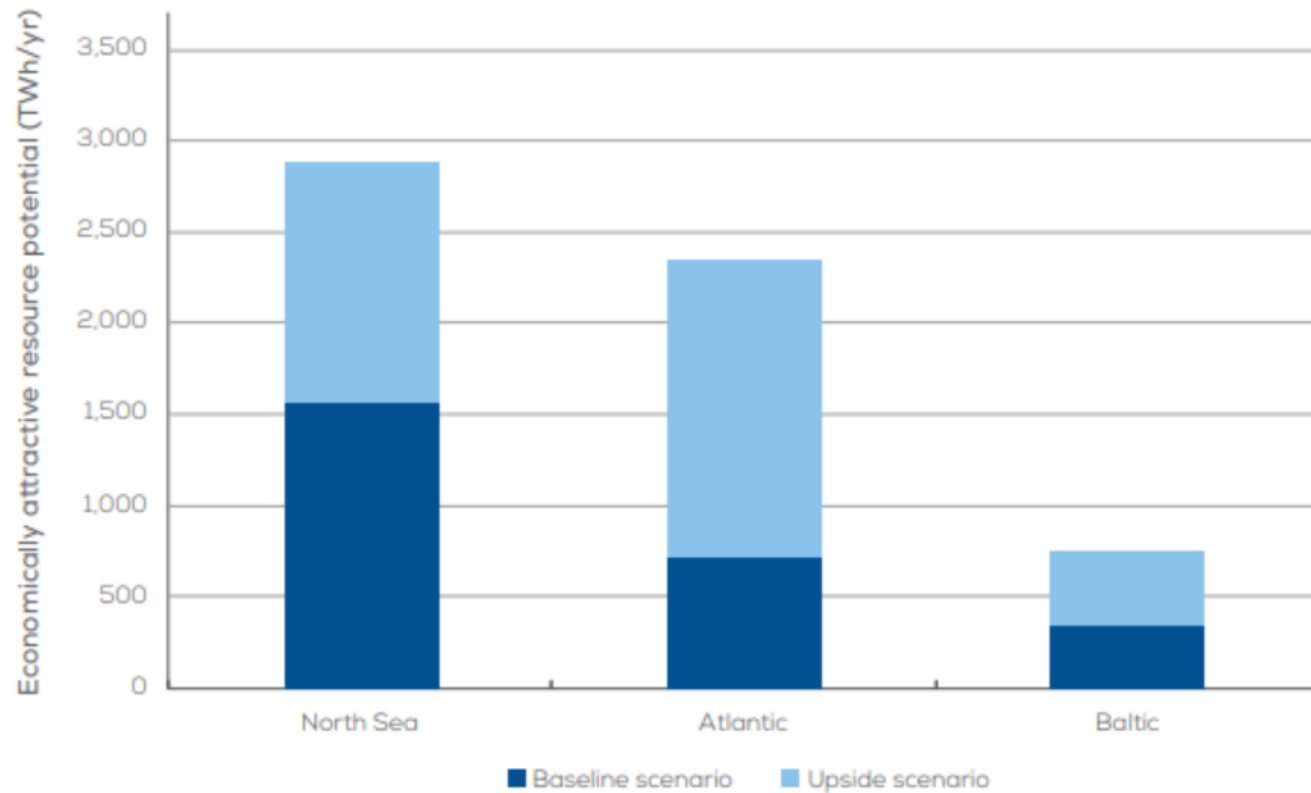
Shallow water depths

Short distances to shore

2016 and 2030 offshore wind installations per sea basin



Economically attractive resource potential – end of 2030 by sea basin



Source: BVG Associates for WindEurope

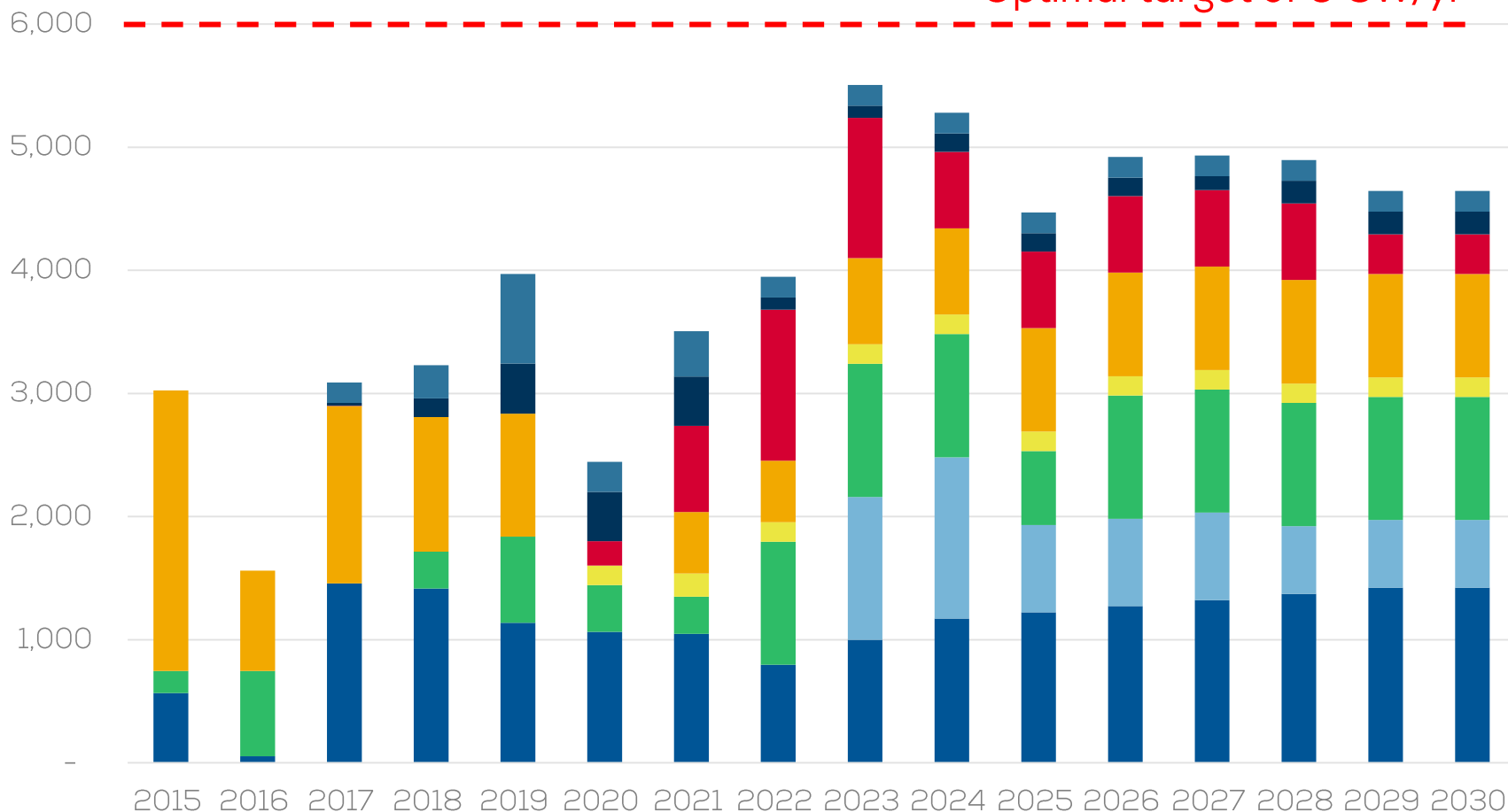
Baltic Sea Declaration

June & September 2017



Continuous, visible & sufficient pipeline of projects to 2030

Optimal target of 6 GW/yr



Here is where the CEP comes in



Electricity Regulation
Electricity Directive
Renewable Energy Directive
Energy Union Governance Regulation

Boosting offshore in the Baltic

- **35% 2030 RES target**
 - Cost of non-ambition: EUR 92 Bn missed investments & 132,000 jobs non-created
- 3-year visibility
- Allow technology-specific auctions
- Ambitious NECPs



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Hamburg
The global on & offshore expo



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EUROPE

The global on & offshore conference

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- 1,400 exhibitors from 34 countries
- More than 500 presentations from top experts from all around the globe

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globalwindsummit.com

Daily wind power numbers



17.8% of European electricity demand was met by wind energy

16 January 2018

COUNTRIES WITH THE HIGHEST SHARES OF WIND IN THEIR ELECTRICITY DEMAND

Wind power share and generation in each country's demand

- | | |
|----------------------------|----------------------------------|
| 1. Ireland: 58% = 69 GWh | 6. United Kingdom: 23% = 215 GWh |
| 2. Denmark: 44% = 48 GWh | 7. Portugal: 22% = 37 GWh |
| 3. Germany: 43% = 695 GWh | 8. Netherlands: 20% = 72 GWh |
| 4. Spain: 31% = 247 GWh | 9. Sweden: 19% = 95 GWh |
| 5. Lithuania: 28% = 11 GWh | 10. Estonia: 18% = 5 GWh |

Find out more facts about wind power in Europe:
windeurope.org/dailywind

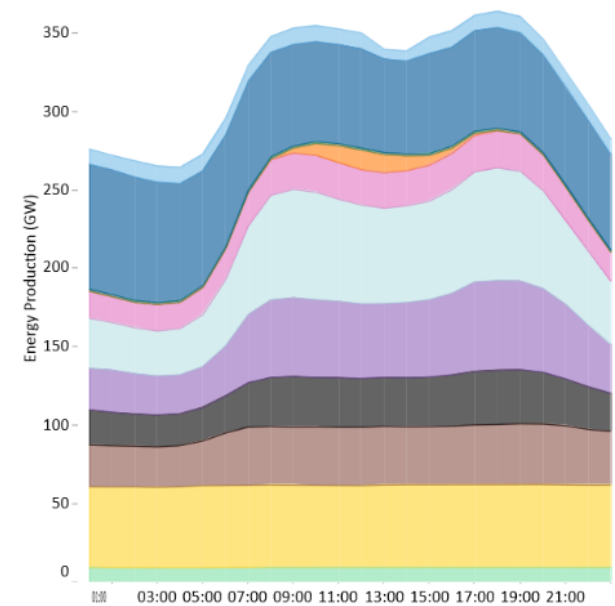
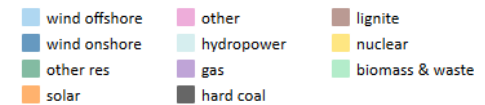


Onshore Wind (GWh)

1,608

Offshore Wind (GWh)

235



THANK YOU

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