






# Offshore wind in the EU and post-2020 outlook

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# WindEurope: Representing the whole wind industry

450 MEMBERS

Wind turbine manufacturers	e.g.	 GE Renewable Energy	 SIEMENS Gamesa RENEWABLE ENERGY		
Wind farm developers	e.g.	 acciona Energy			
Power utilities	e.g.				
Component manufacturers	e.g.				
Installation / logistics	e.g.				
Financial services	e.g.				
Research institutes	e.g.				

+ National wind associations

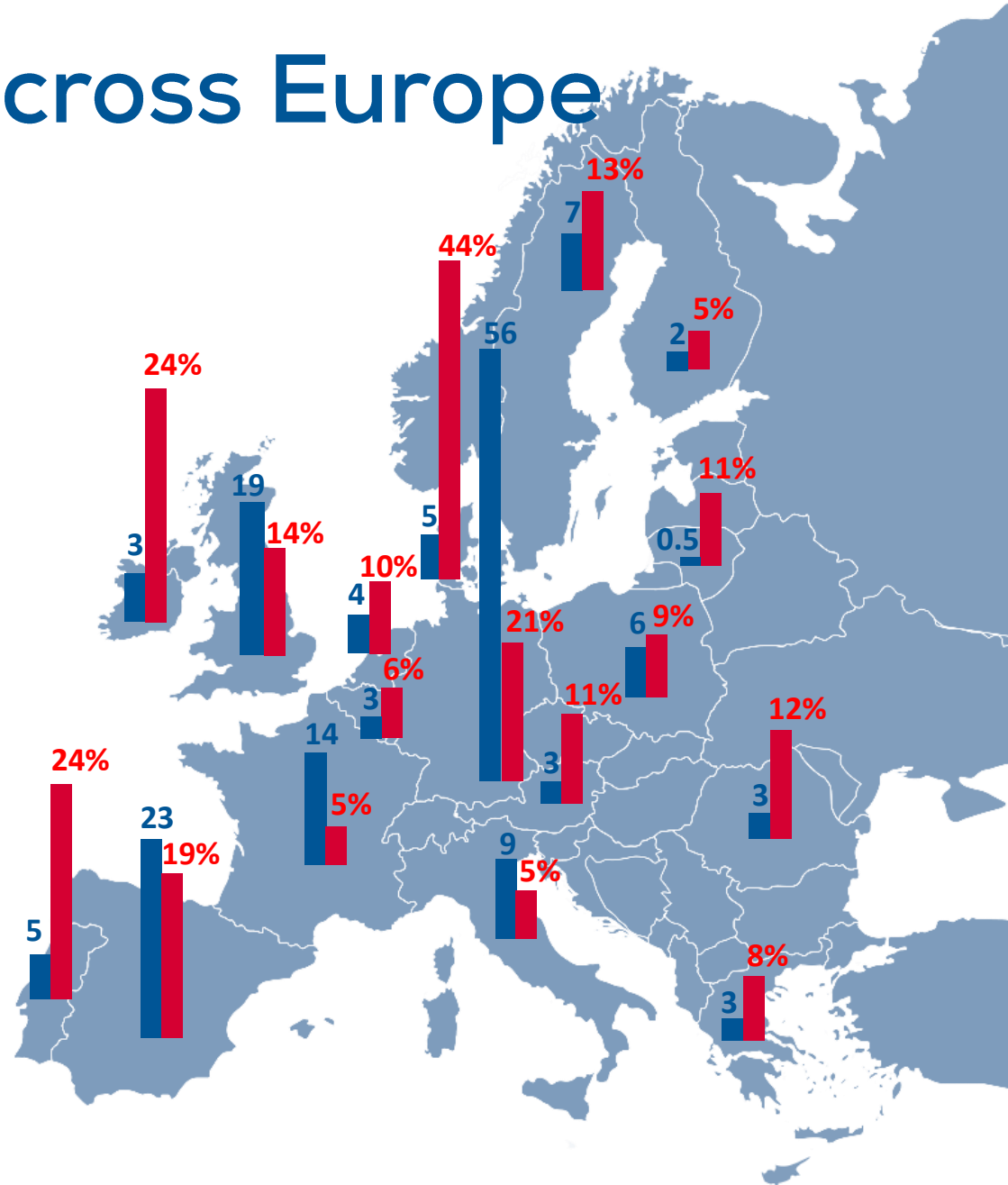
# Wind power across Europe

169 GW

12%

of 2017 EU power demand

○ GW installed  
● Penetration




# 2017 key figures

12.5 GW onshore wind

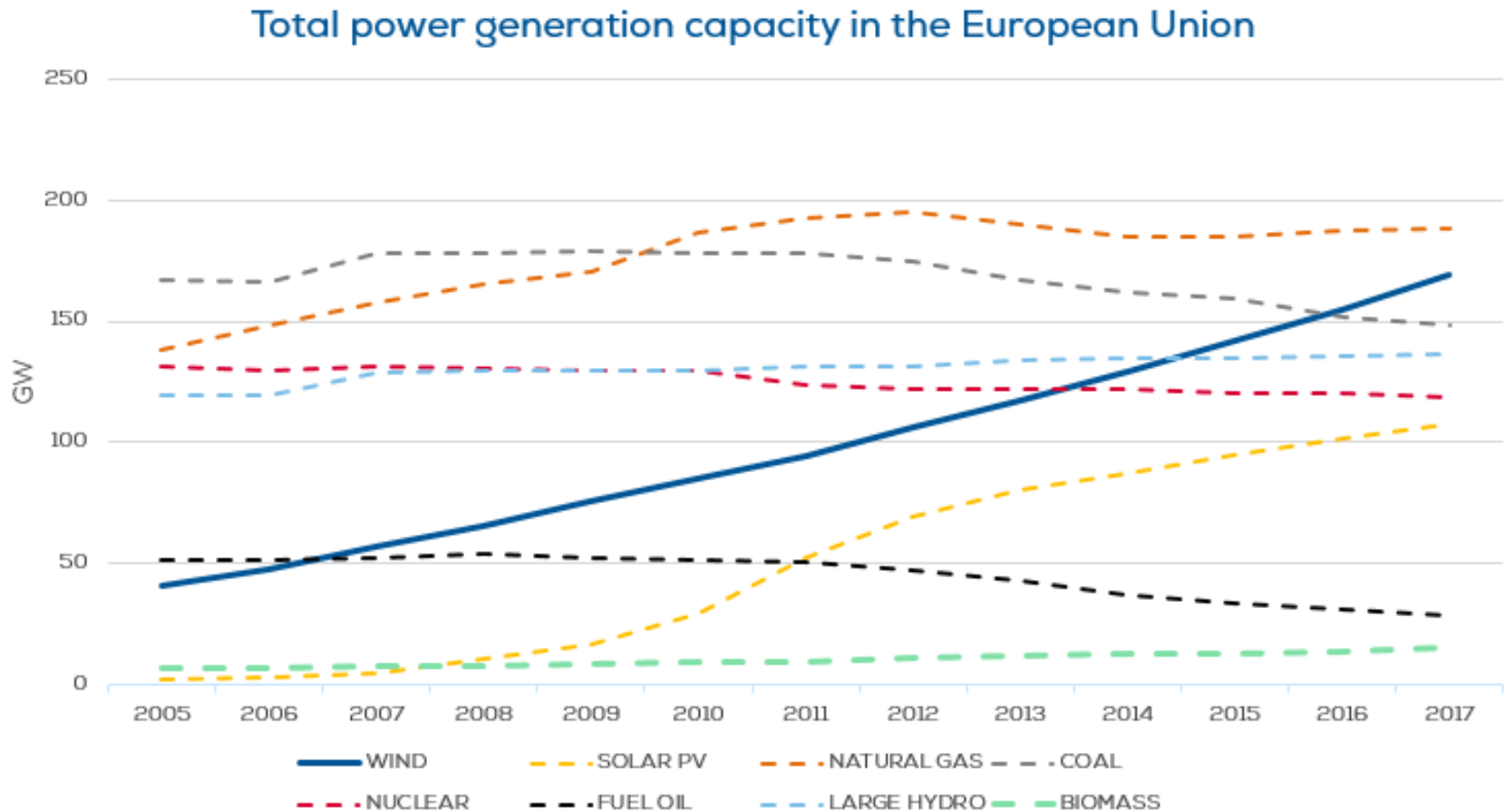
3.1 GW offshore wind

15.6 GW installed in EU  
13 turbines/day

55% of new  
power generation

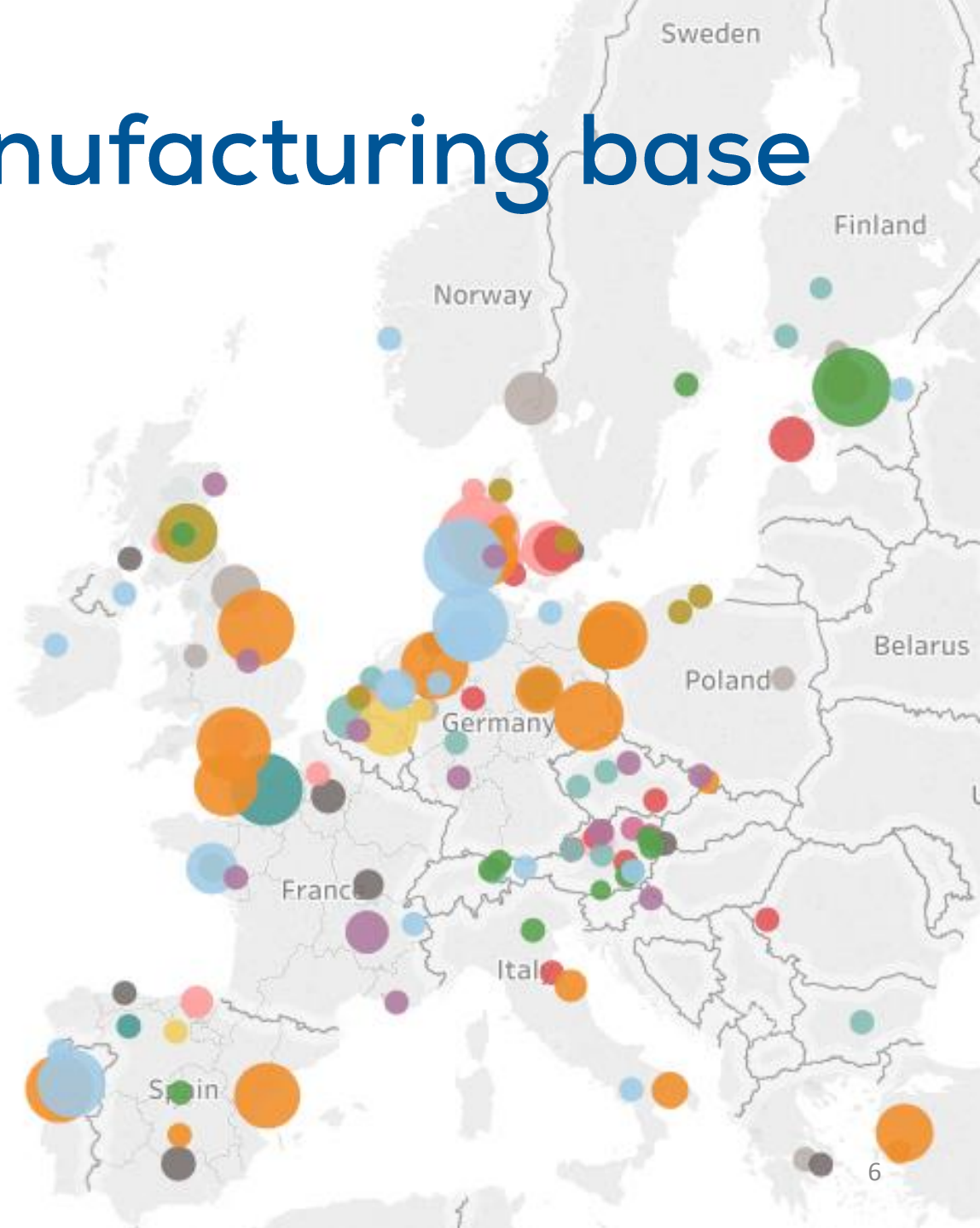


# 2<sup>nd</sup> largest power capacity in the EU



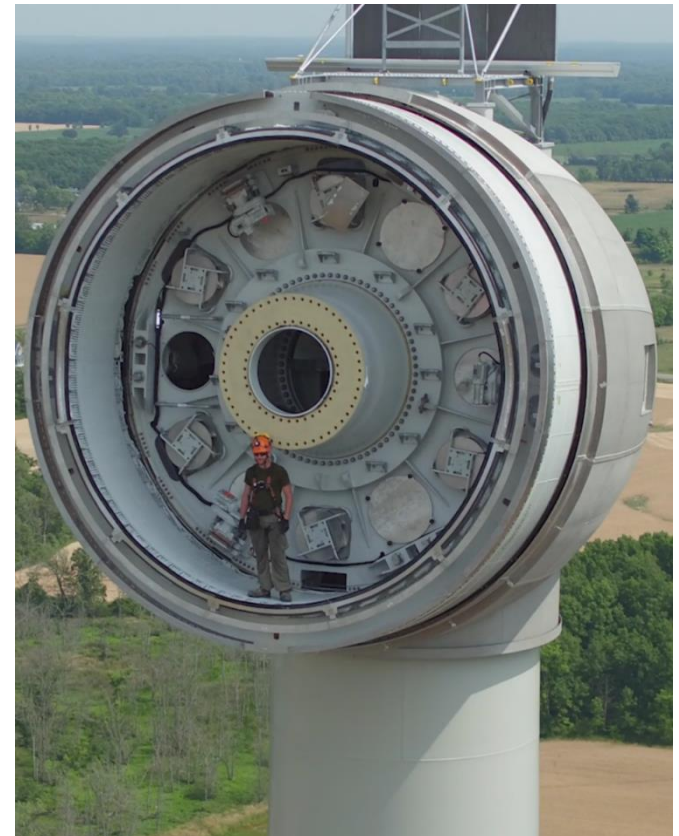
# Diverse manufacturing base

- Components
- Assembly
- Blades
- Electrical Components
- Foundations
- Gearboxes
- Nacelles
- O&M
- Other
- R&D
- Towers
- Cables
- Logistics
- Technical components

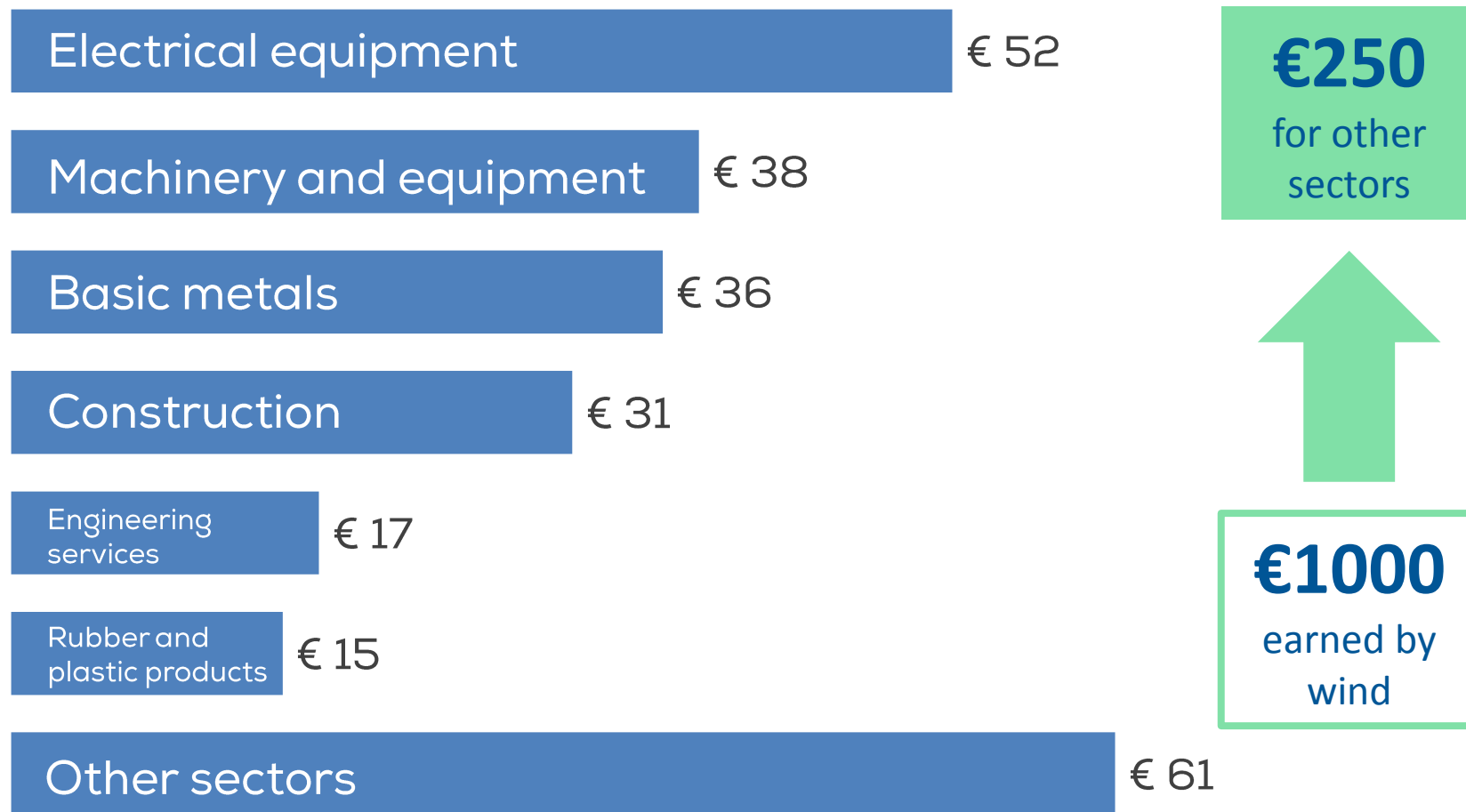


# Contribution to EU economy

- 263,000 jobs
- €36bn GDP contribution
- €8bn exported
- €22bn invested
- €5bn fossil fuel savings p.a.



# Contribution to other sectors





# OFFSHORE WIND TRENDS

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# Offshore construction summary

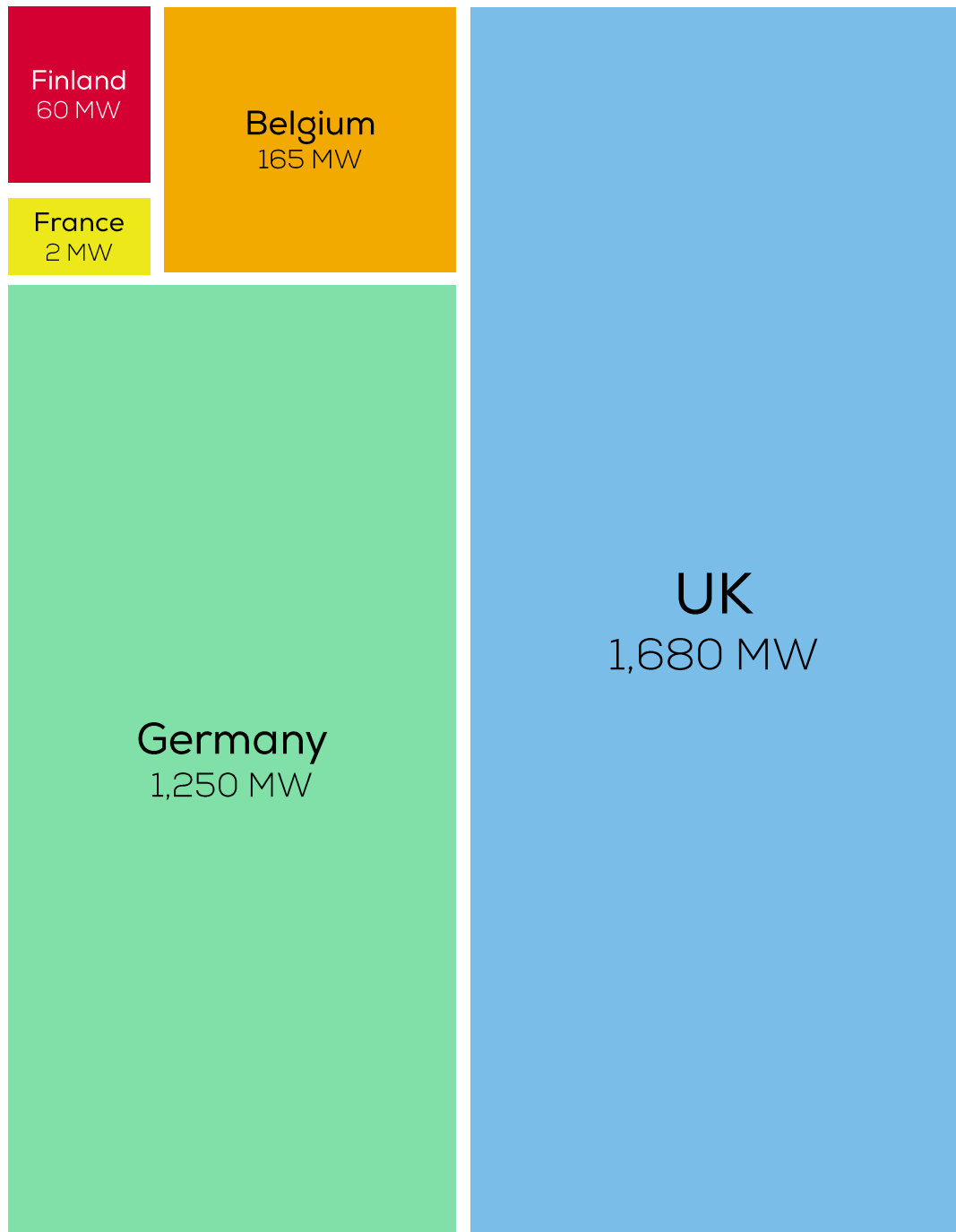
2017

VS 2016

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<b>3,148 MW</b>	Installed capacity	 <b>X2</b>
<b>560</b>	Grid-connected turbines	 <b>+66%</b>
<b>612</b>	Turbines erected	 <b>+70%</b>

# Construction summary 2017

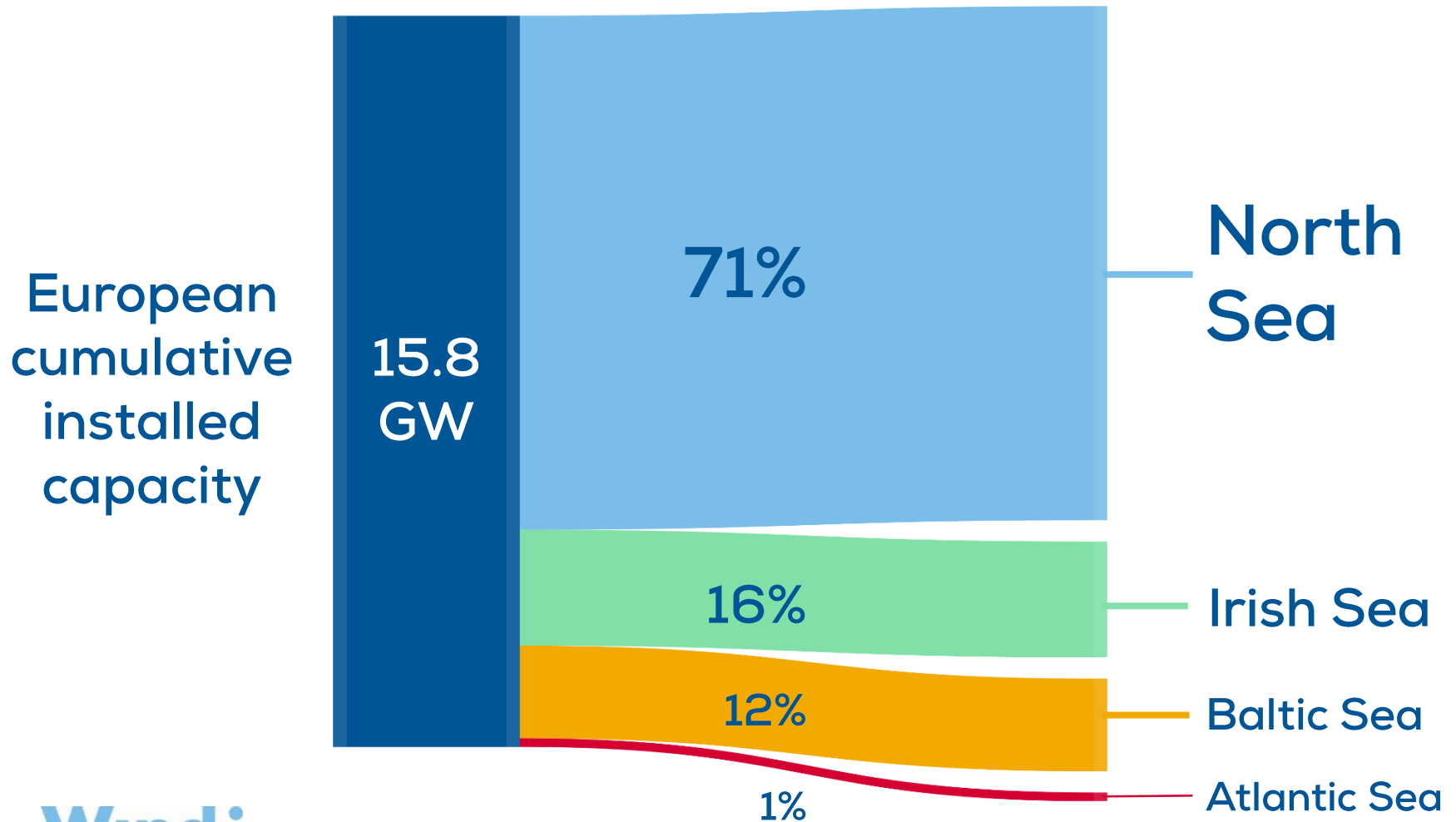


# Europe's offshore wind farms

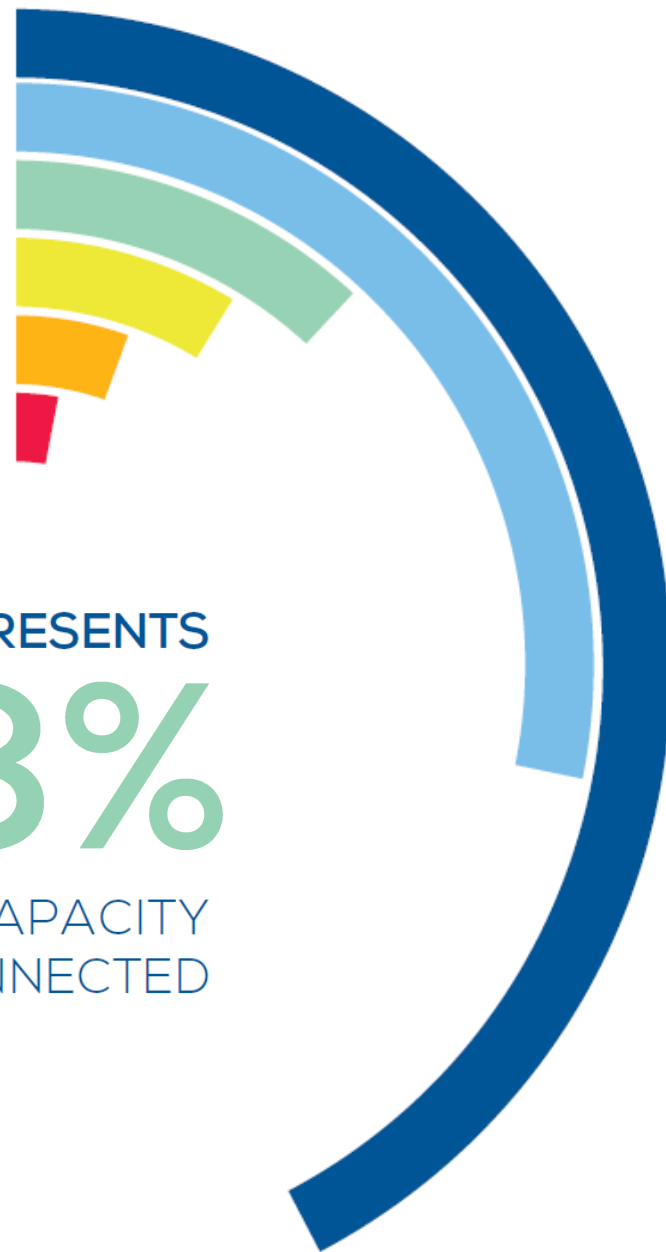


# Share by Sea Basin

Cumulative



UK	6,834 MW / 1,753 turbines
Germany	5,355 MW / 1,169 turbines
Denmark	1,261 MW / 495 turbines
Netherlands	1,118 MW / 365 turbines
Belgium	877 MW / 232 turbines
Others	328 MW / 124 turbines



TOP 5 REPRESENTS

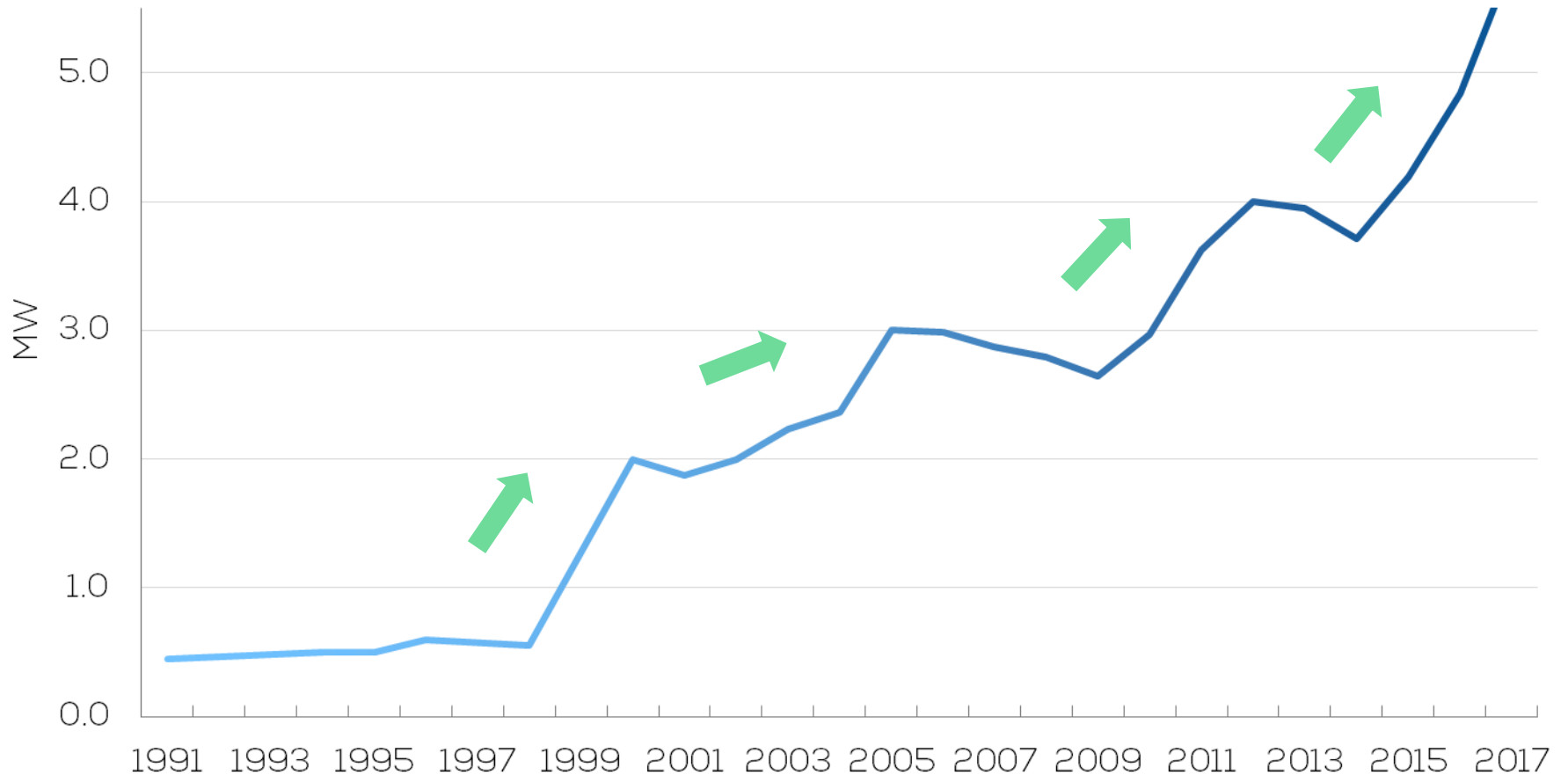
98%

OF ALL CAPACITY  
CONNECTED

# Country share

## Cumulative

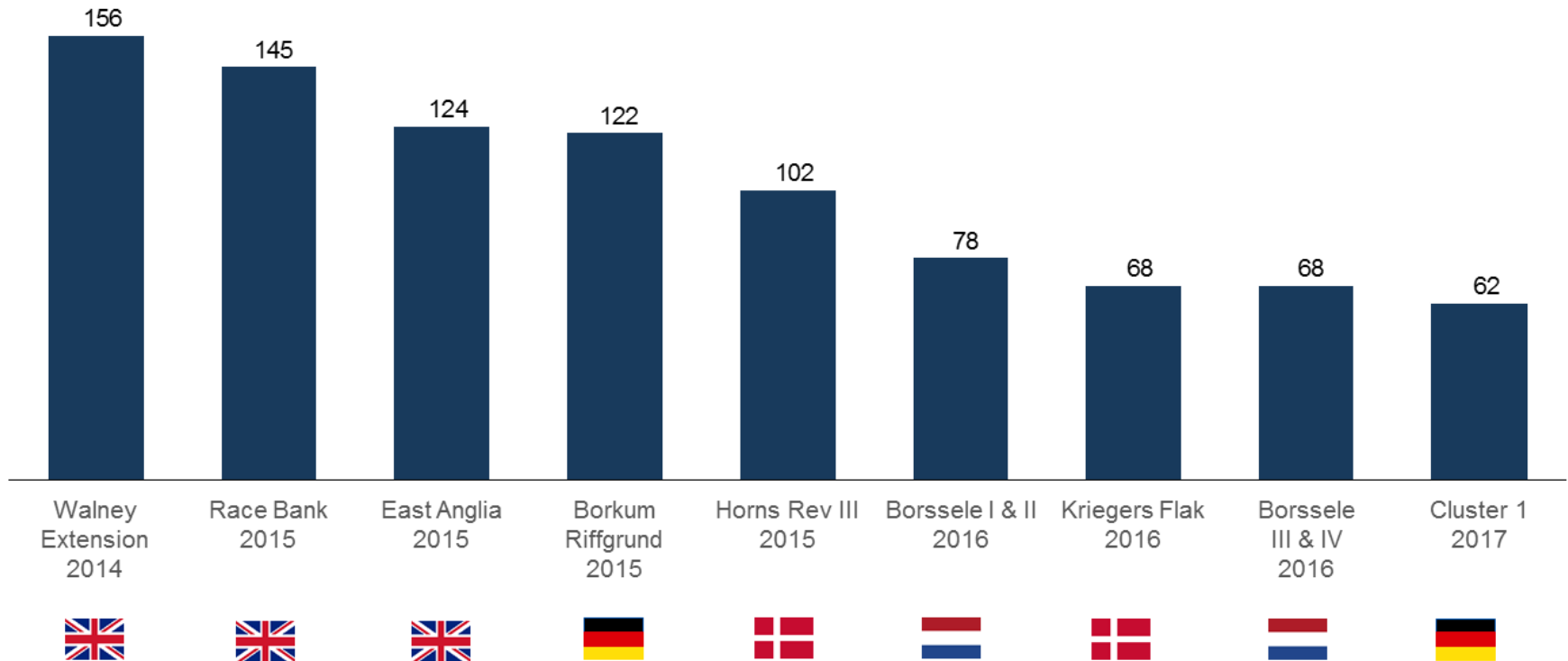
# Offshore turbine development



# Cost reduction: Offshore wind

Levelised revenue of electricity, incl. transmission costs

EUR/MWh<sup>1</sup>, 2016-prices





# North Seas declaration 2016



**Ten signatories:** - BE/DE/DK/IE/FR/LU/NL/NO/SE/UK

A first of a kind agreement by European nations to work together on offshore wind and energy cooperation.

## **Objectives:**

- **Cost-effective** deployment of offshore wind energy;
- **Sustainable, secure and affordable** energy supply;
- **Interconnection** between North Seas countries.

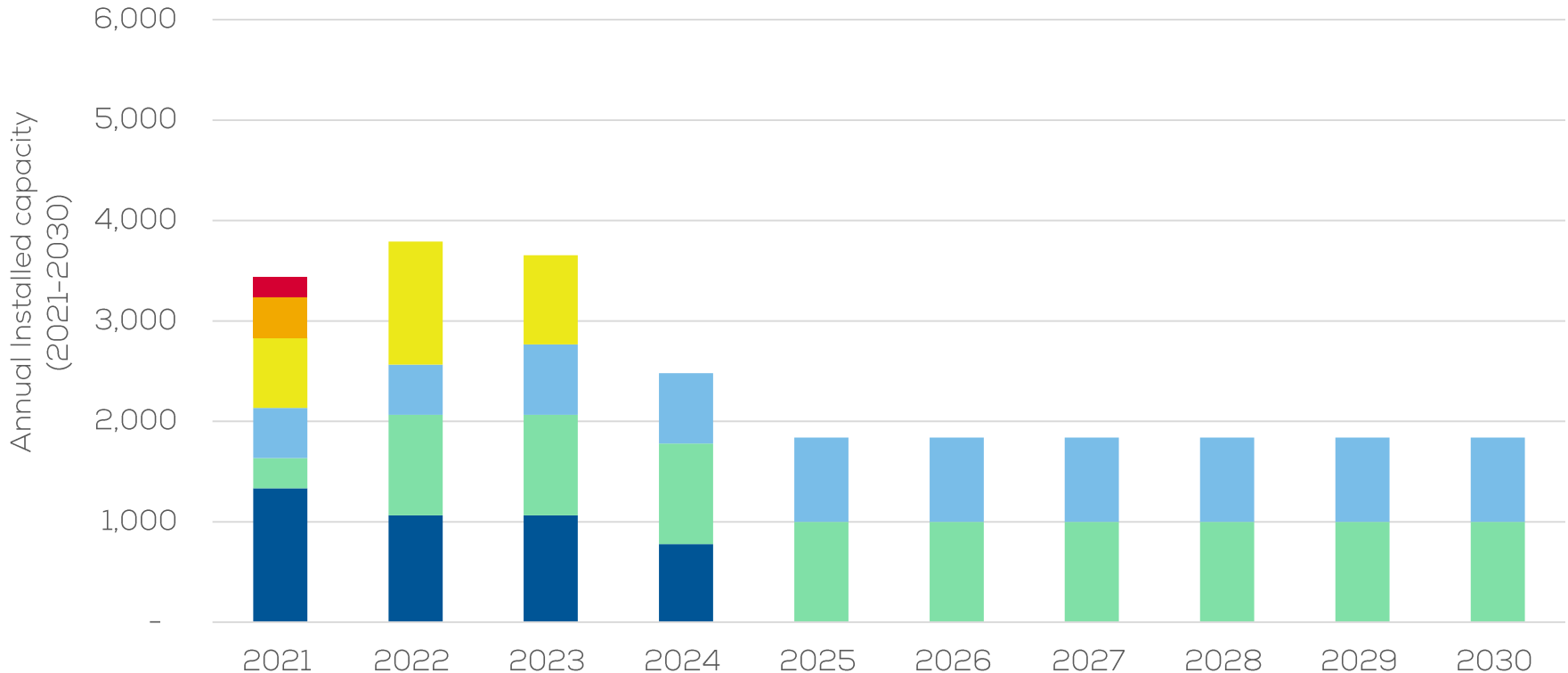
# Baltic Sea Declaration

15<sup>th</sup> June 2017



# Annual deployment of offshore wind

Projection based on real project data and firm government commitments

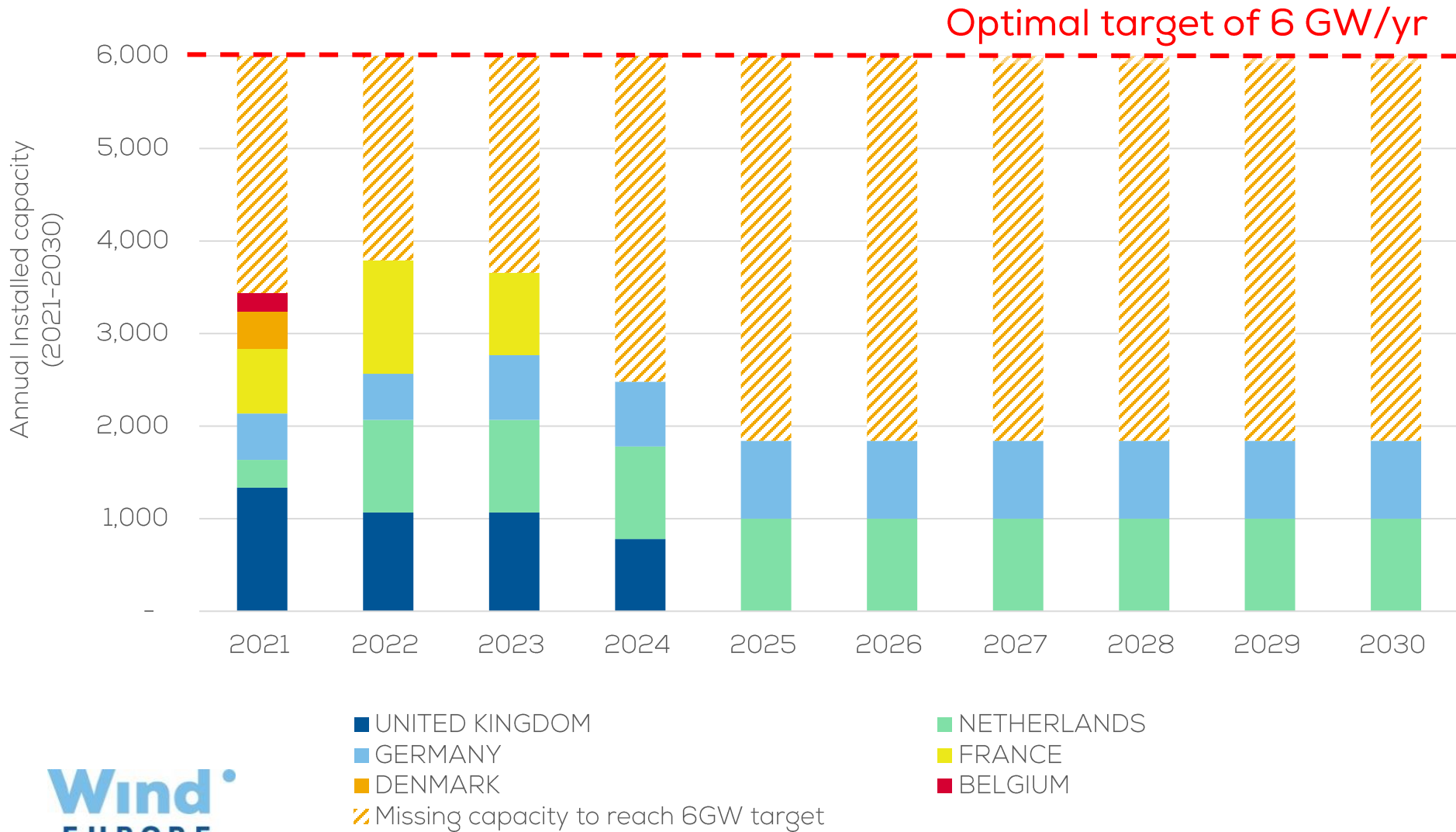


■ UNITED KINGDOM ■ NETHERLANDS ■ GERMANY ■ FRANCE ■ DENMARK ■ BELGIUM

For presentation clarity, countries with deployment below 100 MW are not included here.

Source: WindEurope

# Outlook to 2030





**Clean energy**  
for all Europeans

#CleanEnergyEU

1  
16

15

18



35% renewable energy  
target

+ €92bn of investments  
+ 132,000 jobs

# National Energy and Climate Plans

# Visibility





# Regional cooperation





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Hamburg  
The global on & offshore expo



Wind'  
EUROPE

The global on & offshore conference

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