



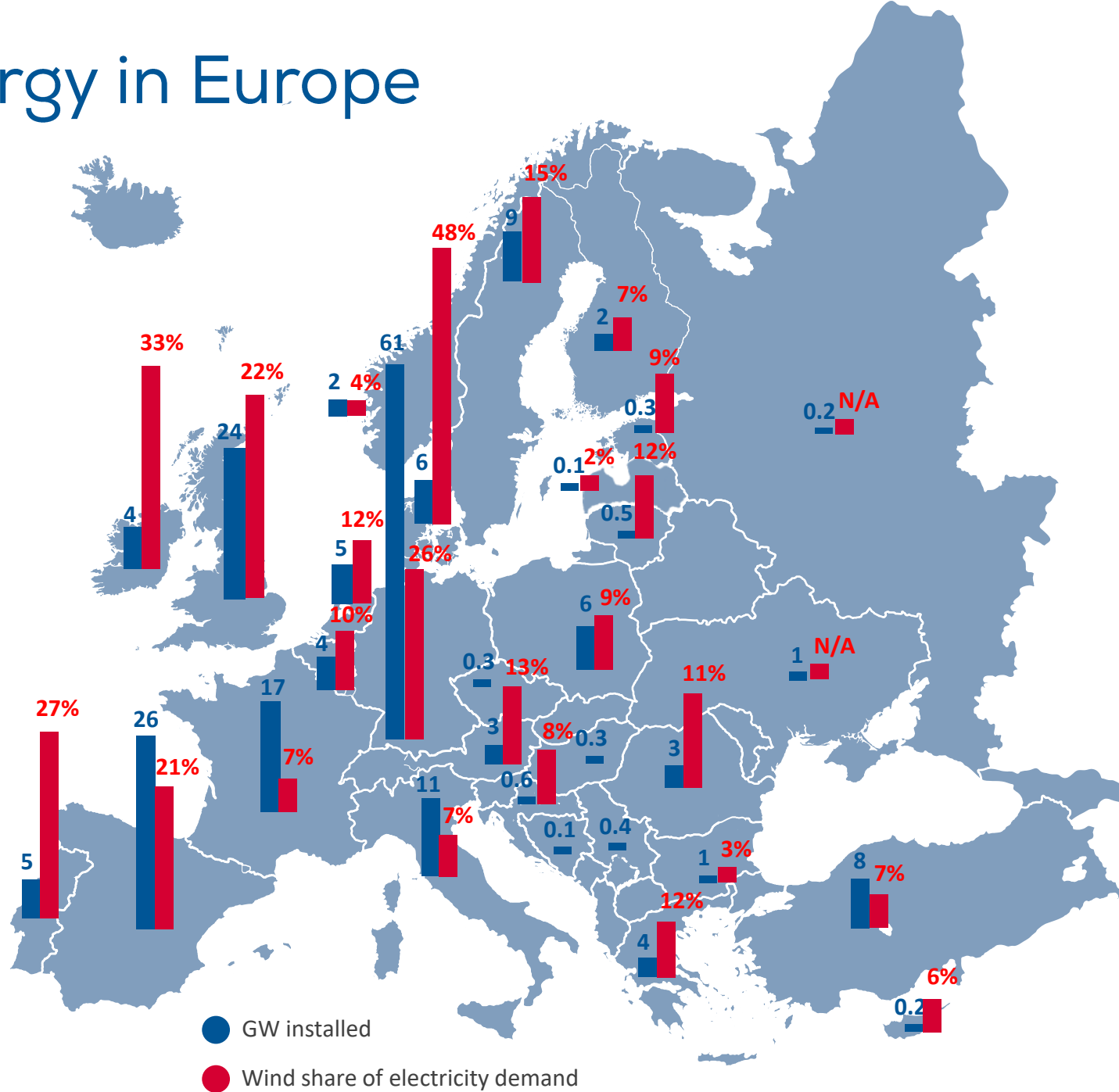
# Sofa Talks: How wind can help deliver the EU Green Deal

Giles Dickson & Viktoriya Kerelska

# Wind energy in Europe

205 GW

15%  
of Europe's  
electricity demand

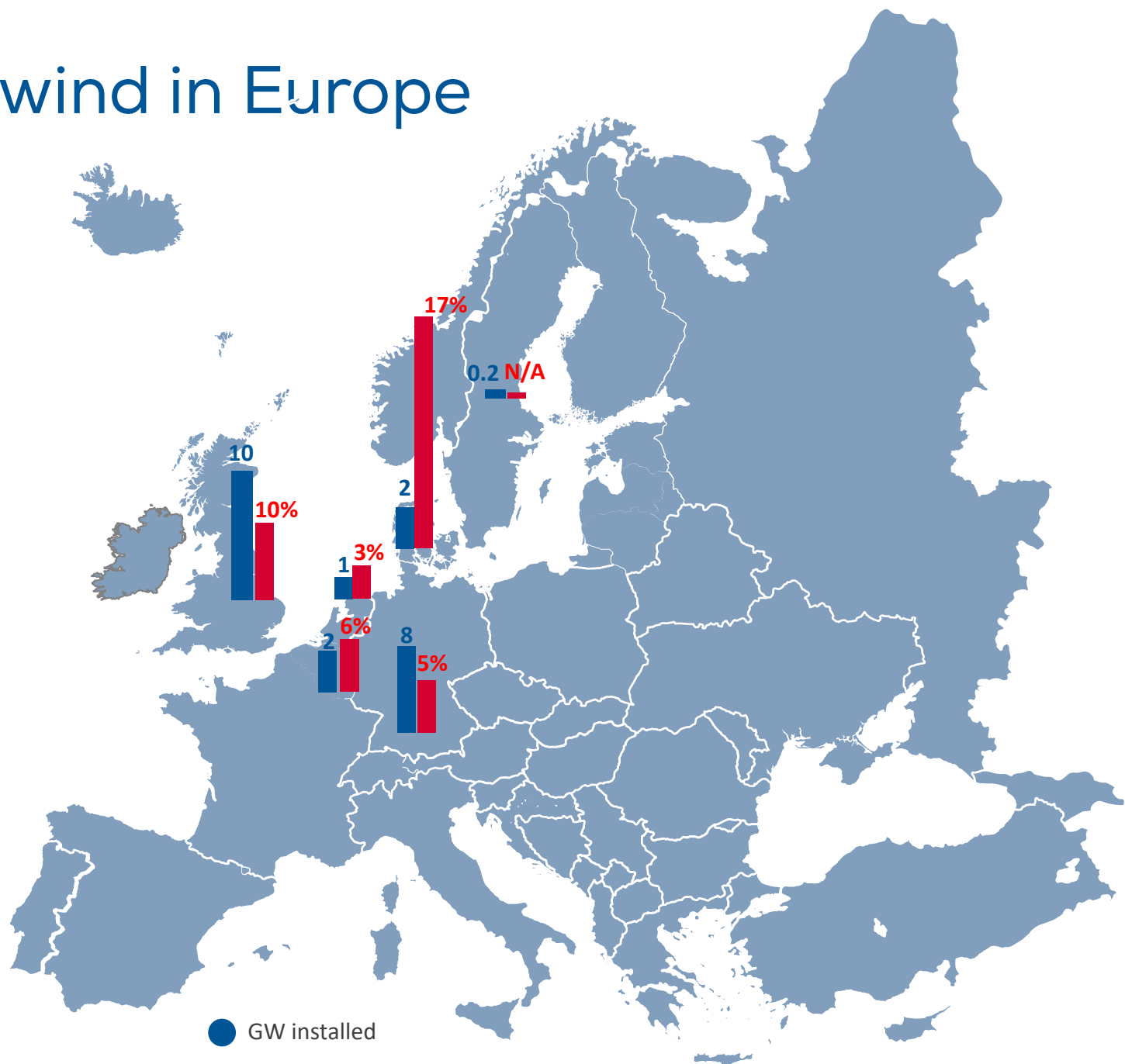


# Offshore wind in Europe

22 GW

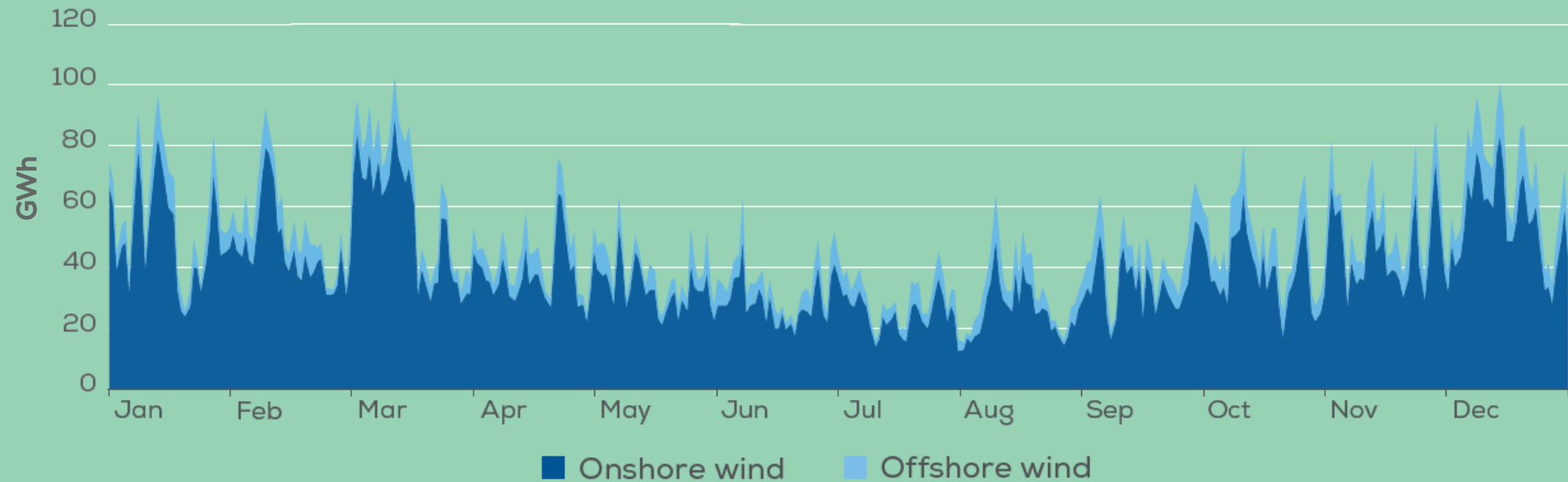
2%

of Europe's  
electricity demand



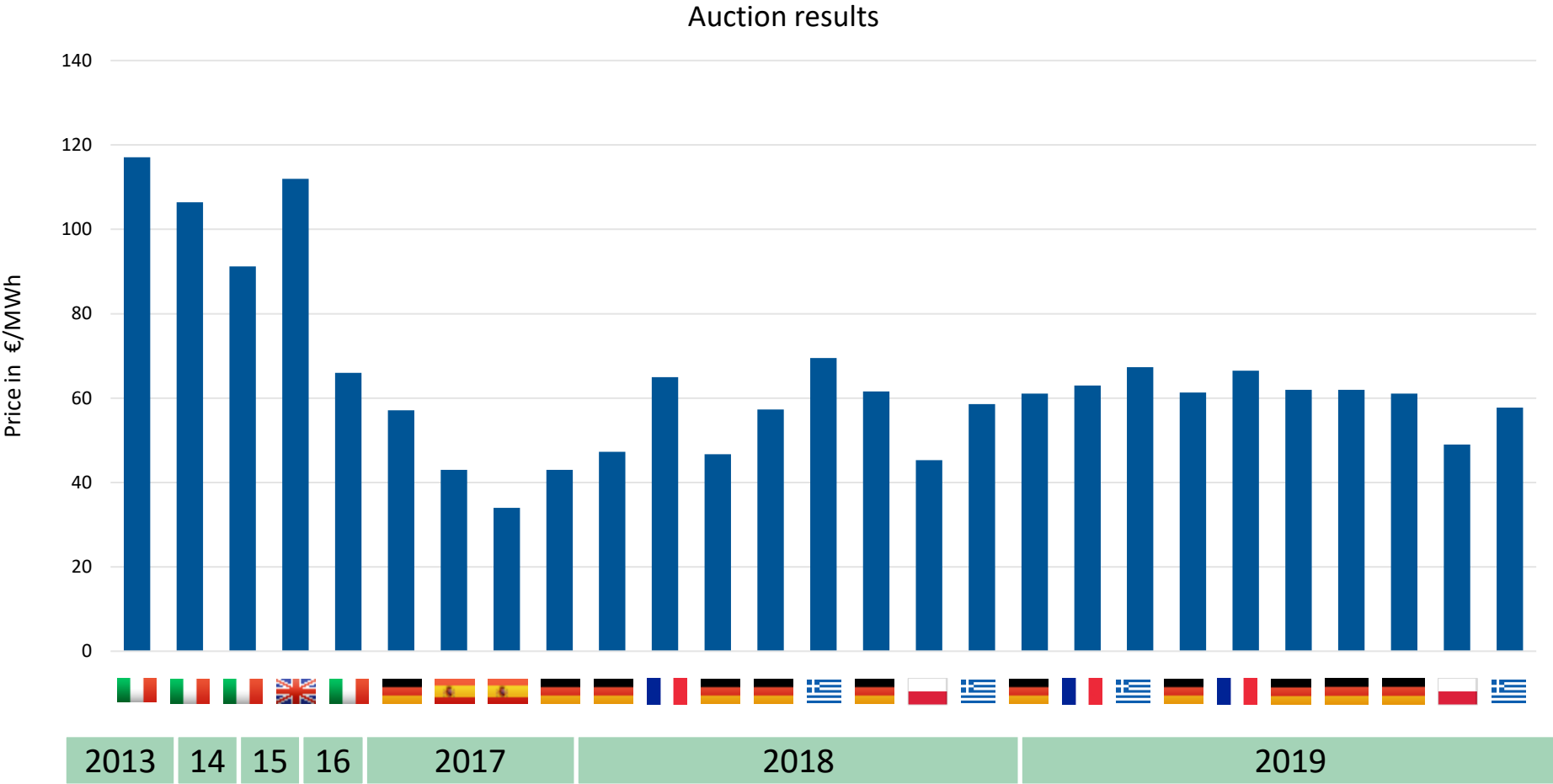
# Wind is always blowing somewhere

## European wind energy generation in 2019

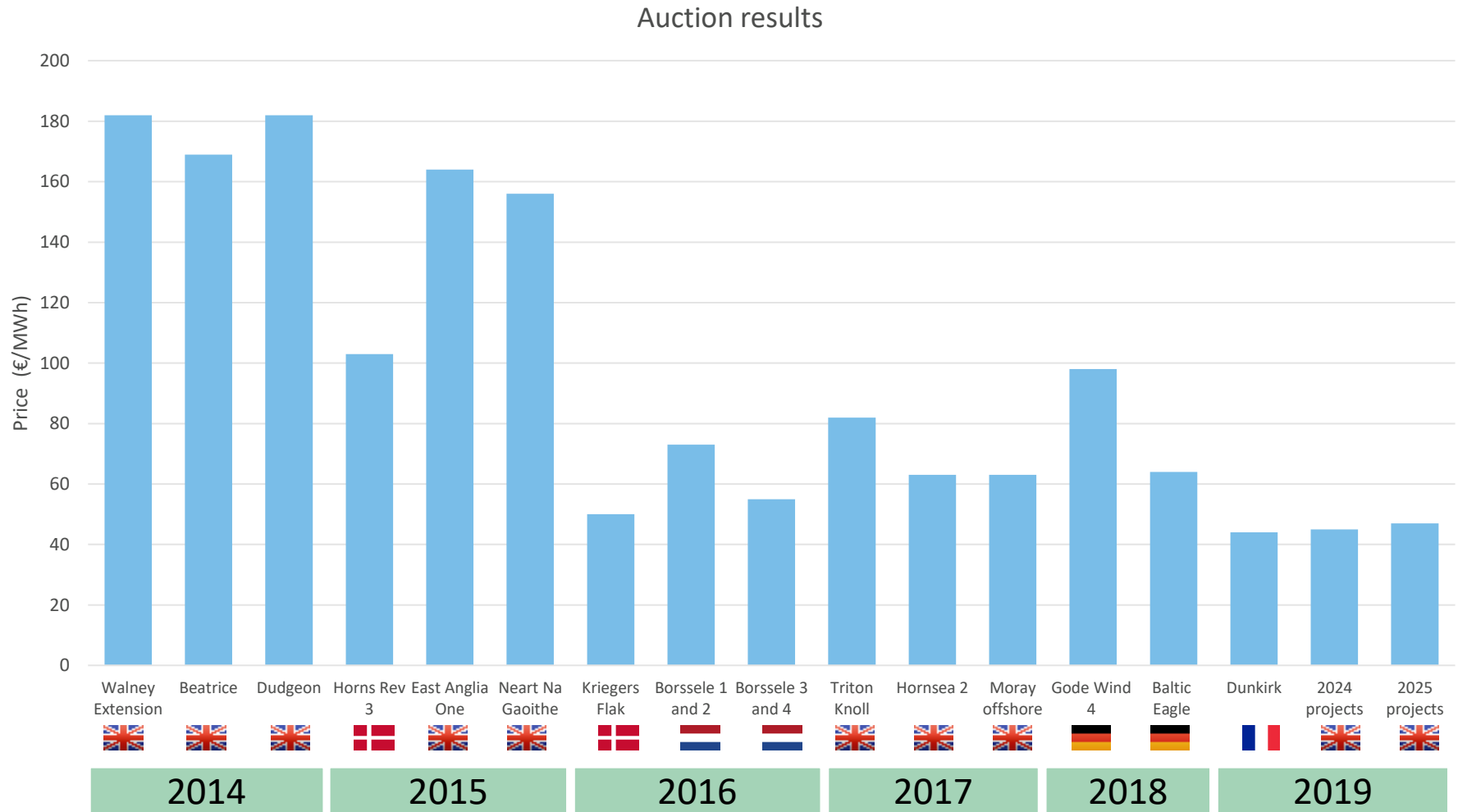


Data refers to EU Member States only

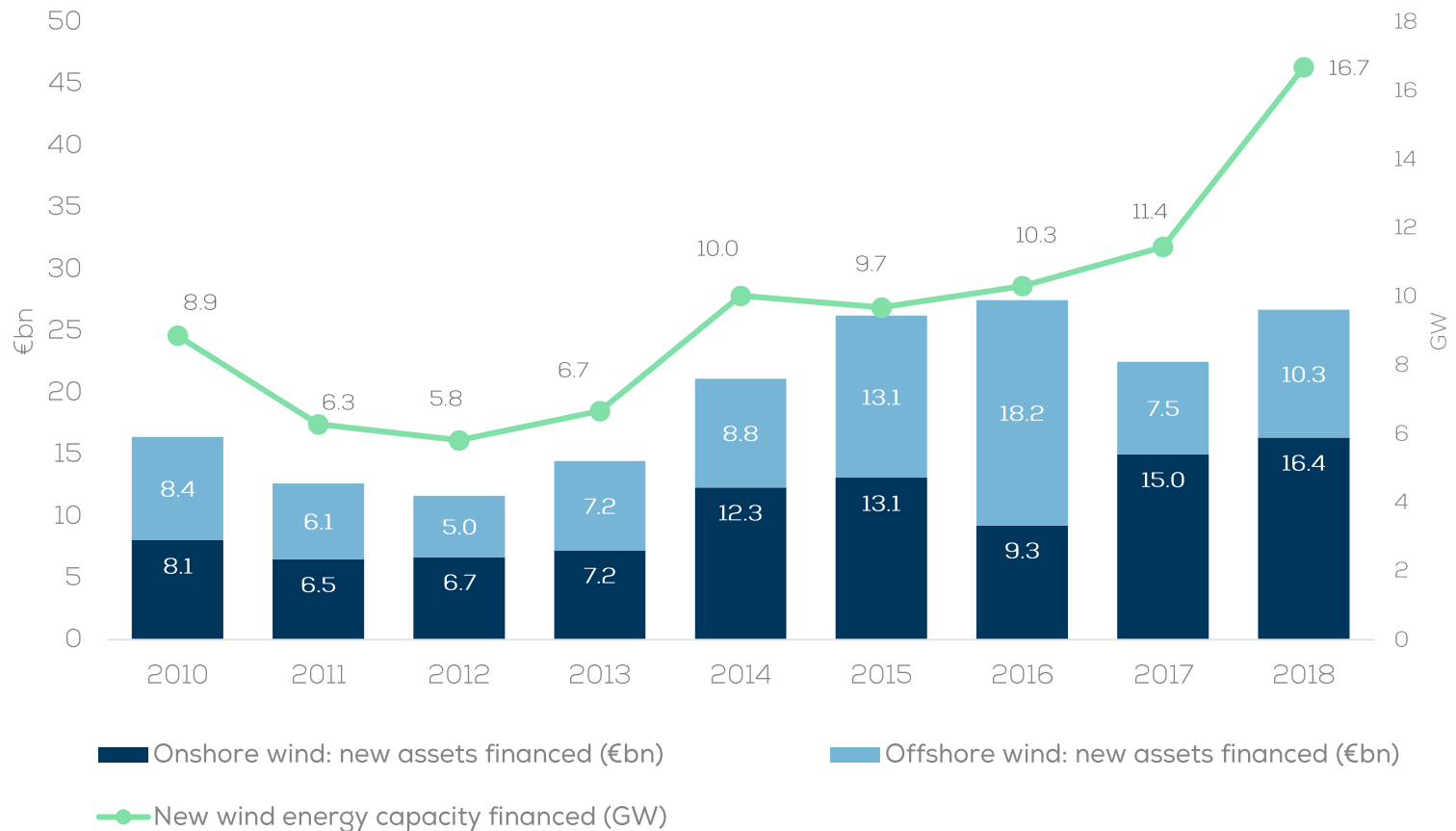
# Cost of onshore wind is decreasing



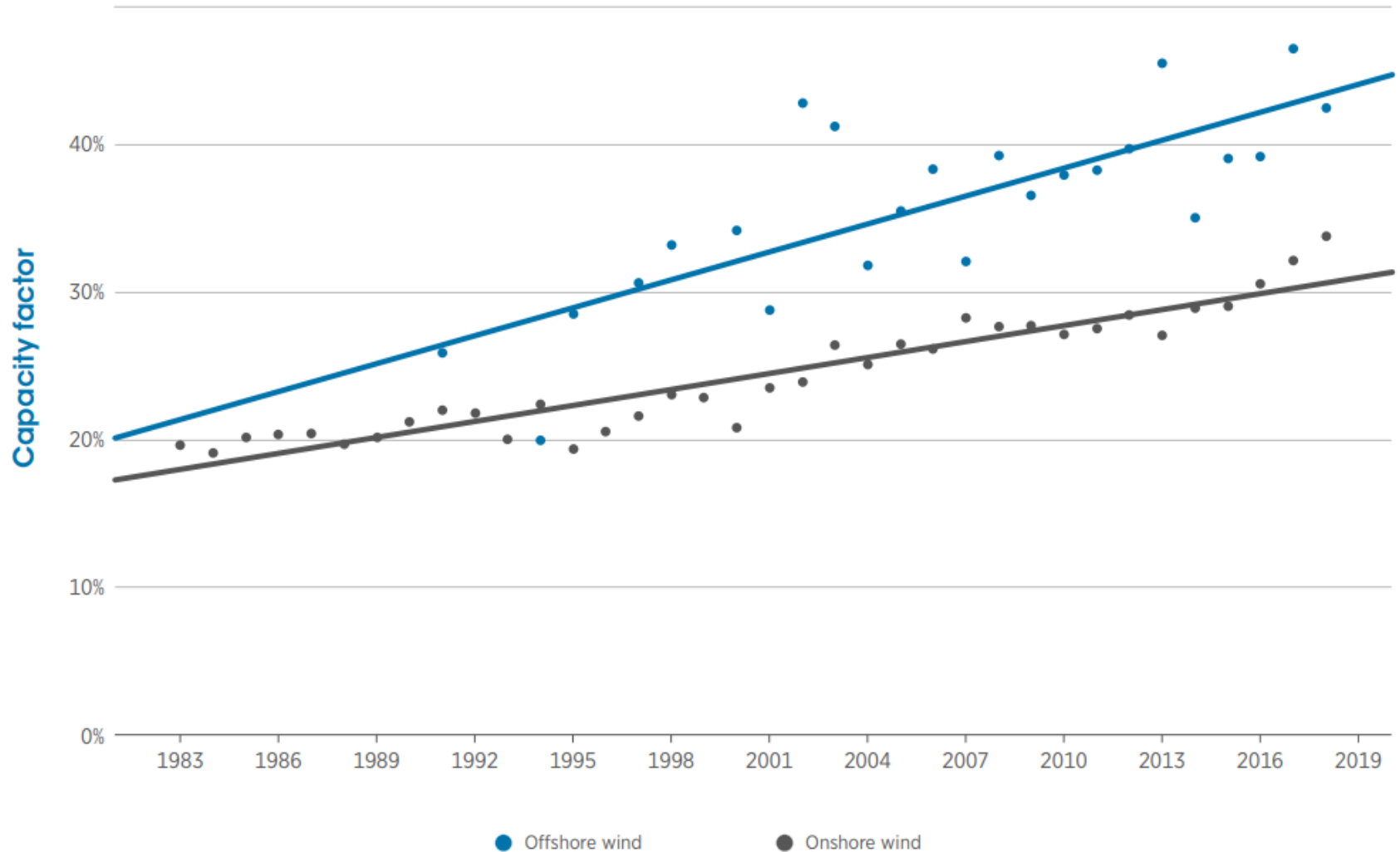
# Cost of offshore wind also decreasing



# Wind investments buying more capacity



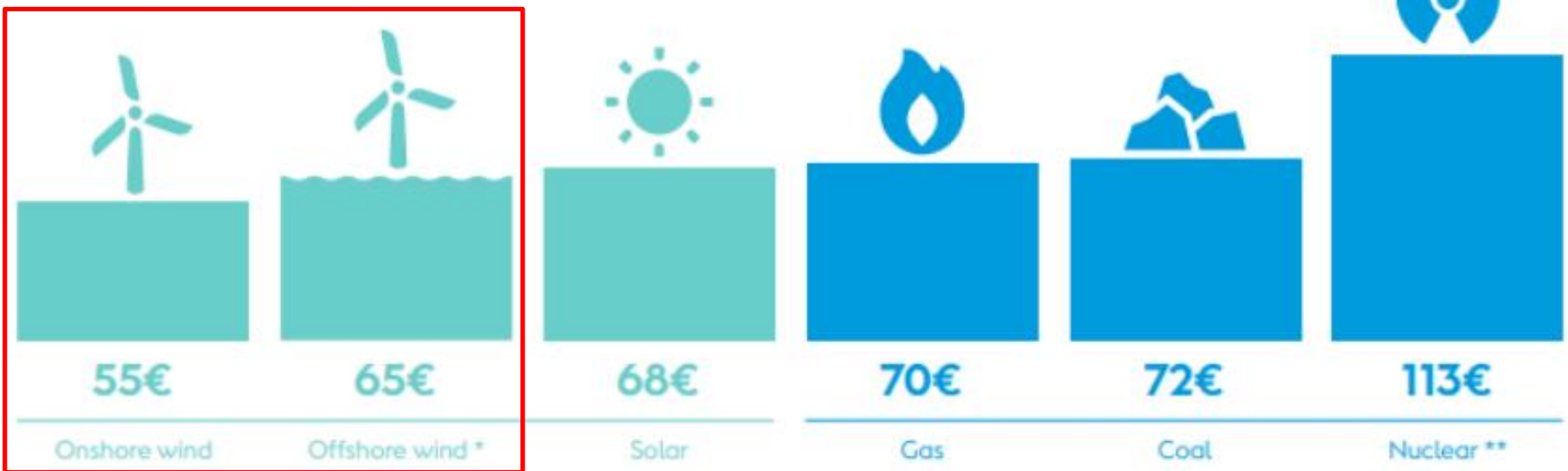
# Wind energy capacity factors have risen





# Wind the cheapest form of new power generation

Levelised cost of electricity/MWh



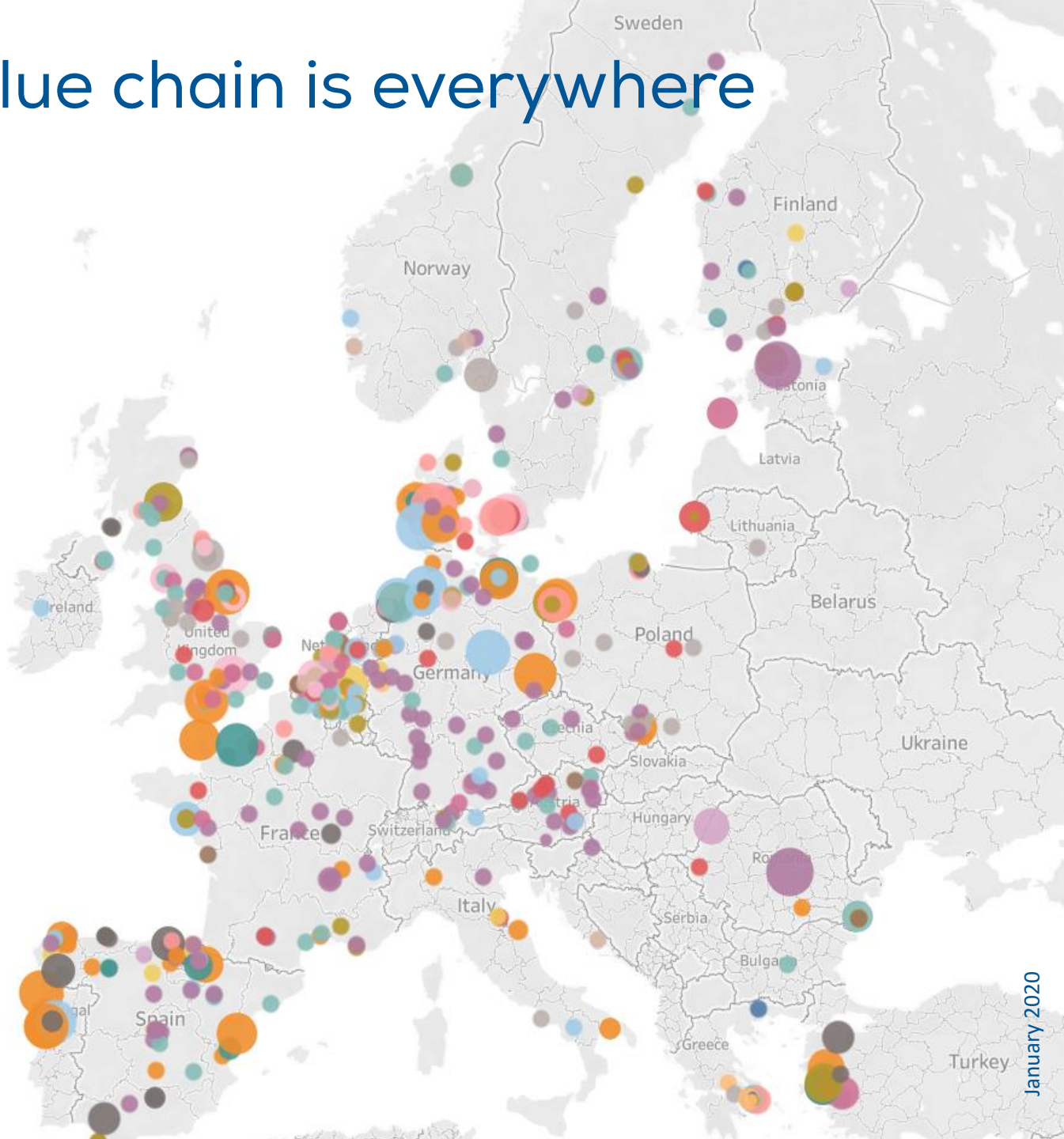
Source: Bloomberg New Finance (2016-prices), Year of FID.

Prices reflect North Western European market conditions, which express a global trend. Specific prices may vary across regions.

\* Offshore: Hornsea 2, UK (cost including transmission) \*\* Nuclear: Hinkley Point, UK

# The wind value chain is everywhere

- Components
- Assembly
- Blades
- Foundations
- Gearboxes
- Nacelles
- O&M
- Other
- R&D
- Towers
- Cables
- Generators
- Logistics
- Port





# Green Port Hull, UK



**£310m invested**

Source: Siemens Gamesa





**Wind**  
EUROPE

**1,000** jobs  
**7** football fields

© Siemens Gamesa Renewable Energy



# Port of Esbjerg, Denmark



Source: Port of Esbjerg





Wind<sup>o</sup>  
EUROPE

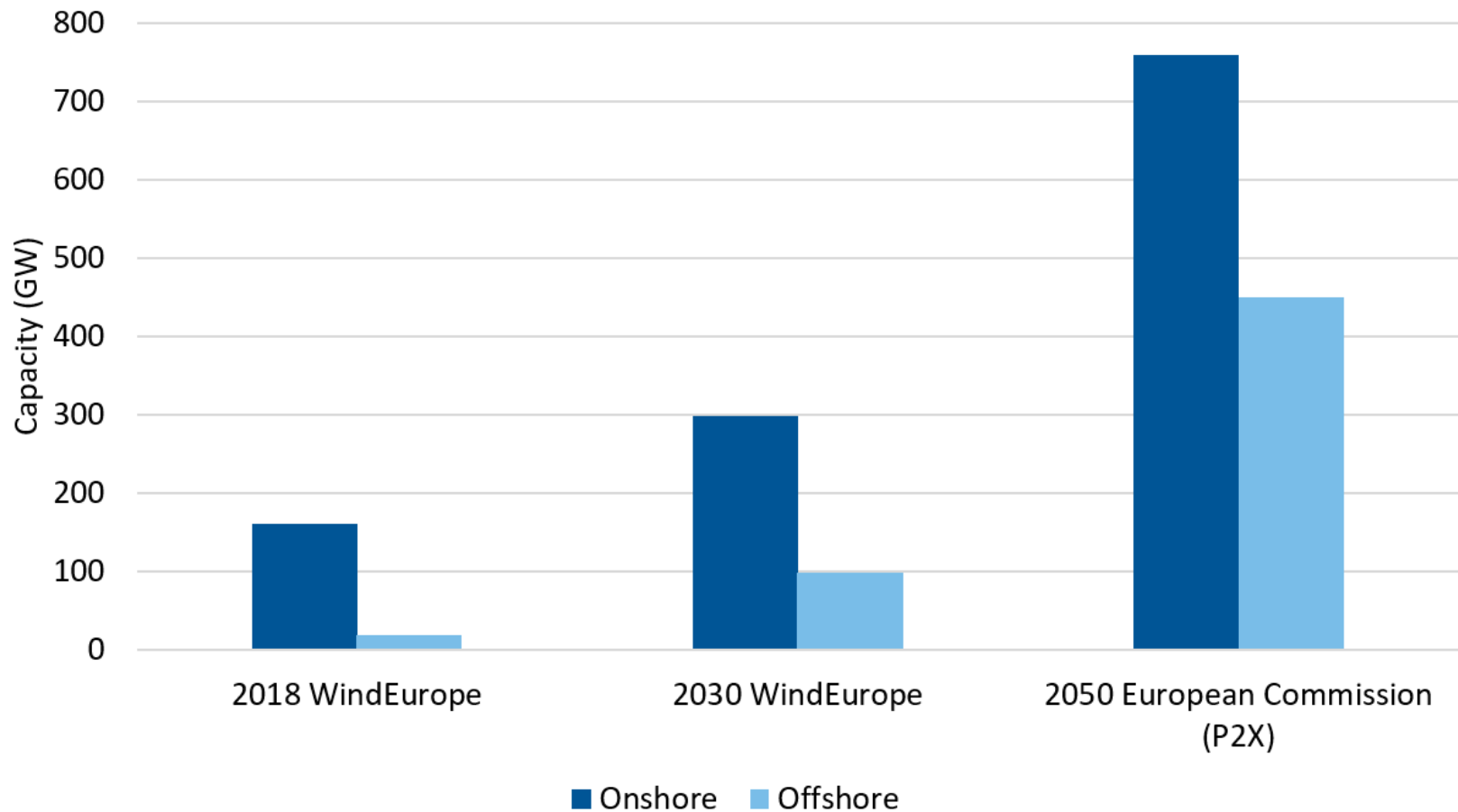
# The European Green Deal =

- Climate neutrality by 2050
- Higher 2030 targets
- 2030 National Energy & Climate Plans
- Sector integration
- Offshore wind
- €1 trillion
- Industrial Strategy
- Biodiversity strategy



# Wind capacity 2018 to 2050

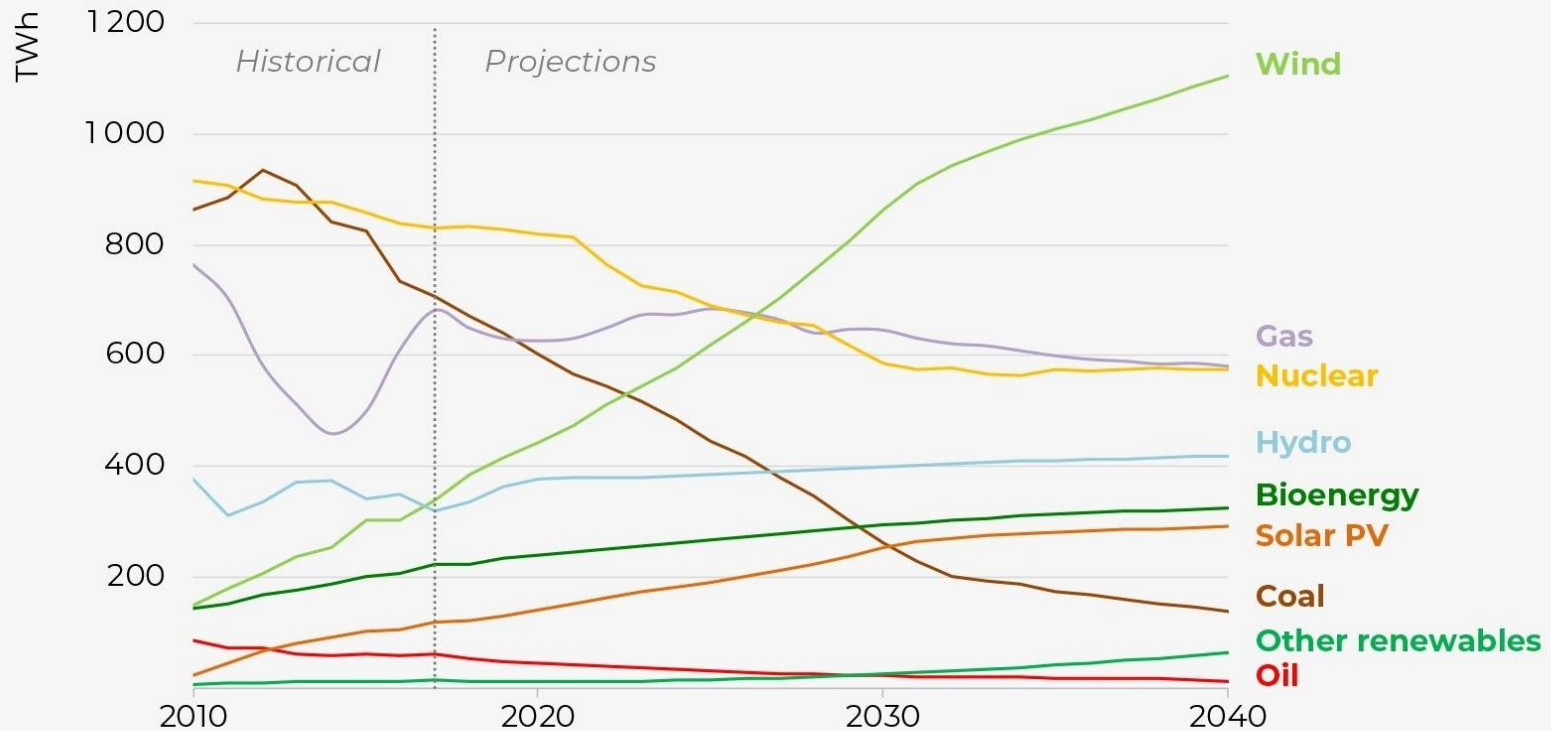
50 GW pa between 2030 and 2050





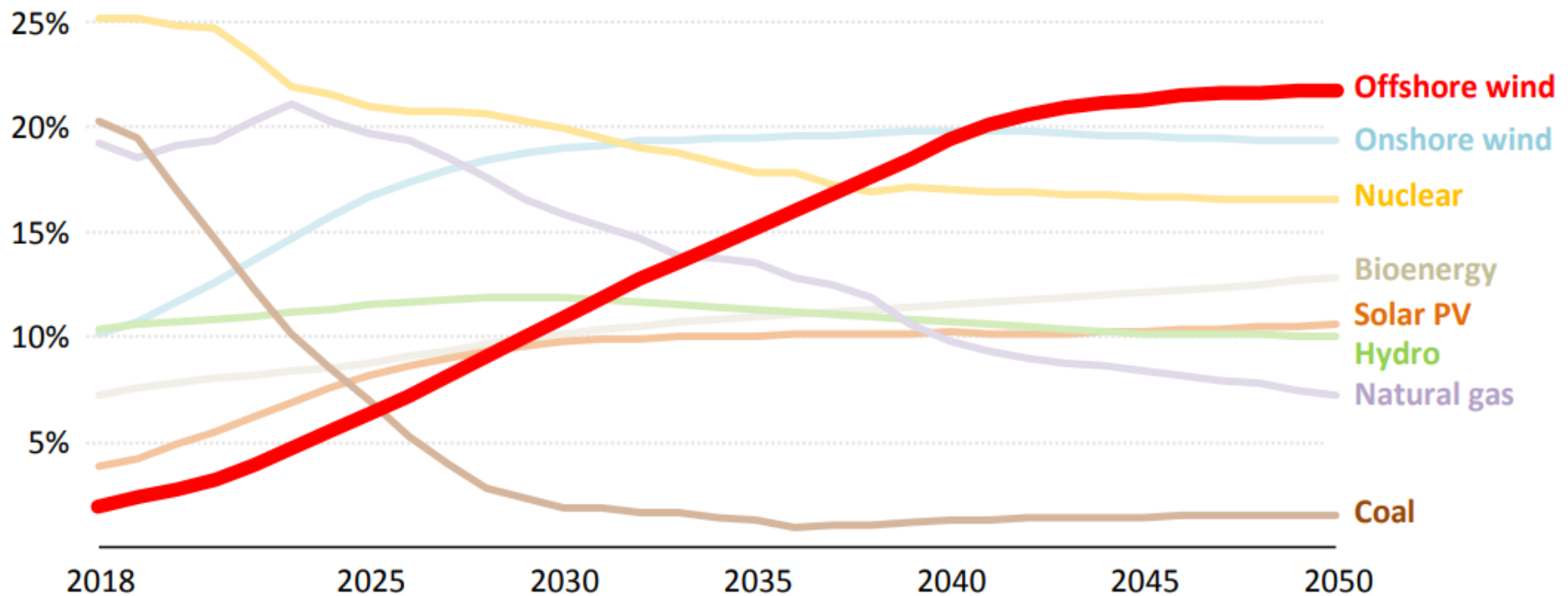
# Wind the no. 1 power source in the EU by 2027

Electricity generation by source in the European Union in the NPS, 2010-2040  
World Energy Outlook 2018



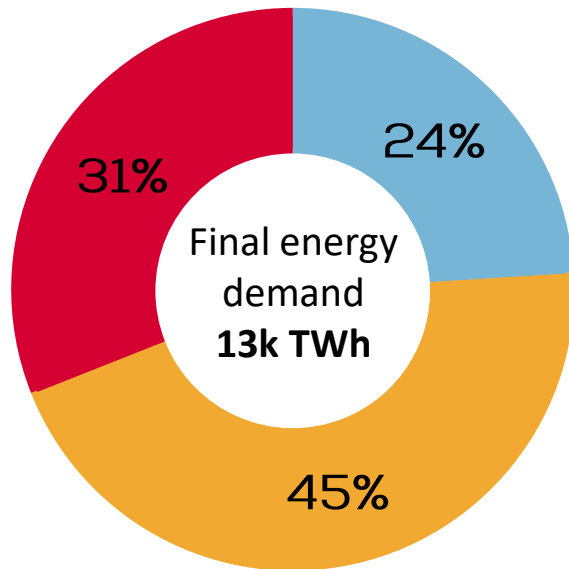
# Offshore wind the no. 1 power source in the EU by 2040

Shares of electricity generation by technology in the European Union, Sustainable Development Scenario

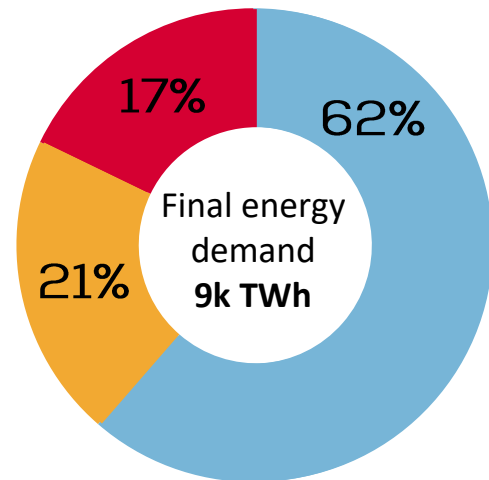


# Accelerated RES-based electrification

2019

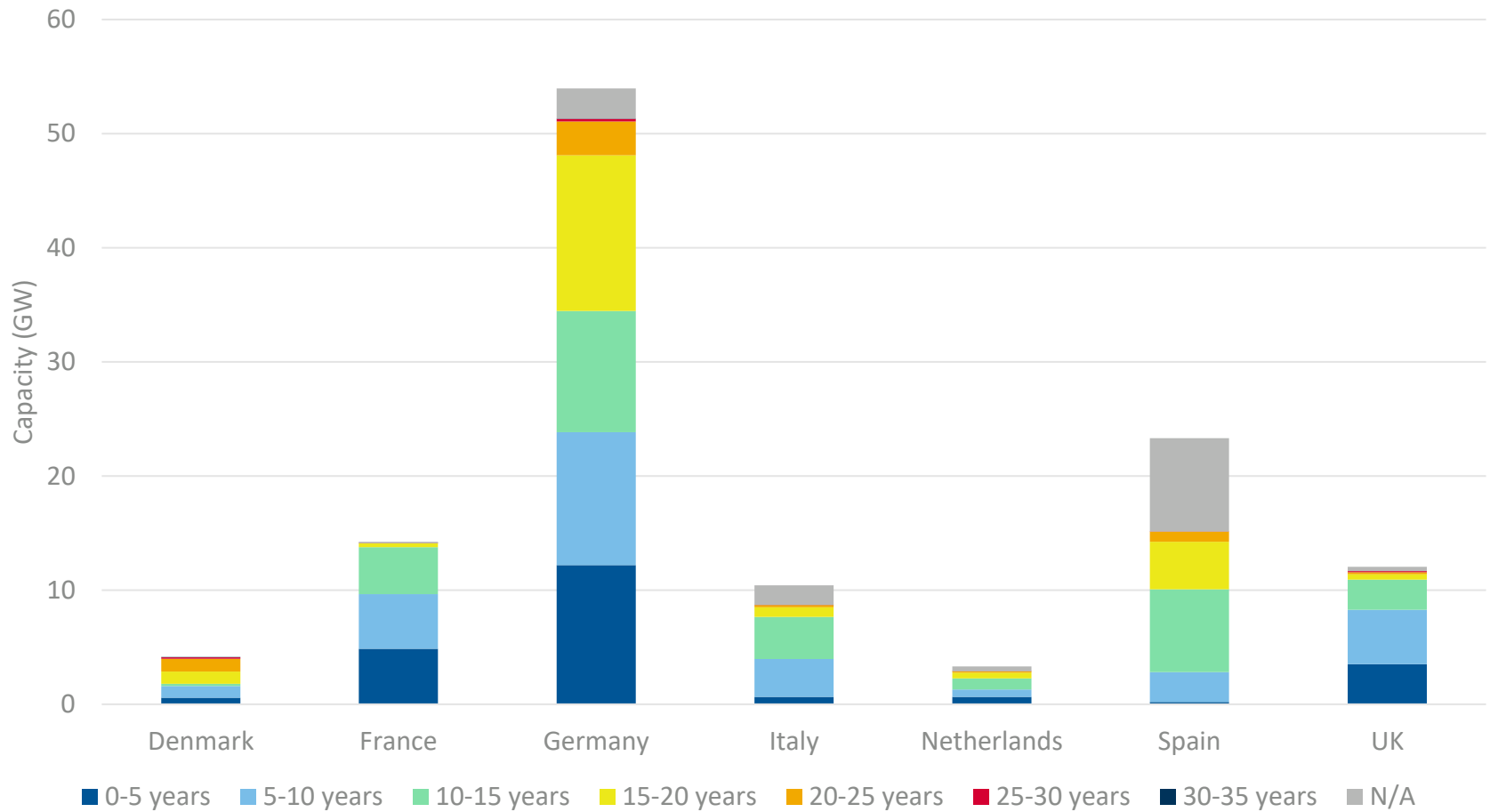


2050



■ Power ■ Heat ■ Transport

# Europe's existing onshore wind farms are ageing



# Repowering increases the capacity of turbines by a lot but decreases their number

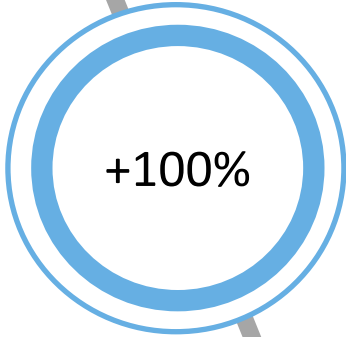
Before



After



Number of turbines



Capacity



Output per wind farm

\*Malpica wind farm, Galicia, Spain



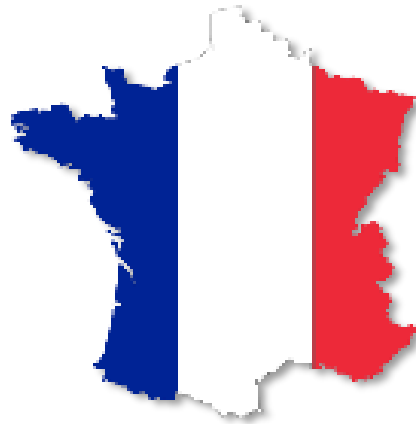
# Happy Coexistence



The support for wind projects is high



75%

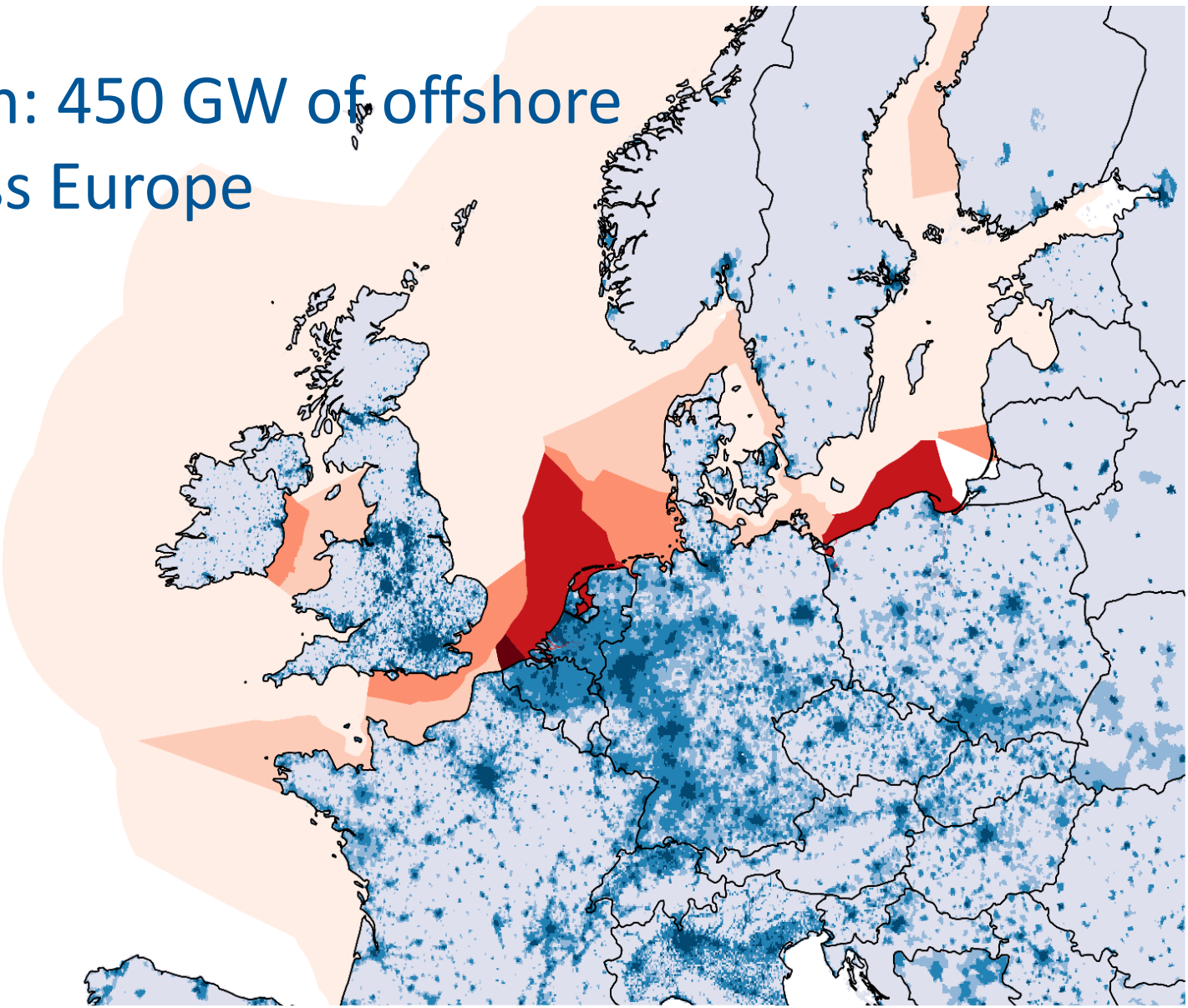


80%

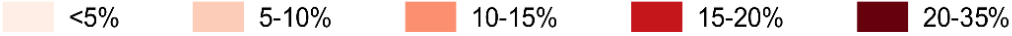


86%

# 2050 vision: 450 GW of offshore wind across Europe



Area taken up by offshore wind in 2050

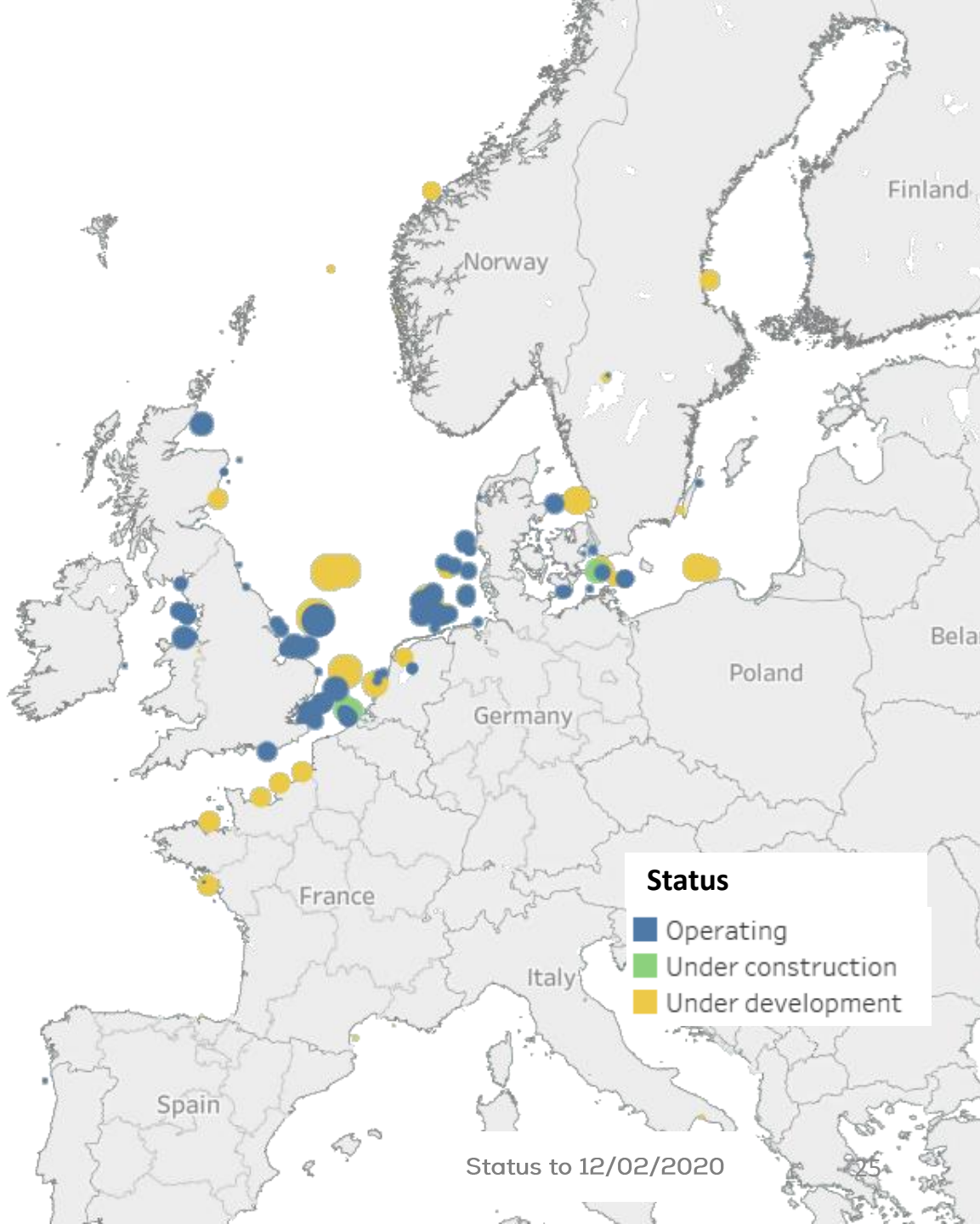


Population density





# Europe's Offshore Wind Farms



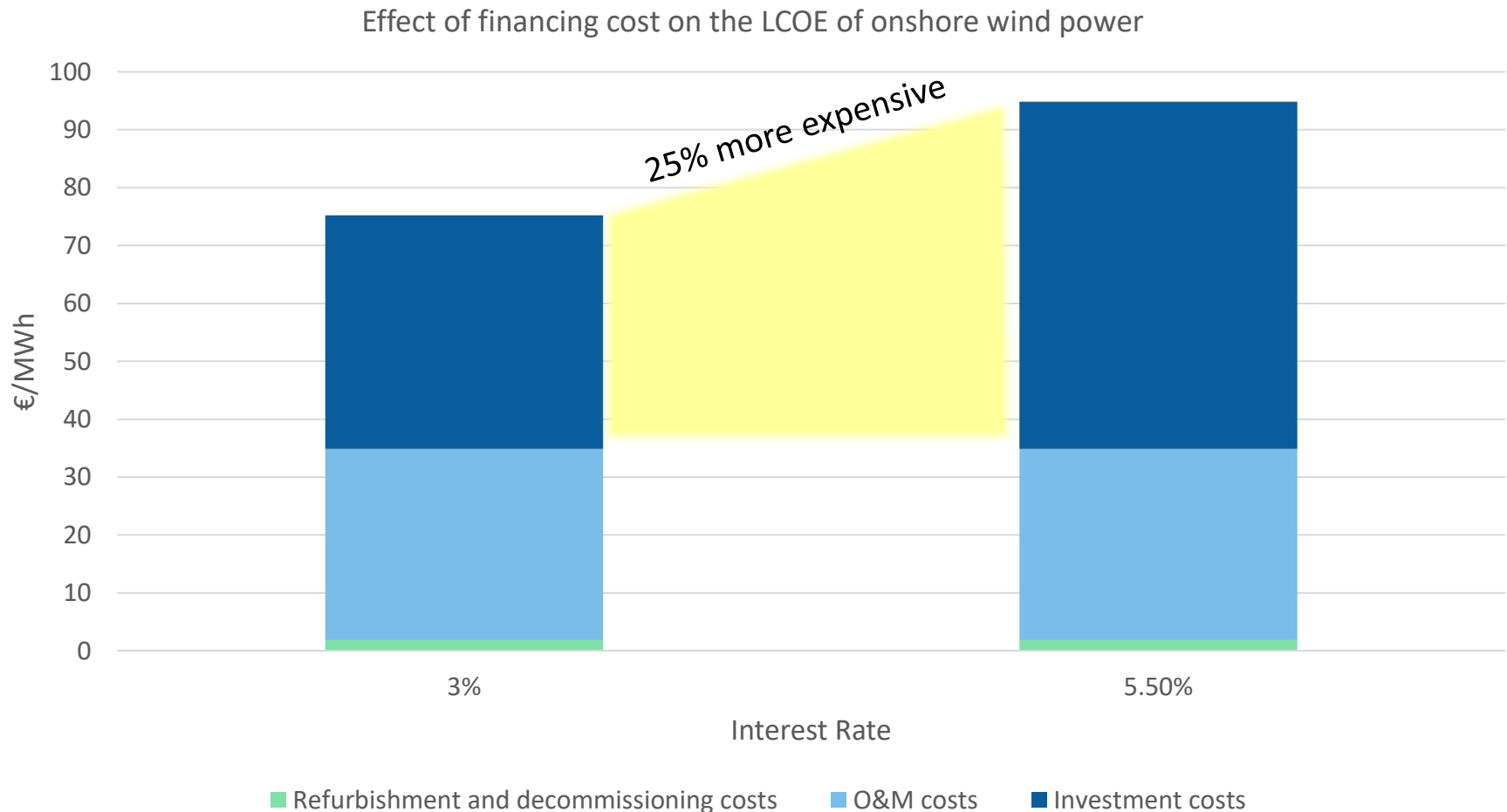
# Climate proofing infrastructure investments



# Delivering high volumes requires auctions and Contracts for Difference (CfD)



# A small increase in the interest rate causes a big increase in investment costs



# THANK YOU

**Wind**<sup>°</sup>  
**EUROPE**

[windeurope.org](http://windeurope.org)