Wind energy and the EU

Giles Dickson, CEO, WindEurope

windeurope.org | Thursday 11th October

Our members make wind energy work

450 Members	
Wind turbine manufacturers	e.g.
Wind farm developers	e.g.
Power utilities	e.g.
Component manufacturers	e.g.
Installation / logistics	e.g.
Financial & legal services	e.g.
Research institutes	e.g.
+ National wind associations	e.g.

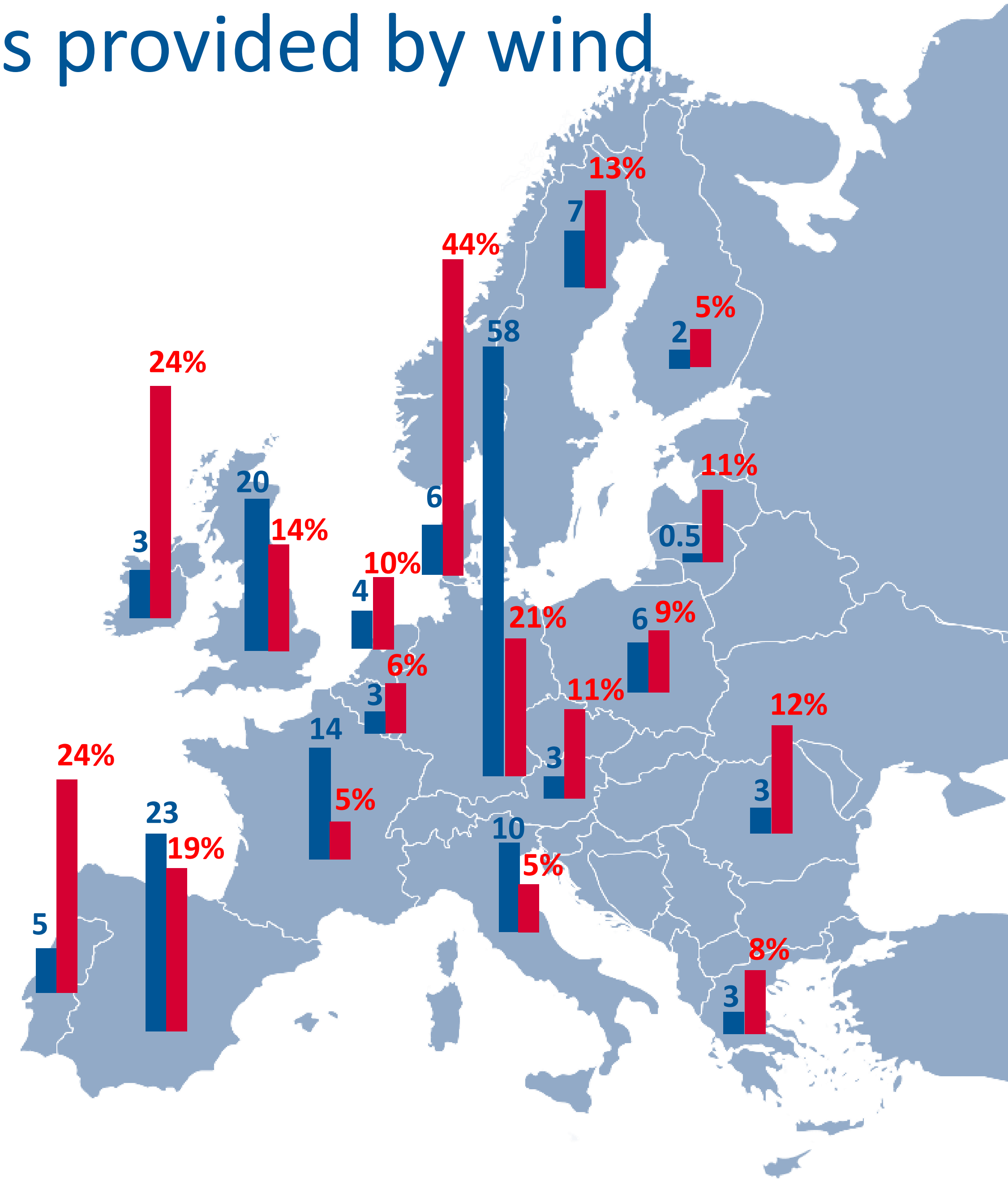
12% of EU power is provided by wind

173 GW

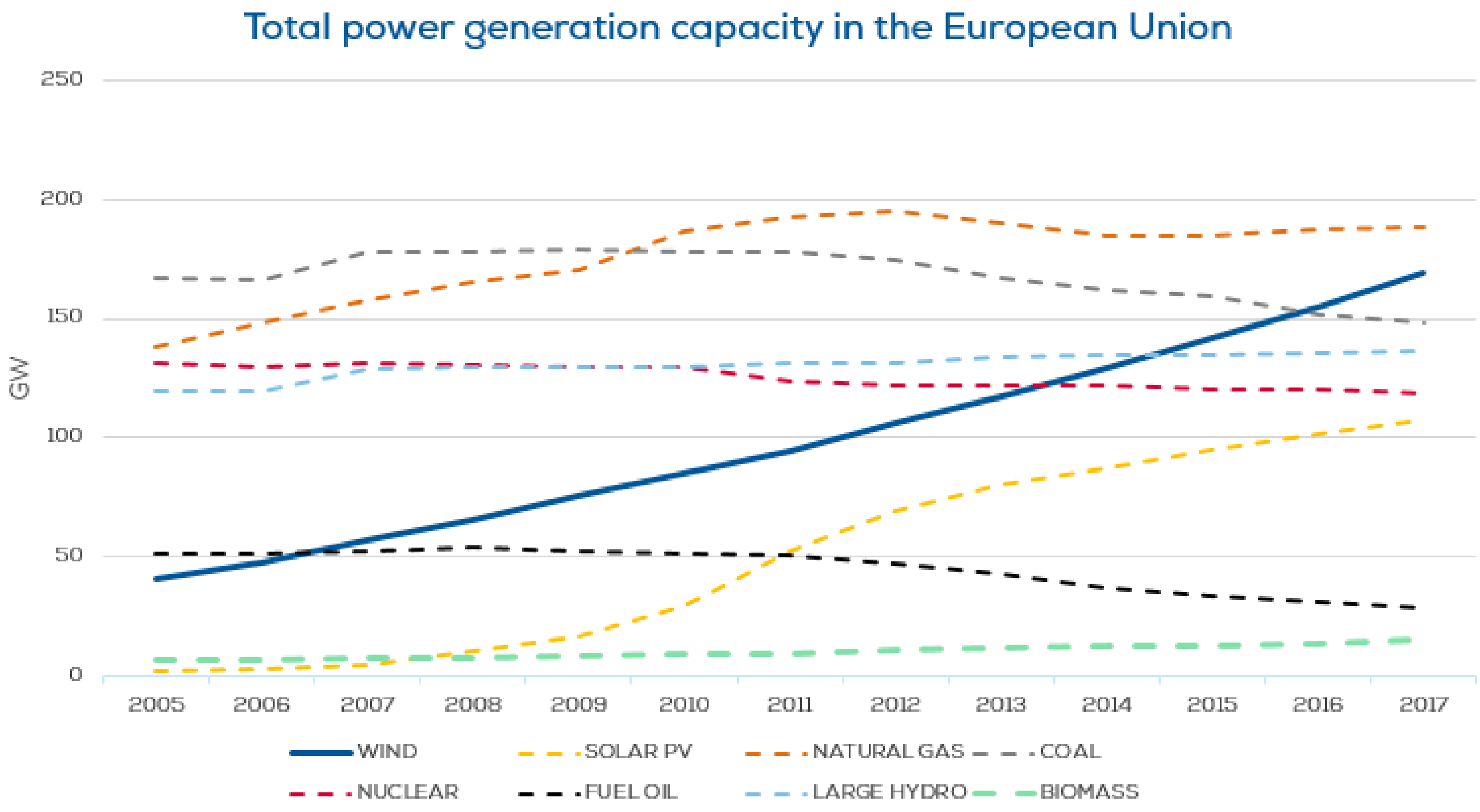
By 30 June 2018

12%

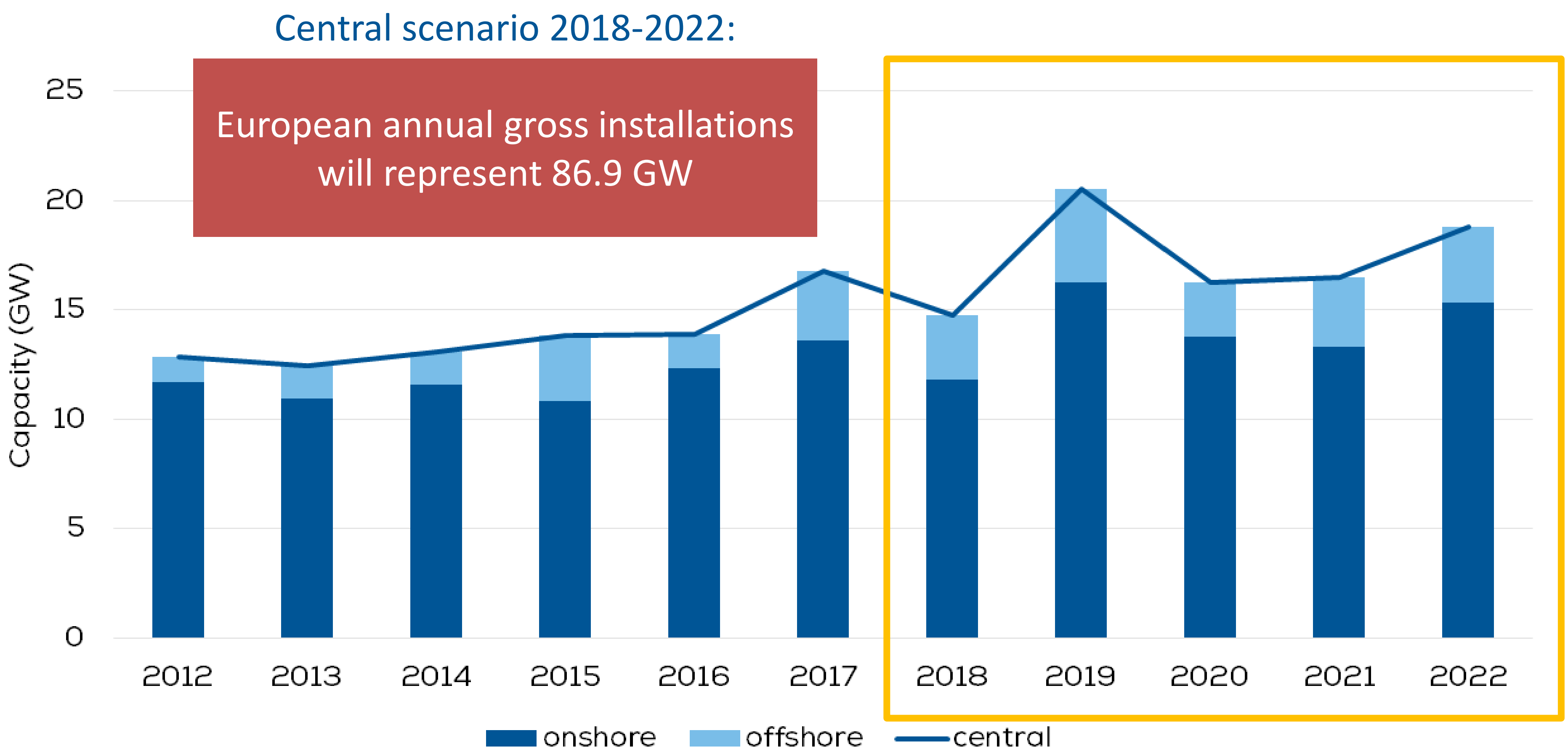
of 2017 EU power demand



Wind has the 2nd largest power capacity in the EU



2018-2022: Wind will keep growing in Europe



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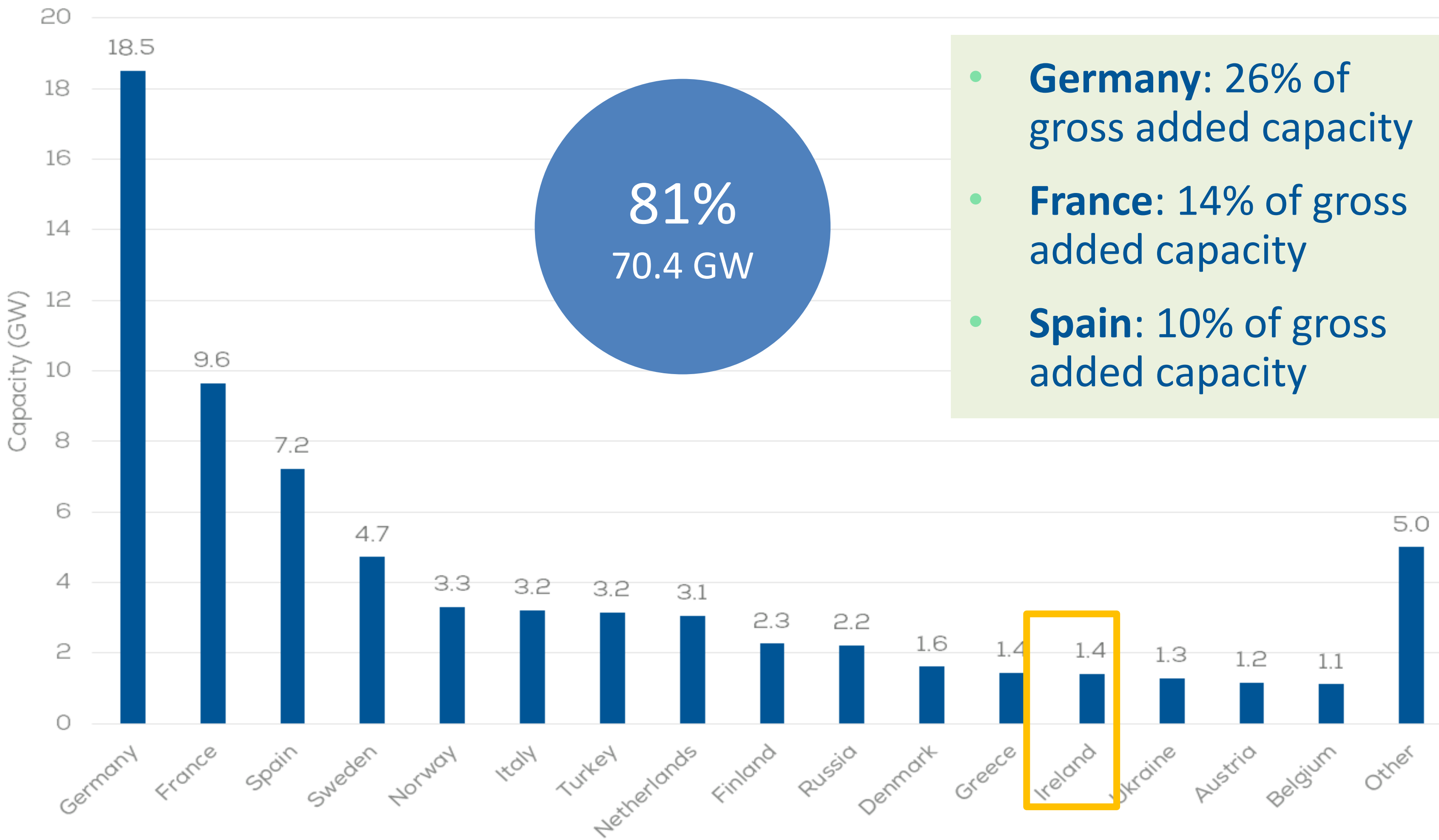
2018-2022 expected onshore installations



- **Germany**: 26% of gross added capacity
- **France**: 14% of gross added capacity
- **Spain**: 10% of gross added capacity

Source: WindEurope

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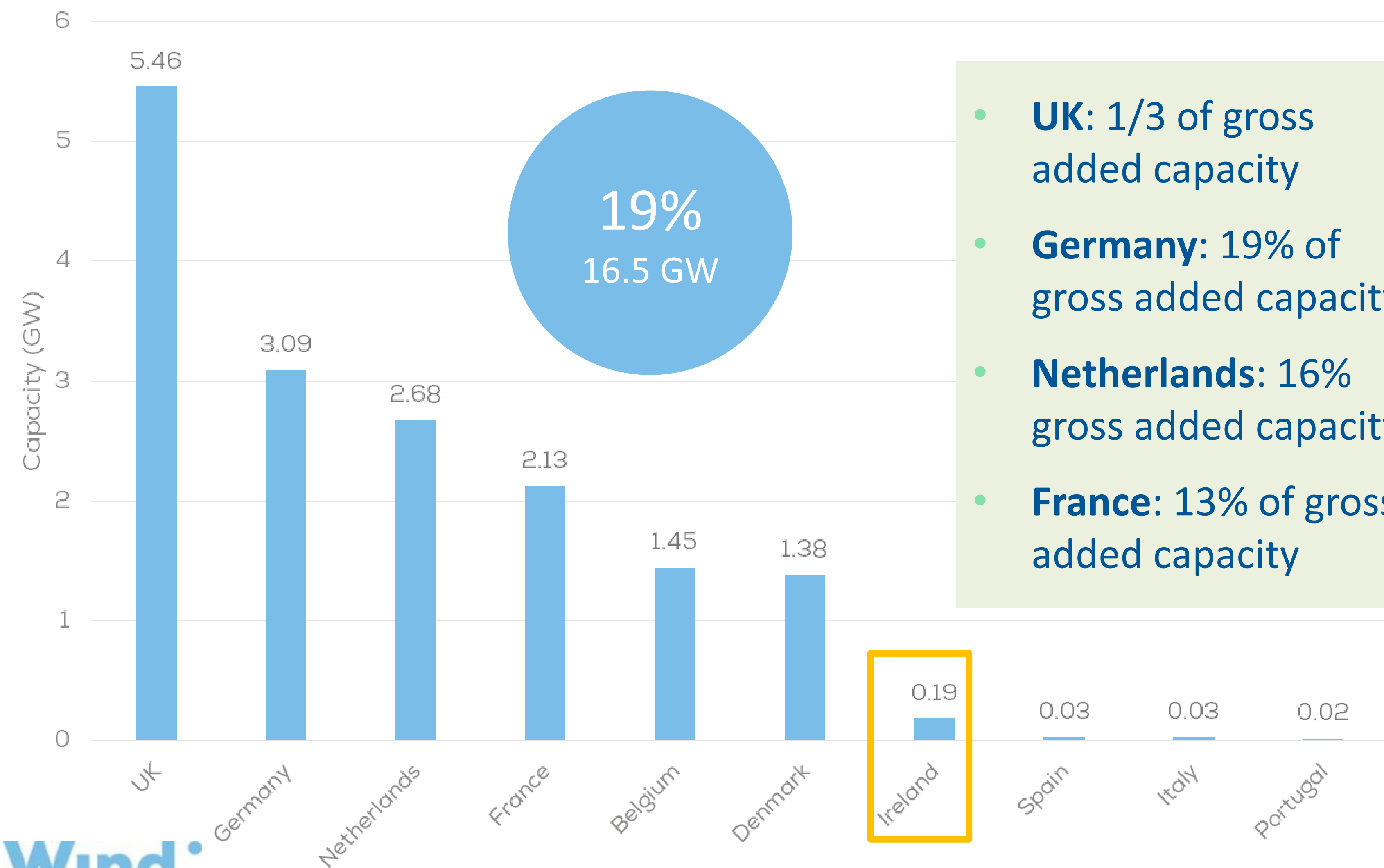
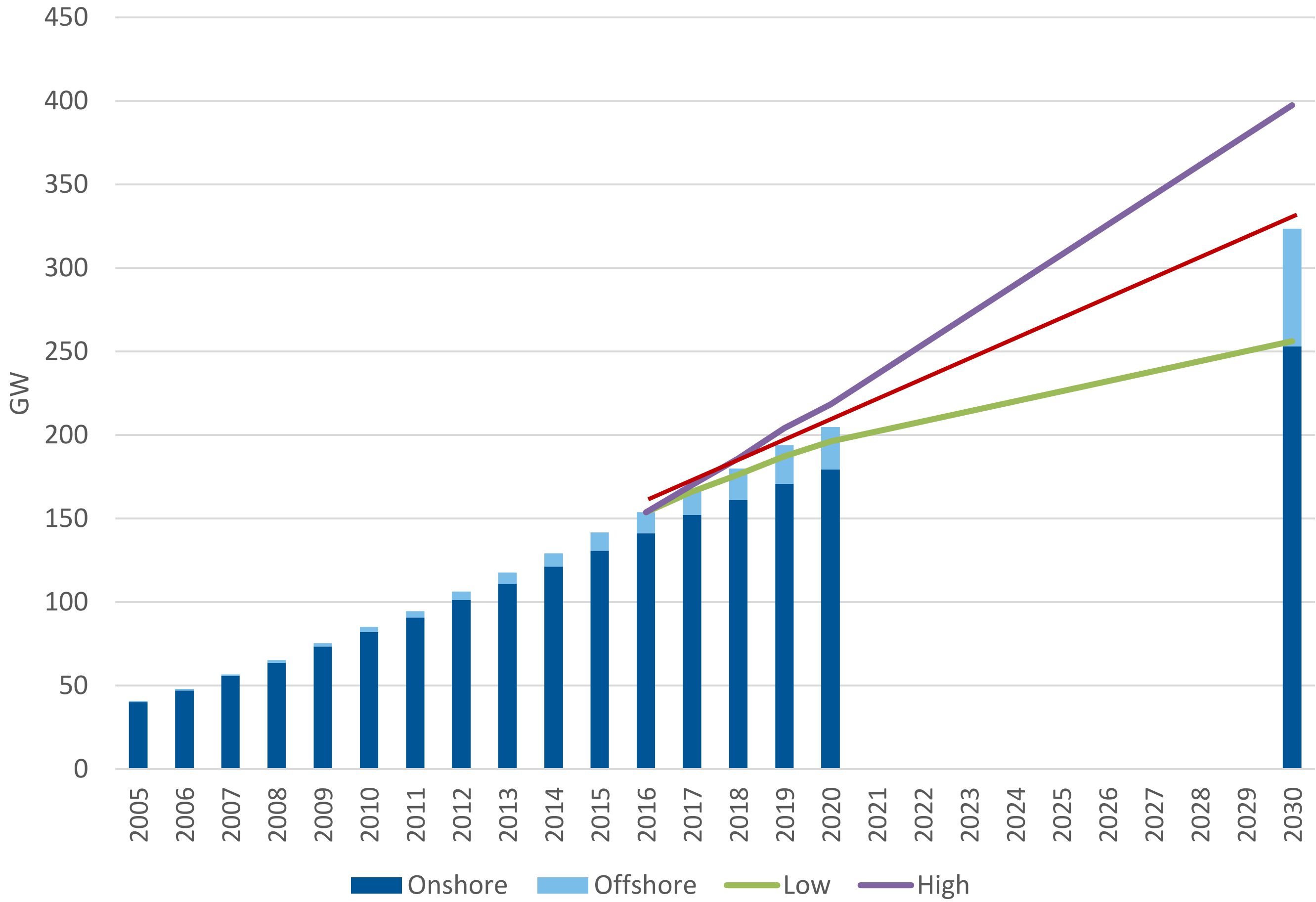
2018-2022 expected offshore installations



- **UK**: 1/3 of gross added capacity
- **Germany**: 19% of gross added capacity
- **Netherlands**: 16% gross added capacity
- **France**: 13% of gross added capacity

Source: WindEurope

2030: A positive outlook for wind energy



397 GW of wind in the high scenario

323 GW of wind in the central scenario

256 GW of wind in the low scenario

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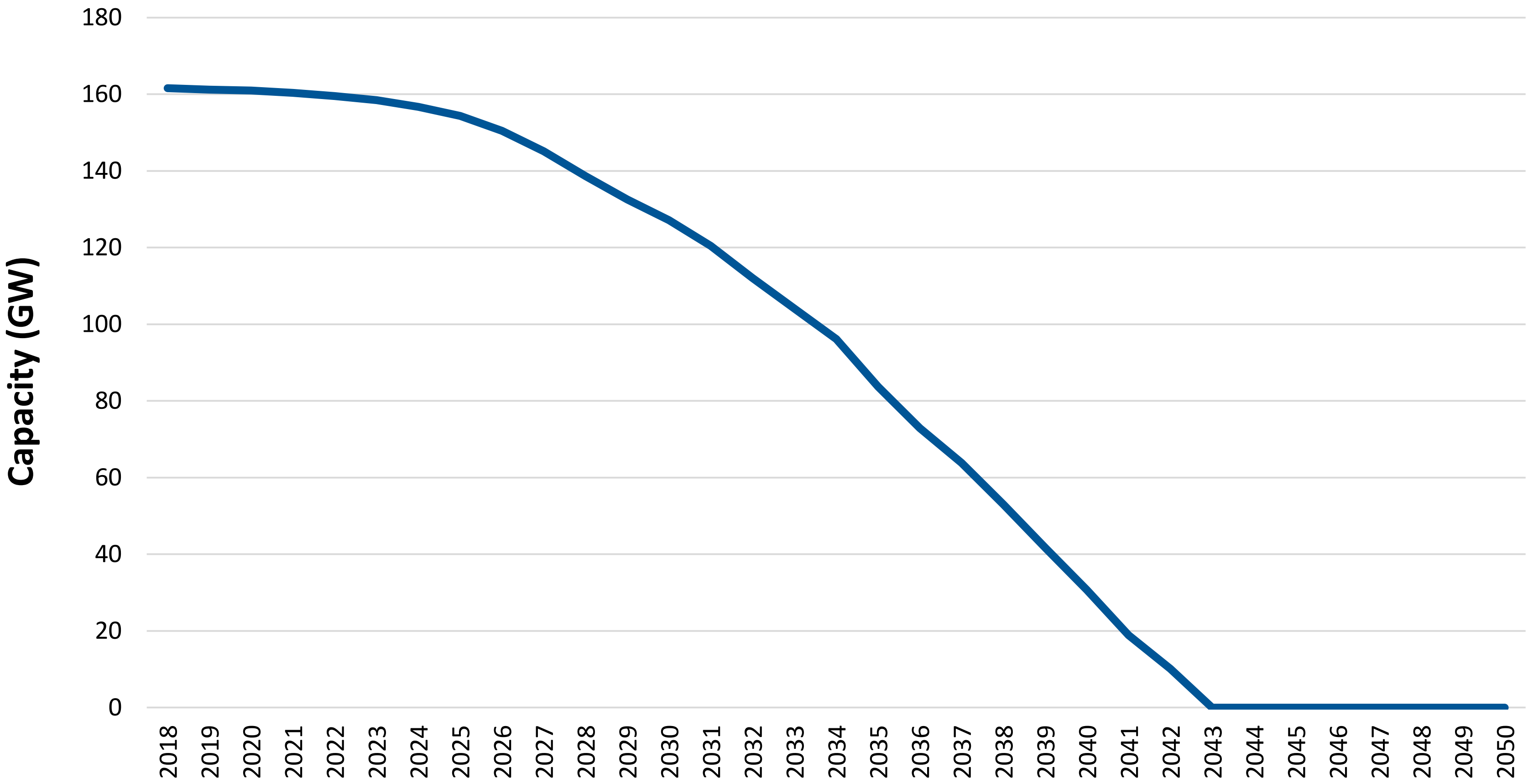
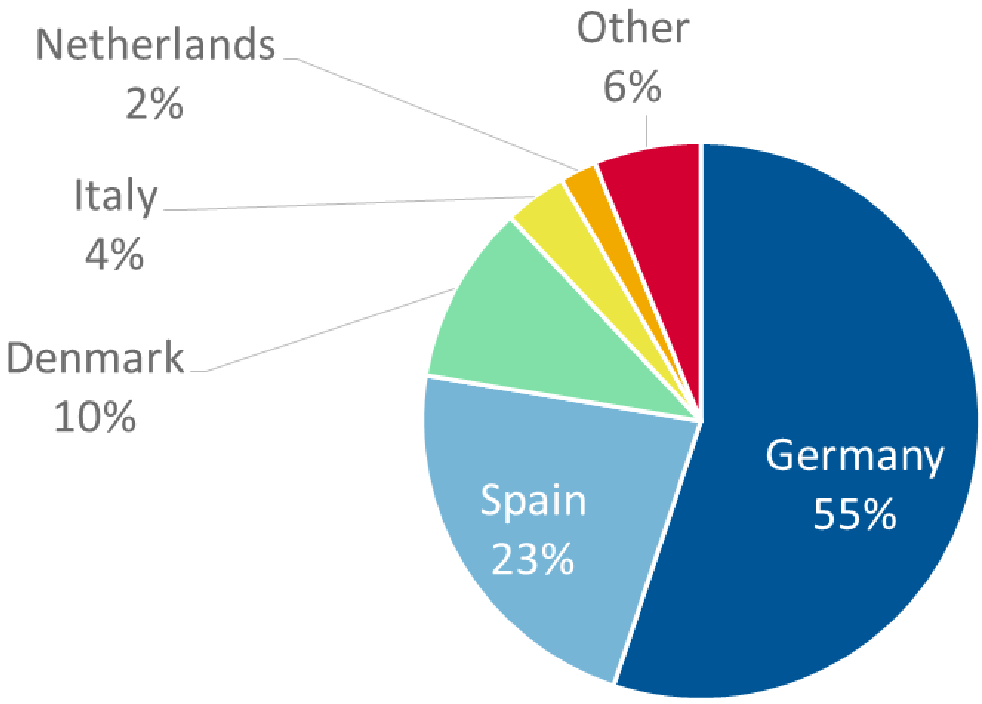
Today's onshore fleet will disappear by 2043



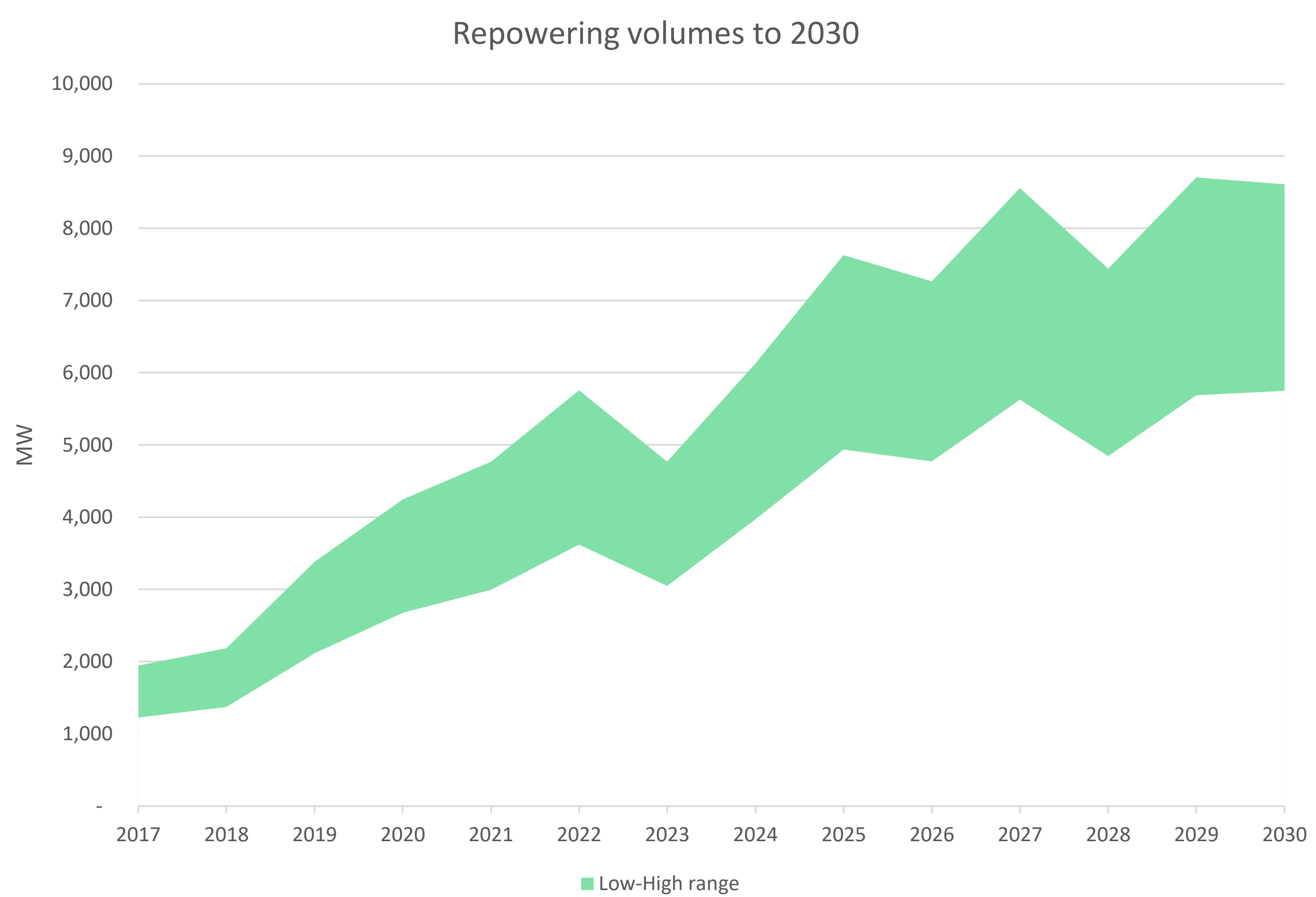
Source: WindEurope

Full decommissioning 2018-2022



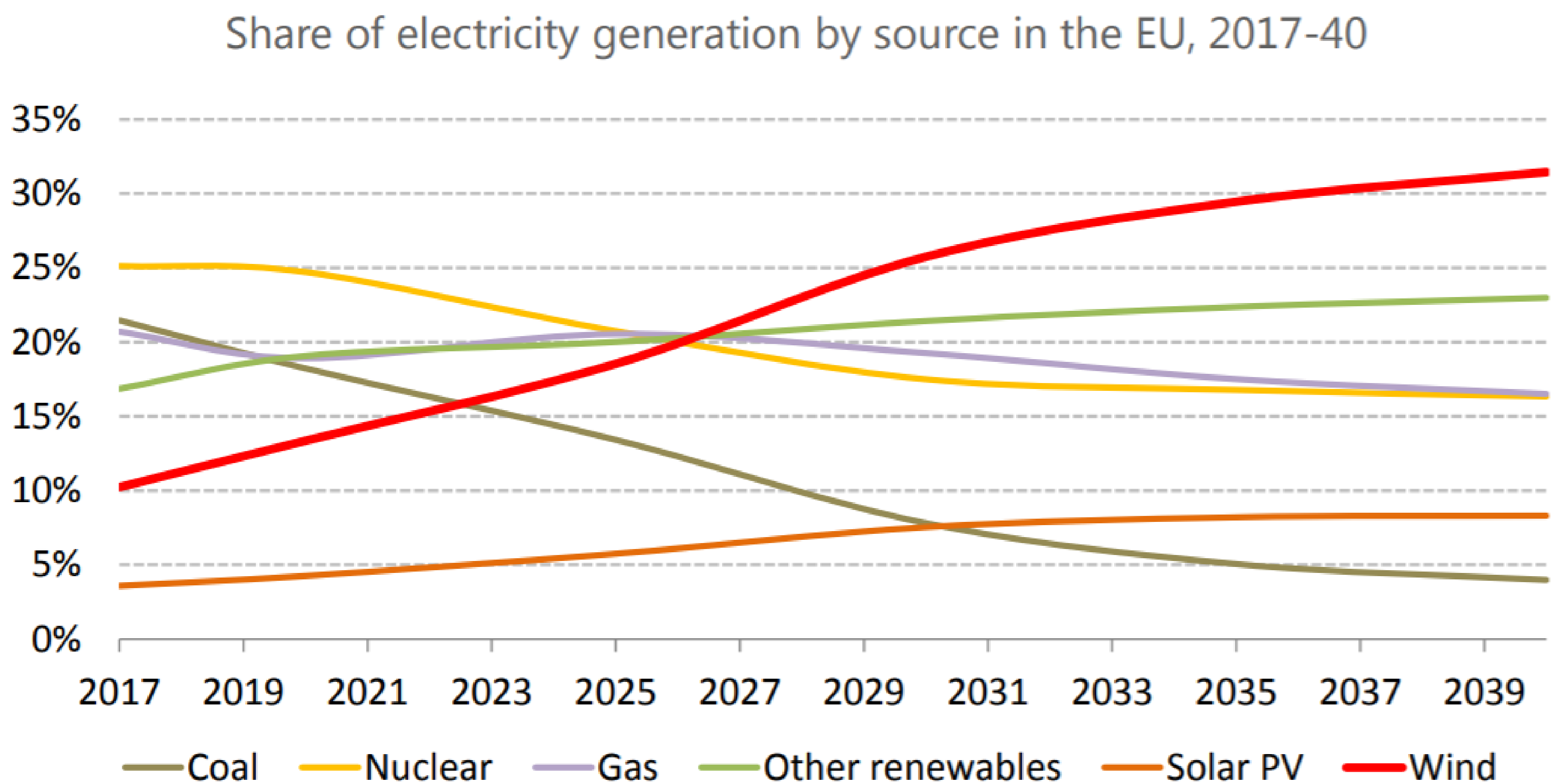
4.3 – 6.4 GW

Repowering potential



Source: WindEurope Internal Analysis based on the 2030 Scenarios, September 2017

Wind will become the largest power source in the EU



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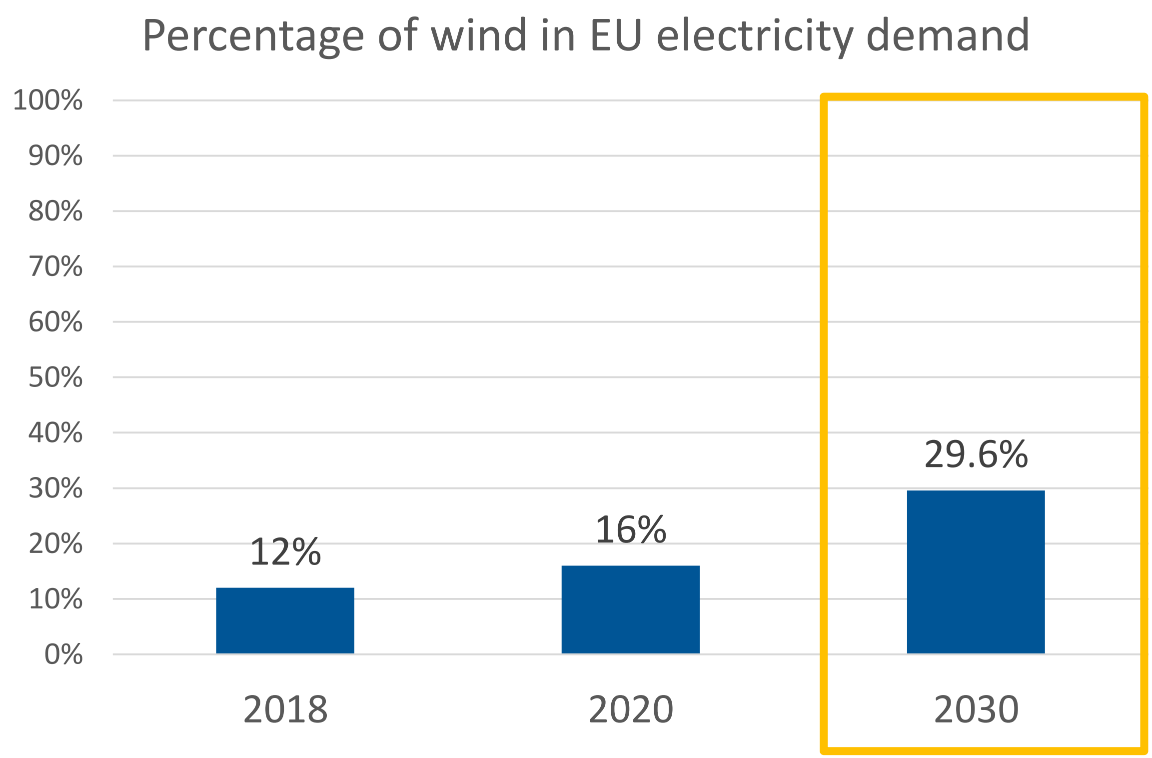
Source: IEA © OECD/IEA 2017

By 2030 wind will be nearly a third of the EU’s power demand



Countries with highest allocation of wind in 2030

Denmark	73%
Ireland	67%
Estonia	58%
Netherlands	50%
Germany	46%
Portugal	39%
UK	38%
Spain	34%

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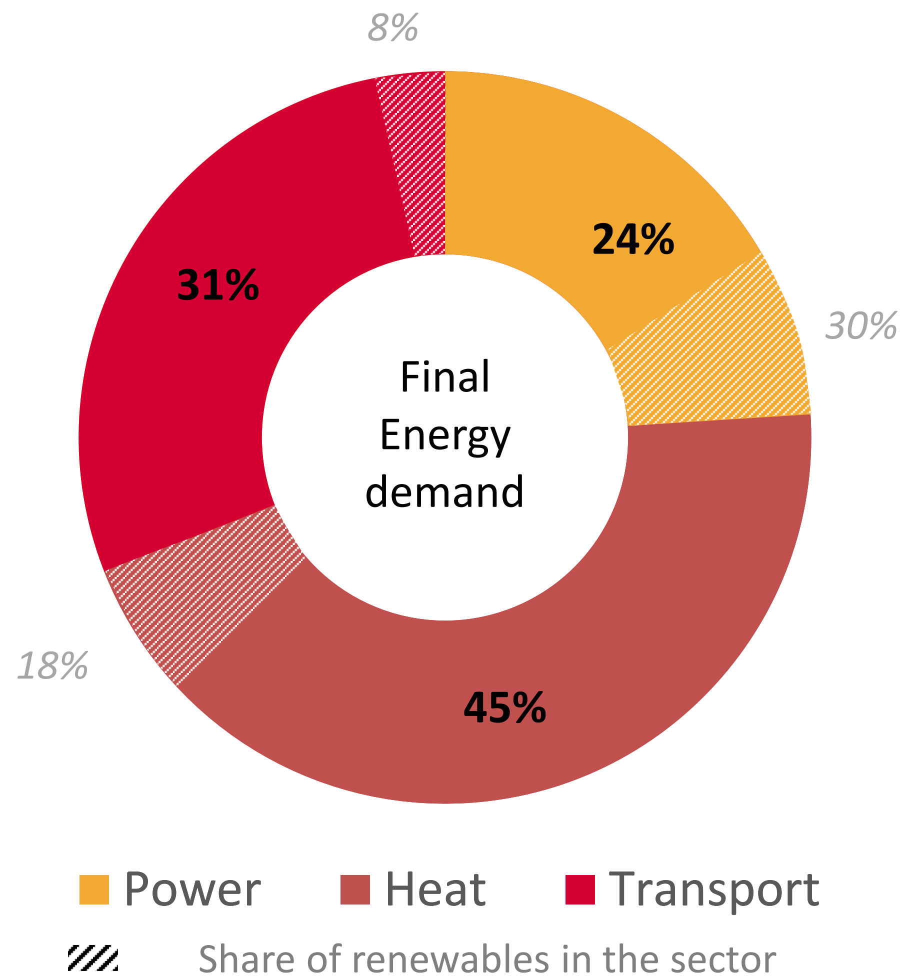
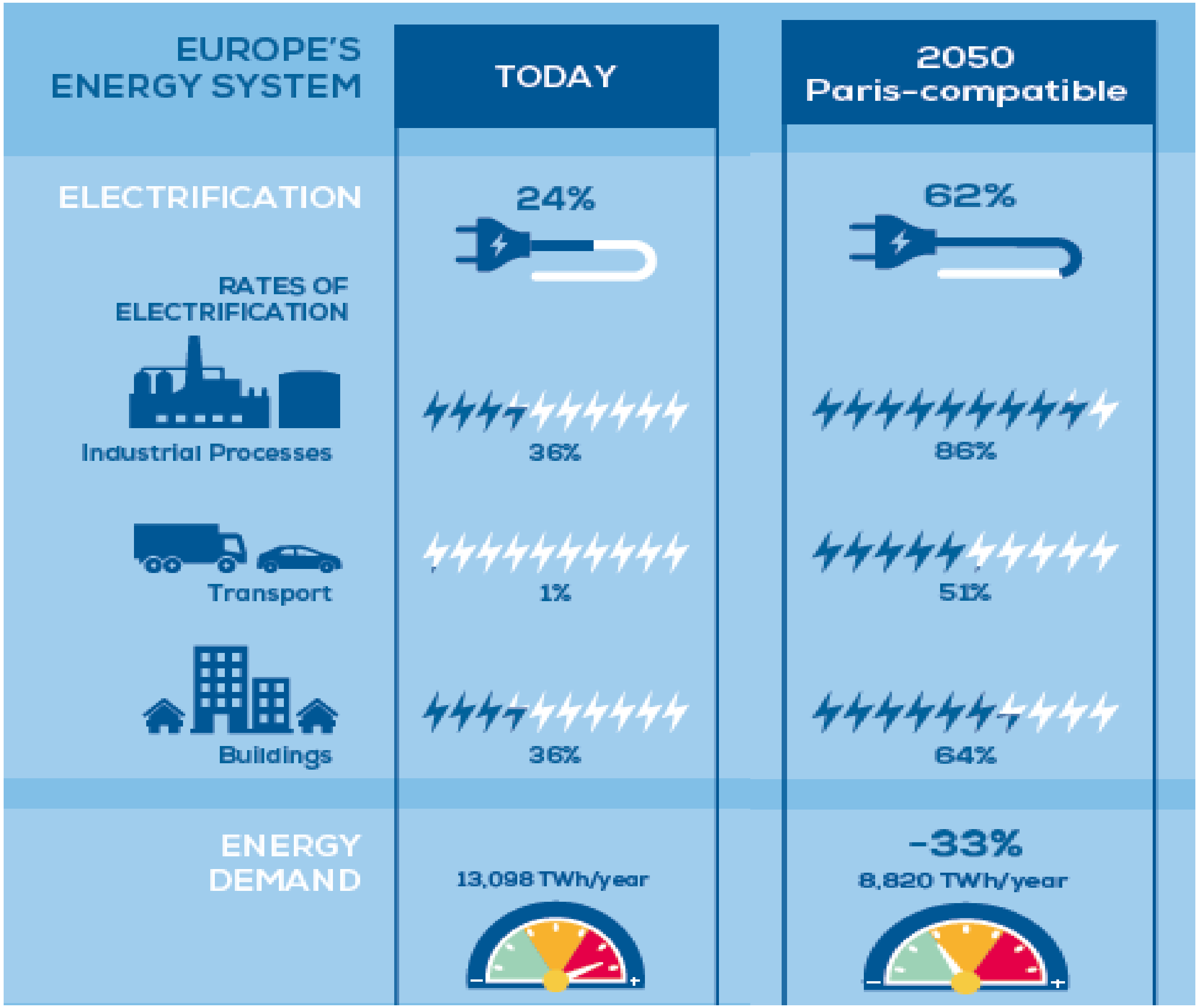
But electricity is less than 1/4 of all energy



We need to electrify the rest of energy



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An ambitious electrification is affordable

2.7% of GDP

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It would reduce the cost of climate change mitigation

~~1.2%~~ → 0.86%

of Europe's annual GDP

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It would also help:

Improve energy efficiency

Control energy bills

Reduce pollution

Strengthen energy security

Source: WindEurope

It would also help:

CREATE JOBS

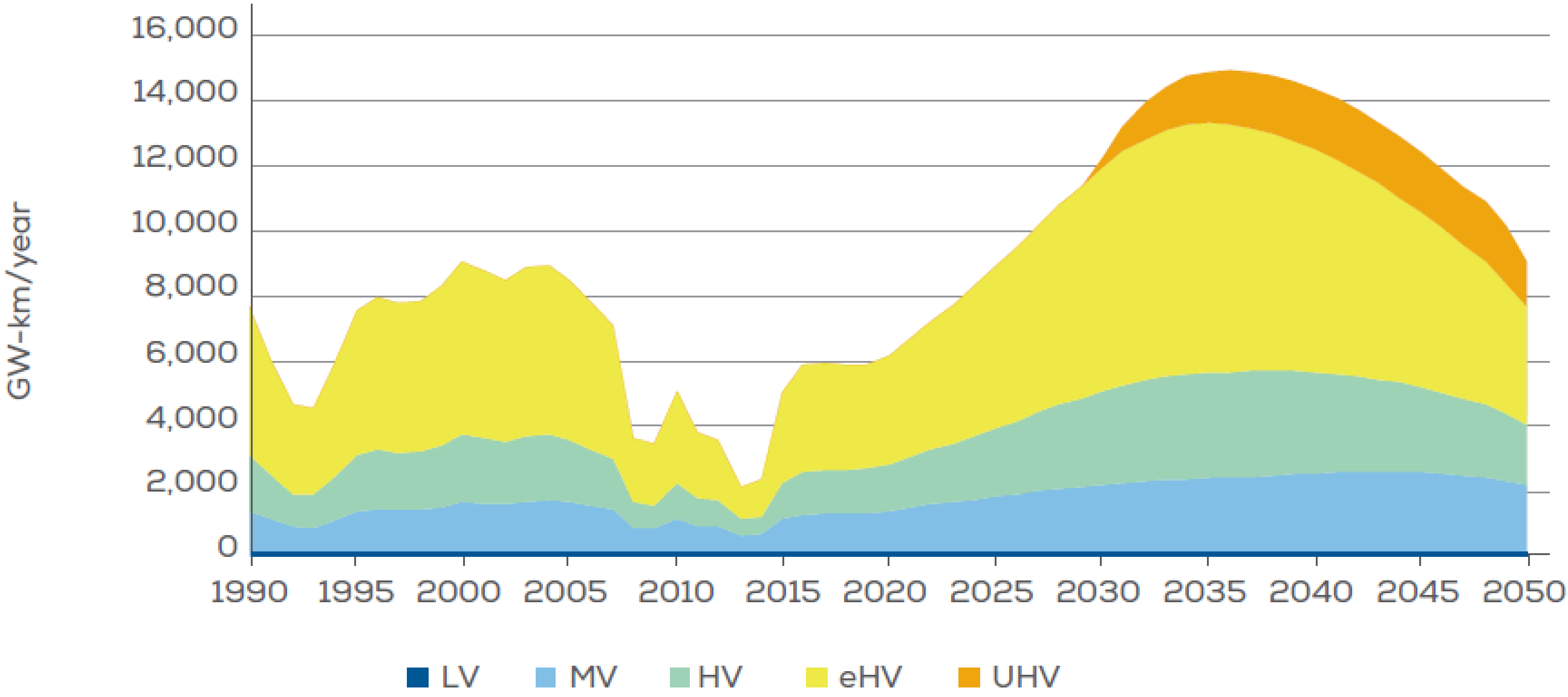
Source: WindEurope

To make it possible, we need the right policies:

- Equal tax for gas and electricity
- More EU spending on grids
- Electric vehicles targets and charging infrastructure
- Hydrogen: more and bigger electrolysers

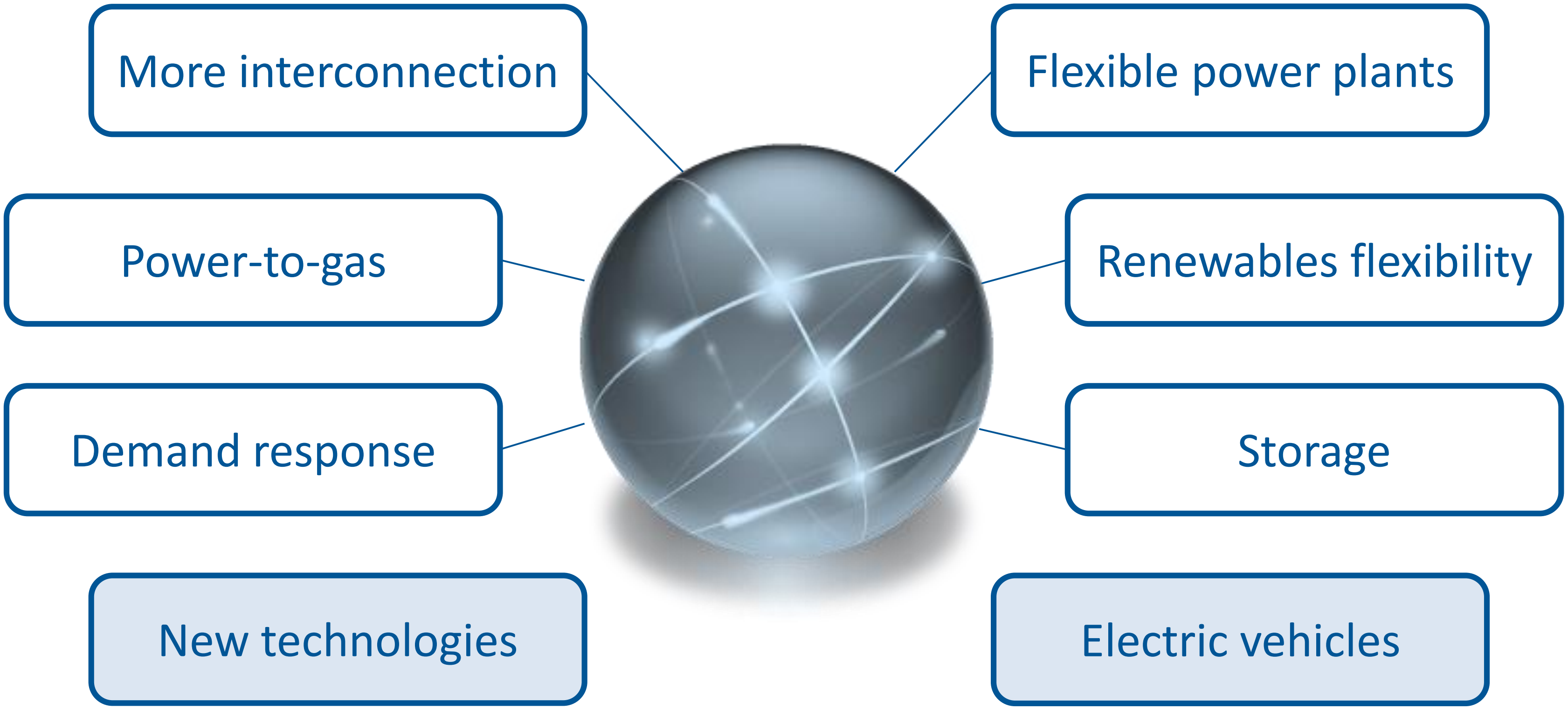
We also need more Grid investments

Grid capacity additions by voltage class



Source: DNV GL for WindEurope

...and more system flexibility



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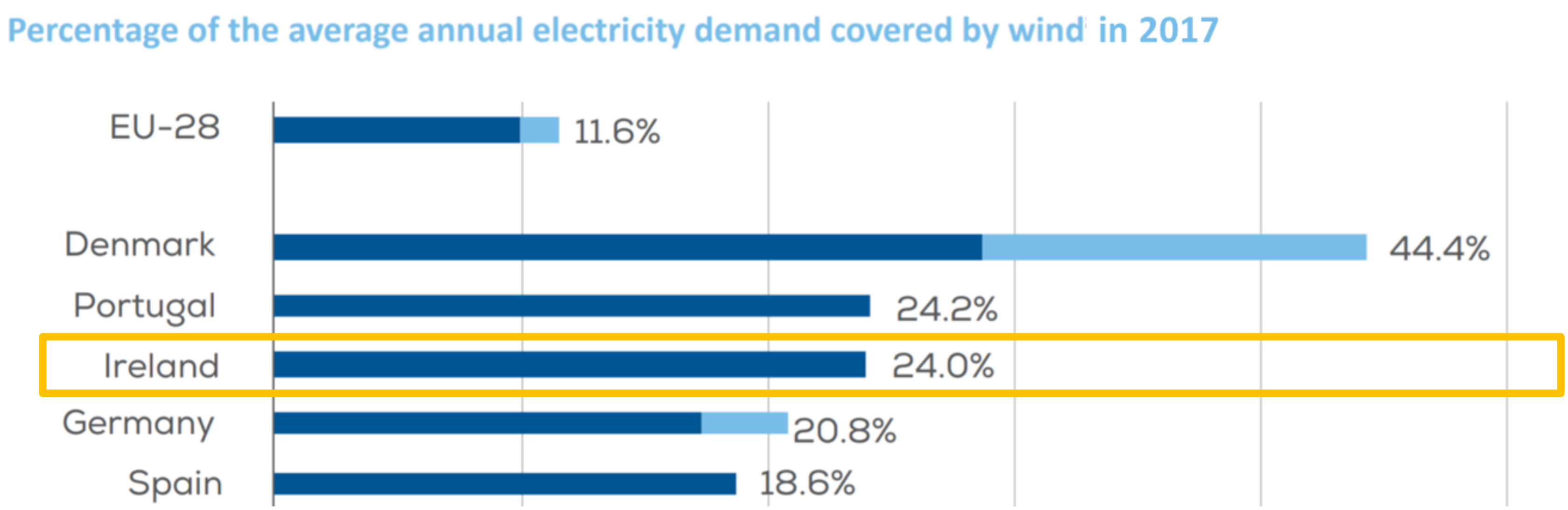
Ireland, a European model for system integration



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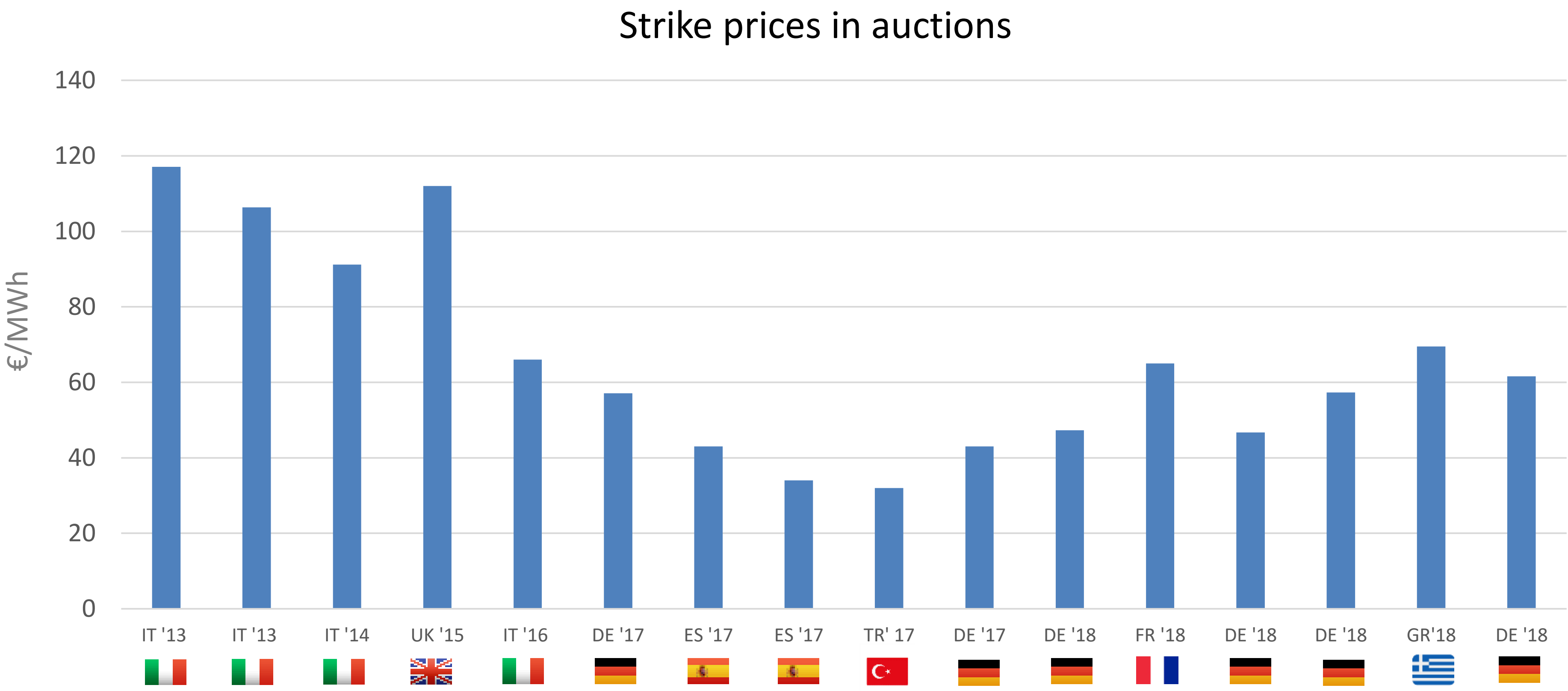
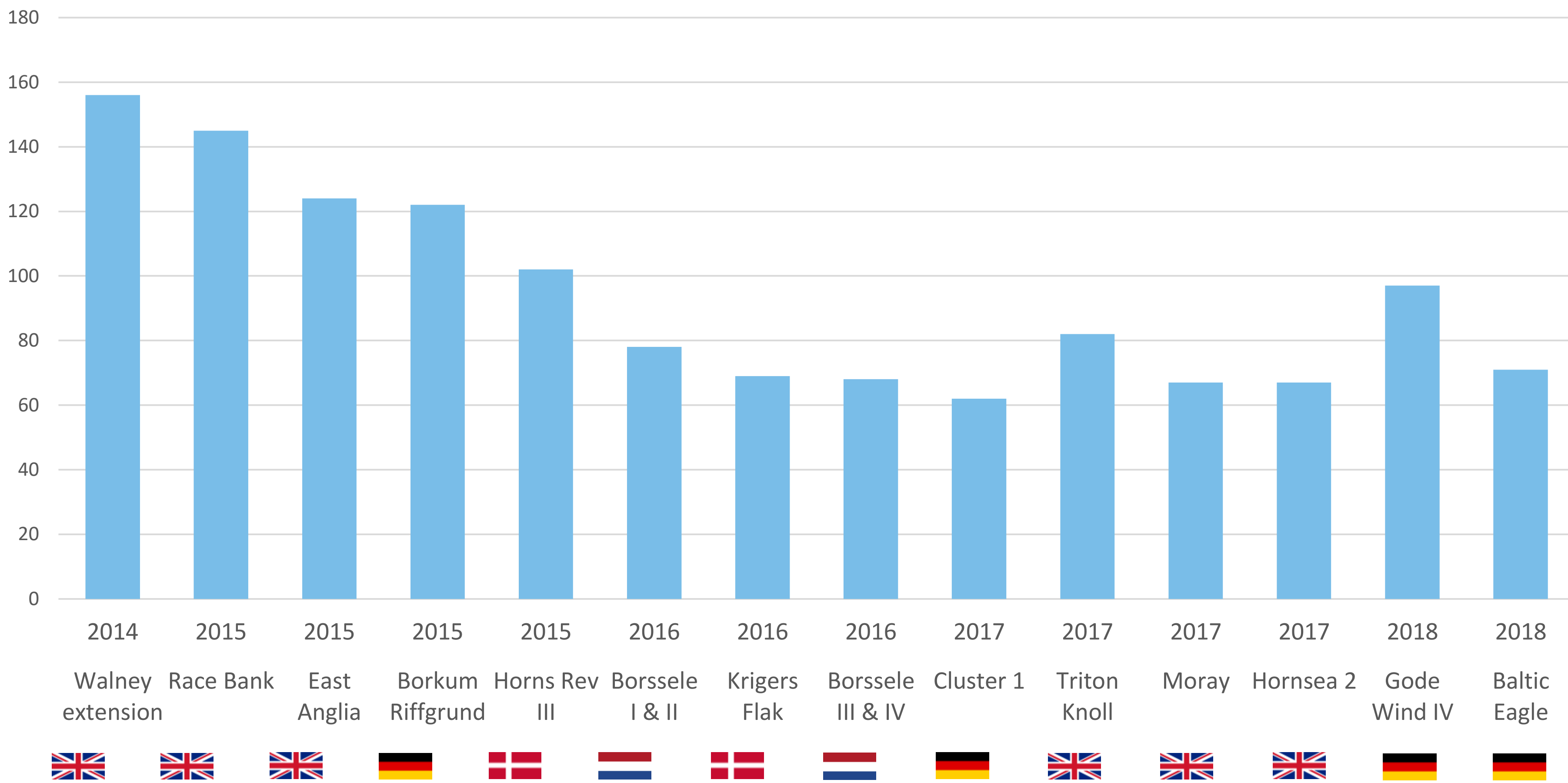
The cost of onshore wind is decreasing



...so is the cost of offshore wind

Levelised revenue of electricity, incl. transmission costs

EUR/MWh[1], 2016-prices



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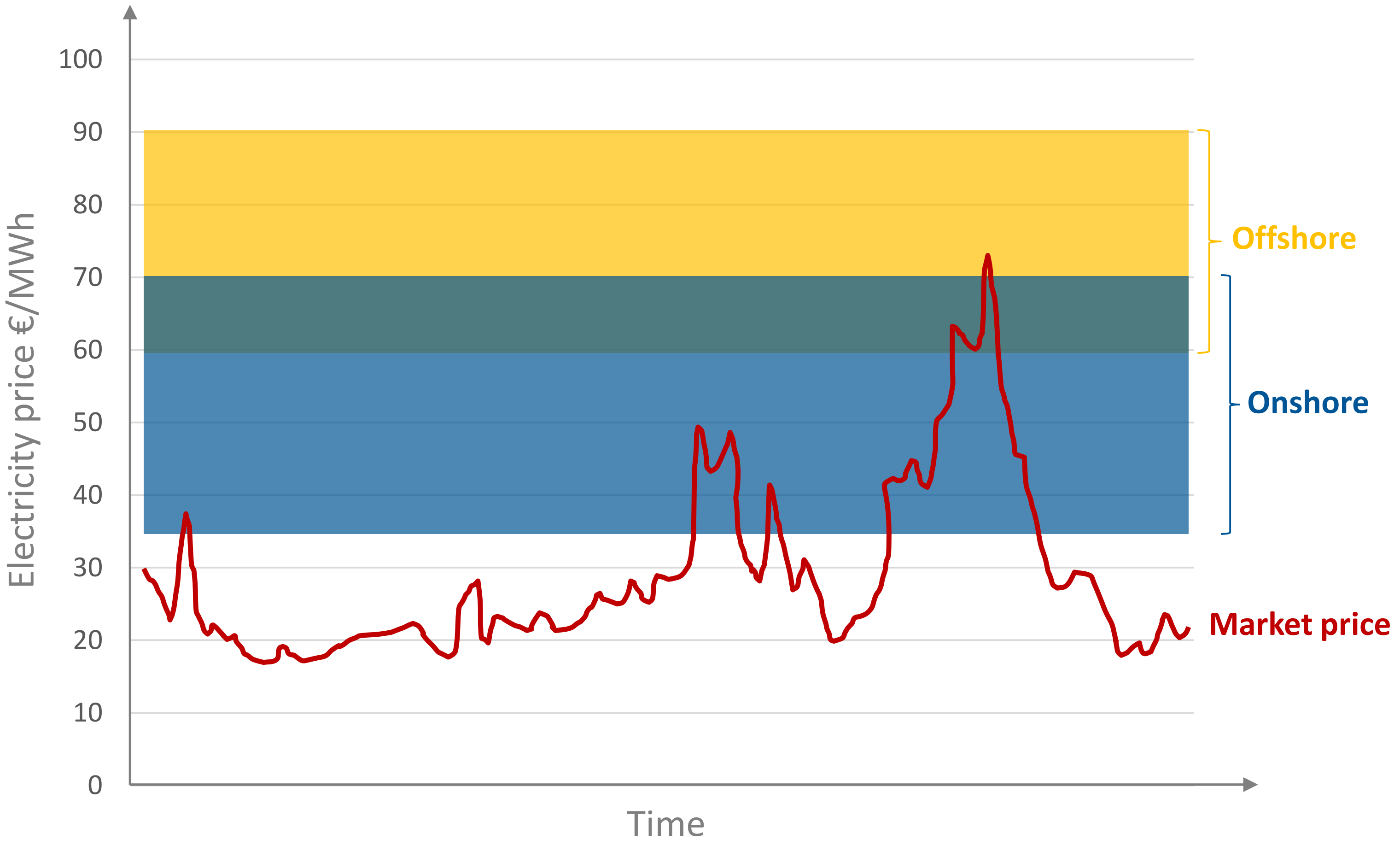
Costs have gone down but there is still a gap



Therefore auctions are essential

- Technology-specific
- Avoid zero-bids

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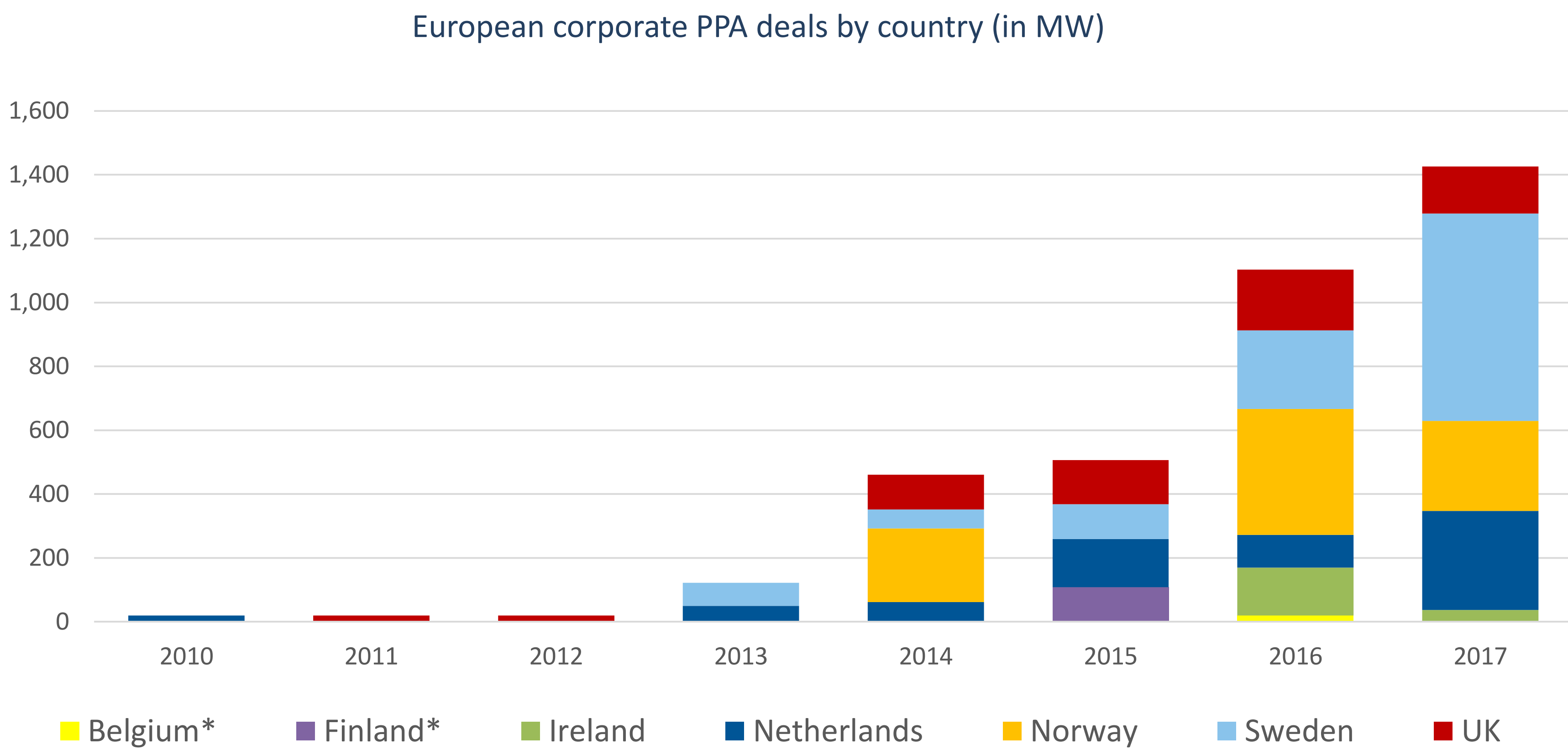
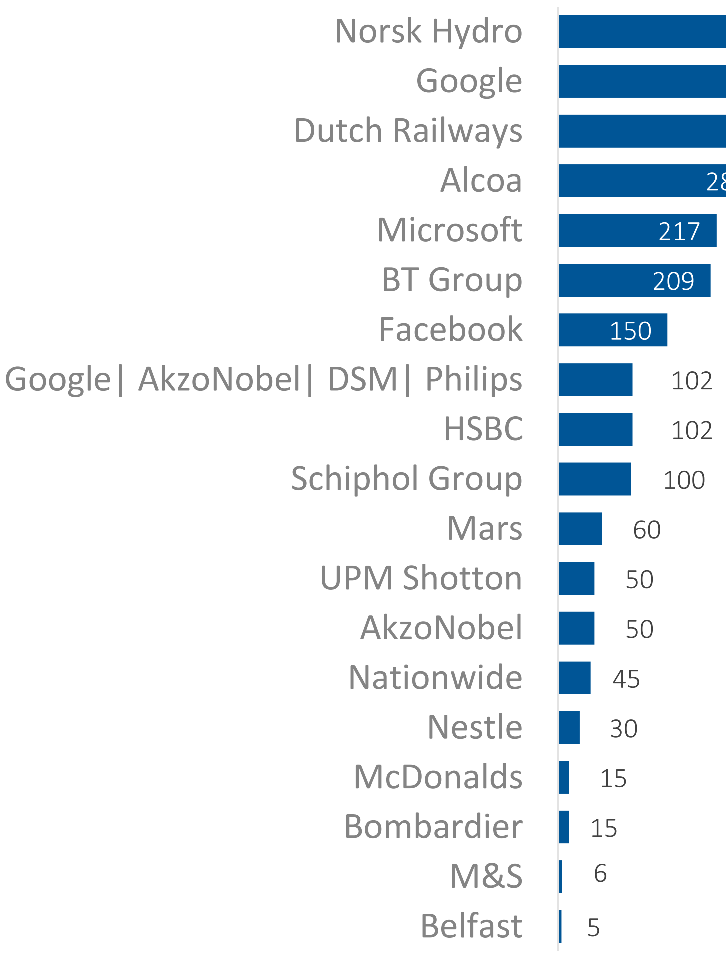
Corporate PPAs are on the rise



*Cross border PPAs
** Data is subject to change as updated information is received

Source: WindEurope

Who are the main PPA off-takers in Europe

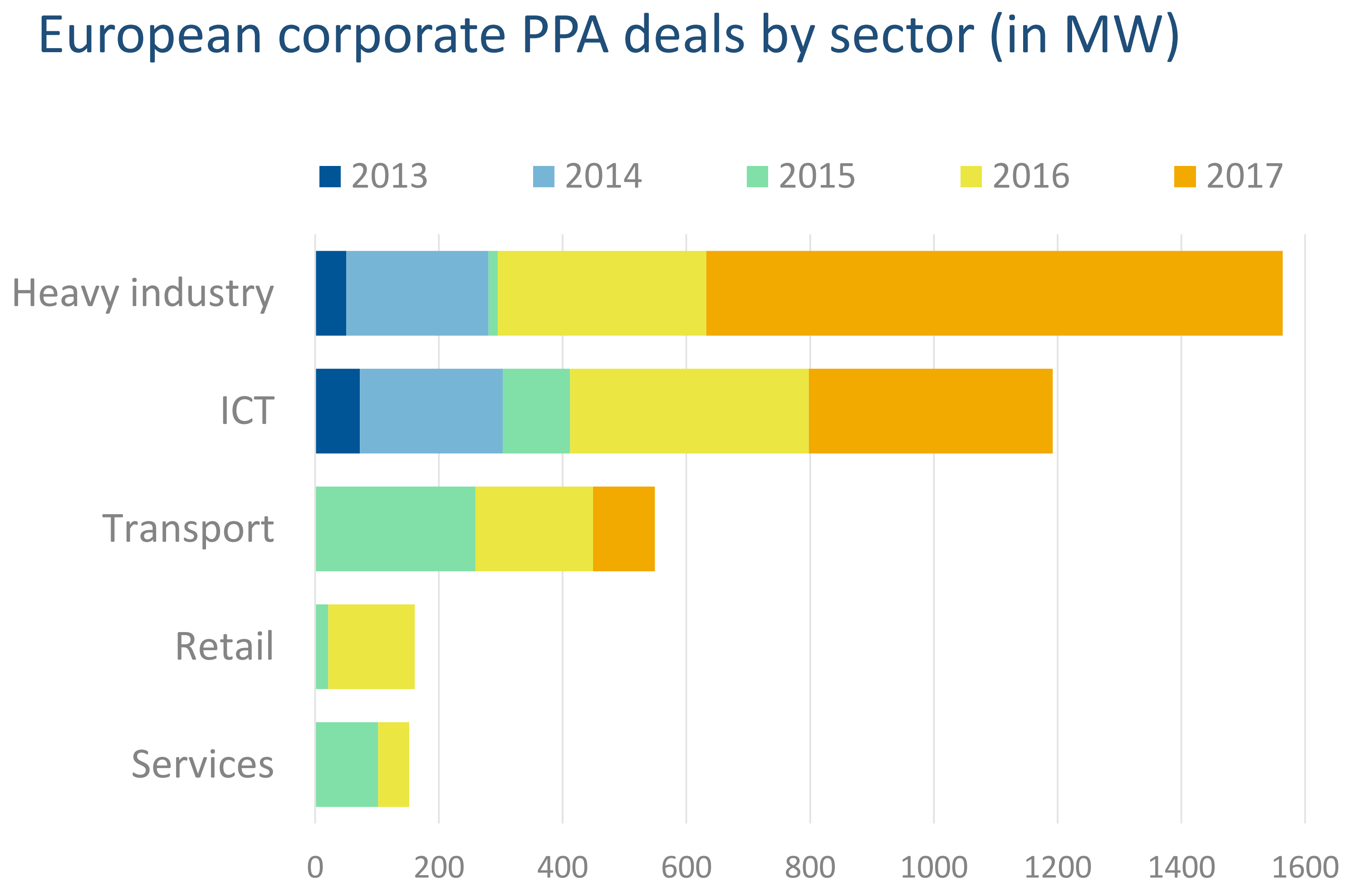


Biggest corporate buyers during 2013 - 2017

Cumulative contracted capacity in MW

* Data is subject to change as updated information is received

Energy intensives are the biggest buyer



Source: WindEurope

RE-Source Platform

Promoting a better framework for renewable energy sourcing at EU and national level

RE-Source
European platform for corporate renewable energy sourcing

Brought to you by:

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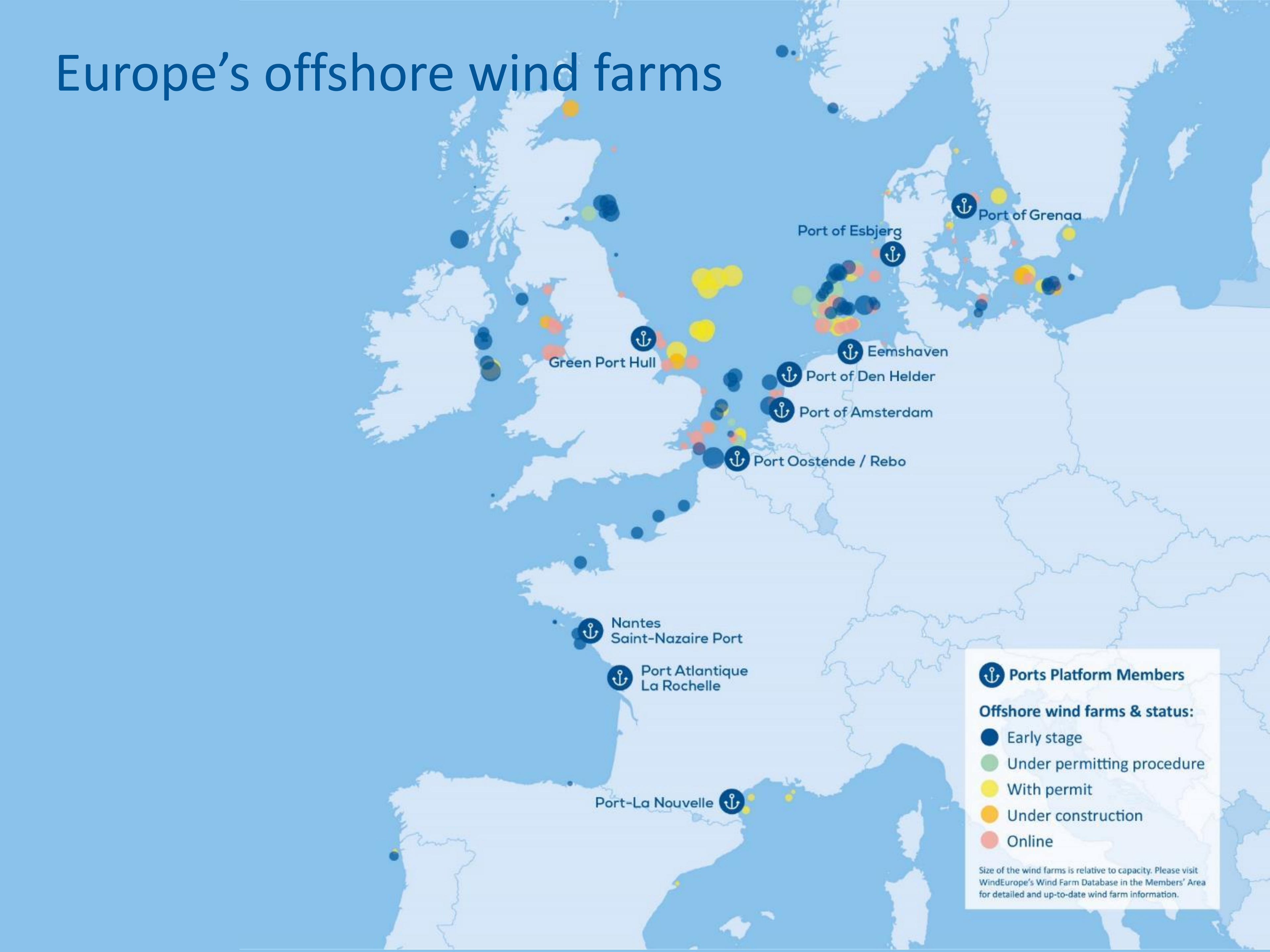
RE100 | °C CDP wbcsd

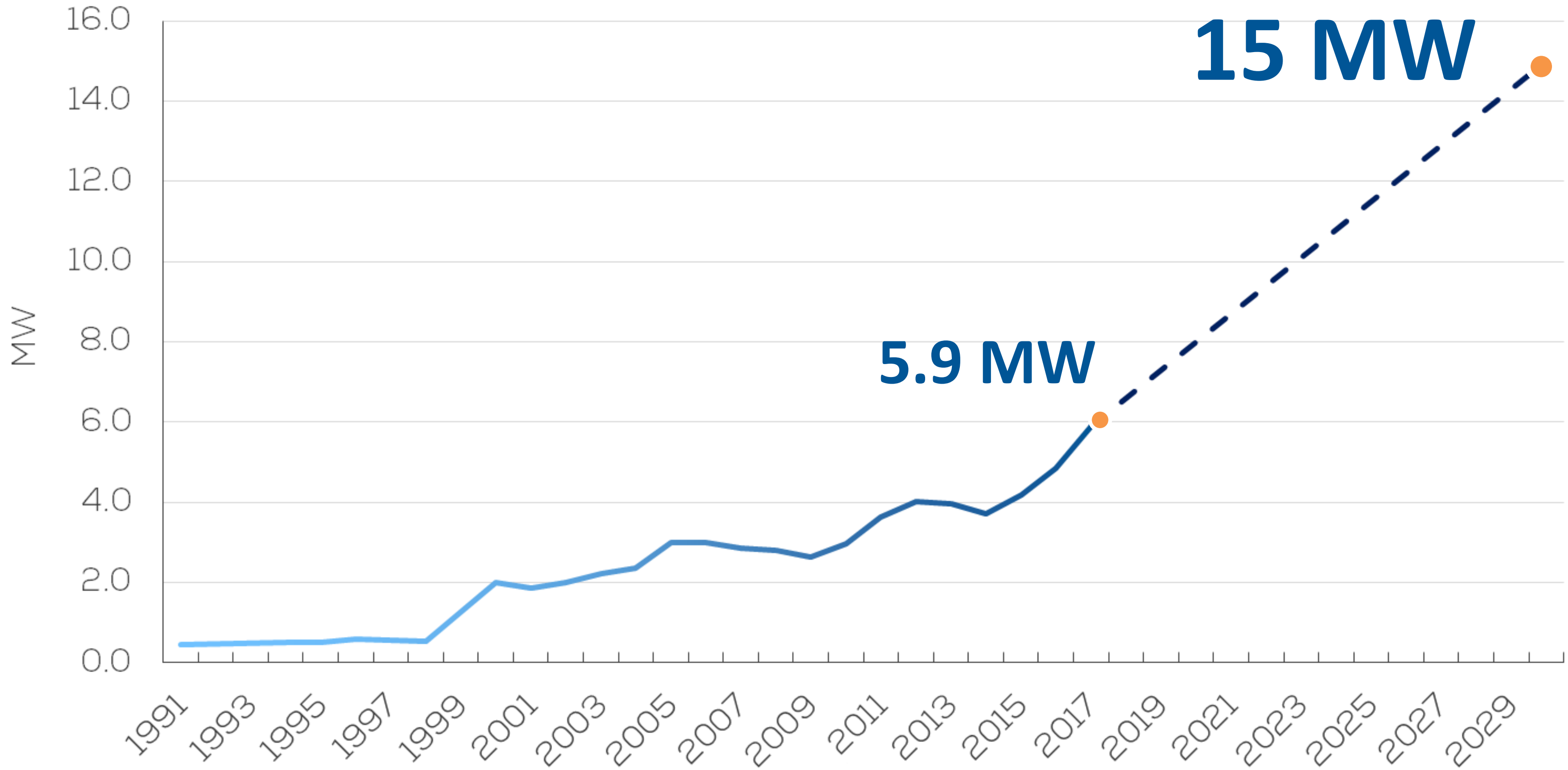
More info at: **resource-platform.eu**

Europe’s offshore wind farms



Offshore turbines are getting larger

Yearly average of newly-installed offshore wind turbine rated capacity



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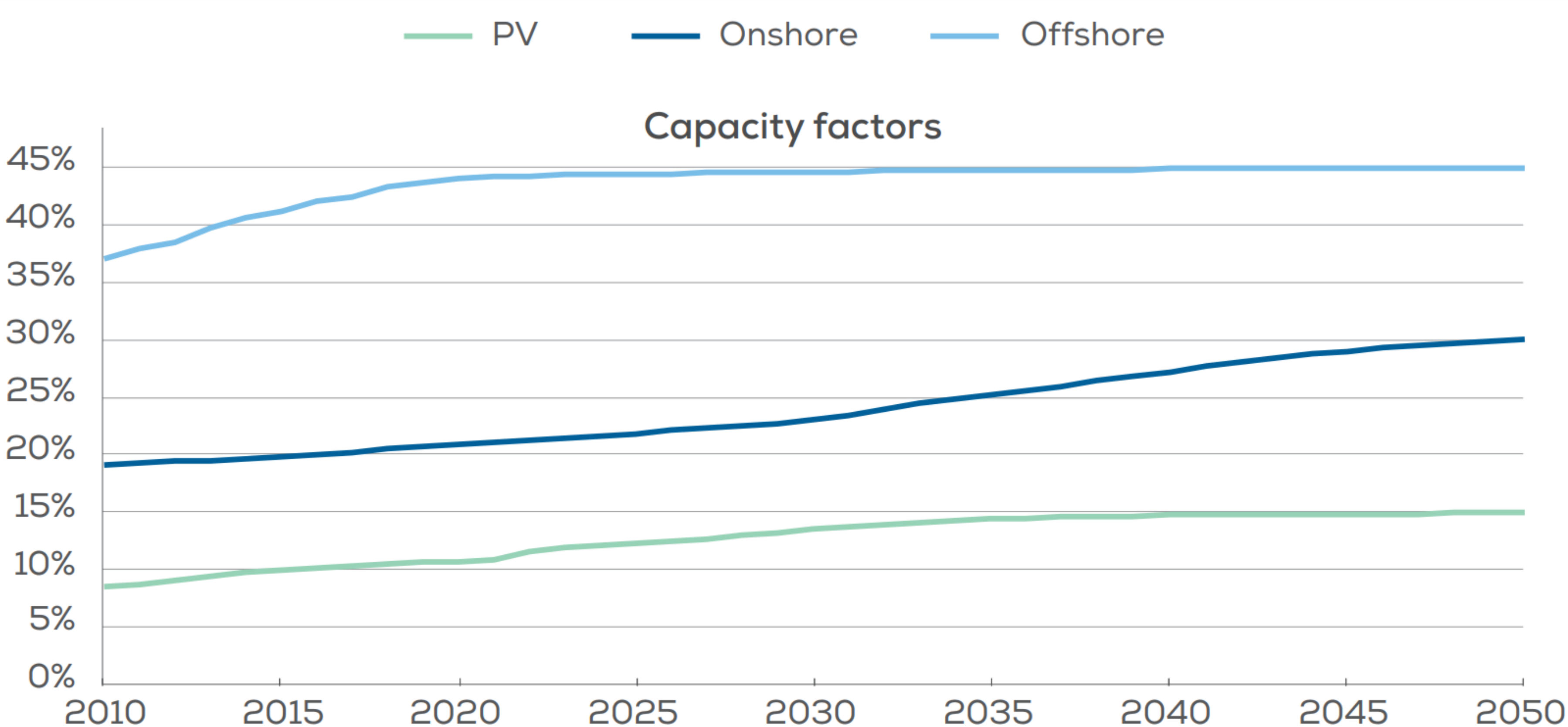
Source: WindEurope

Capacity factors



Source: DNV GL for WindEurope

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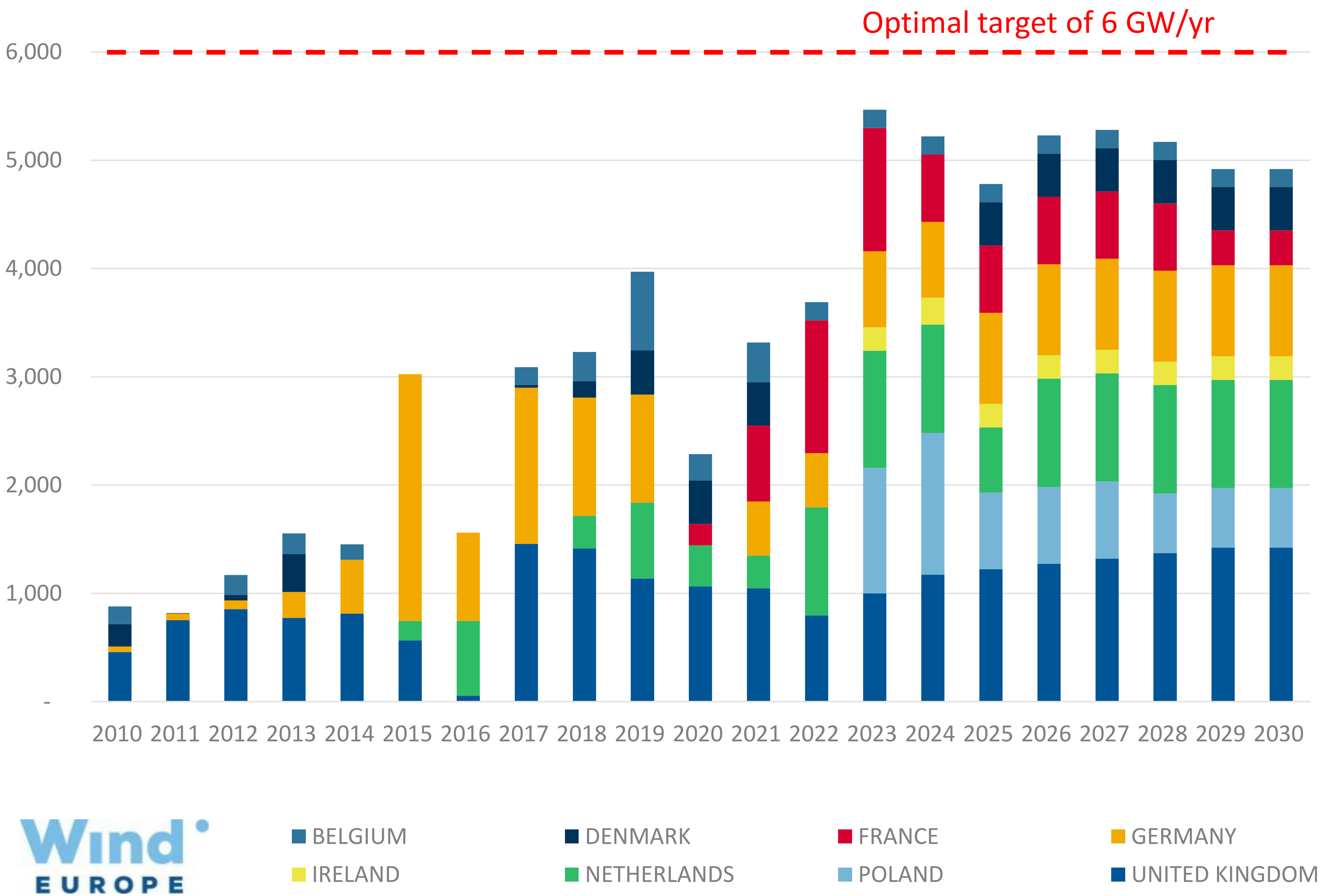
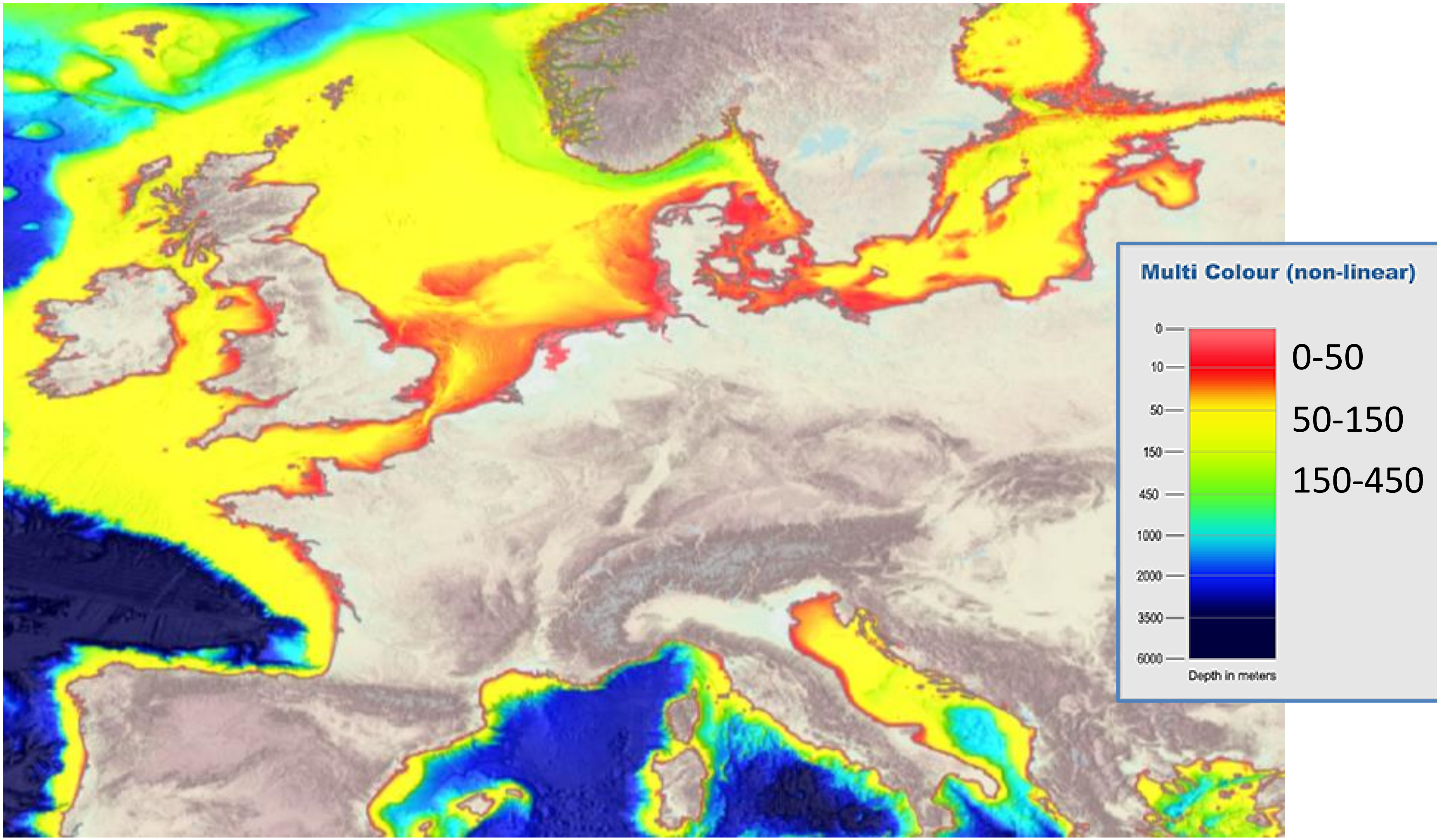
Outlook to 2030



The floating potential



Source: EMODNET

Happy coexistence, a European priority

WISEPower

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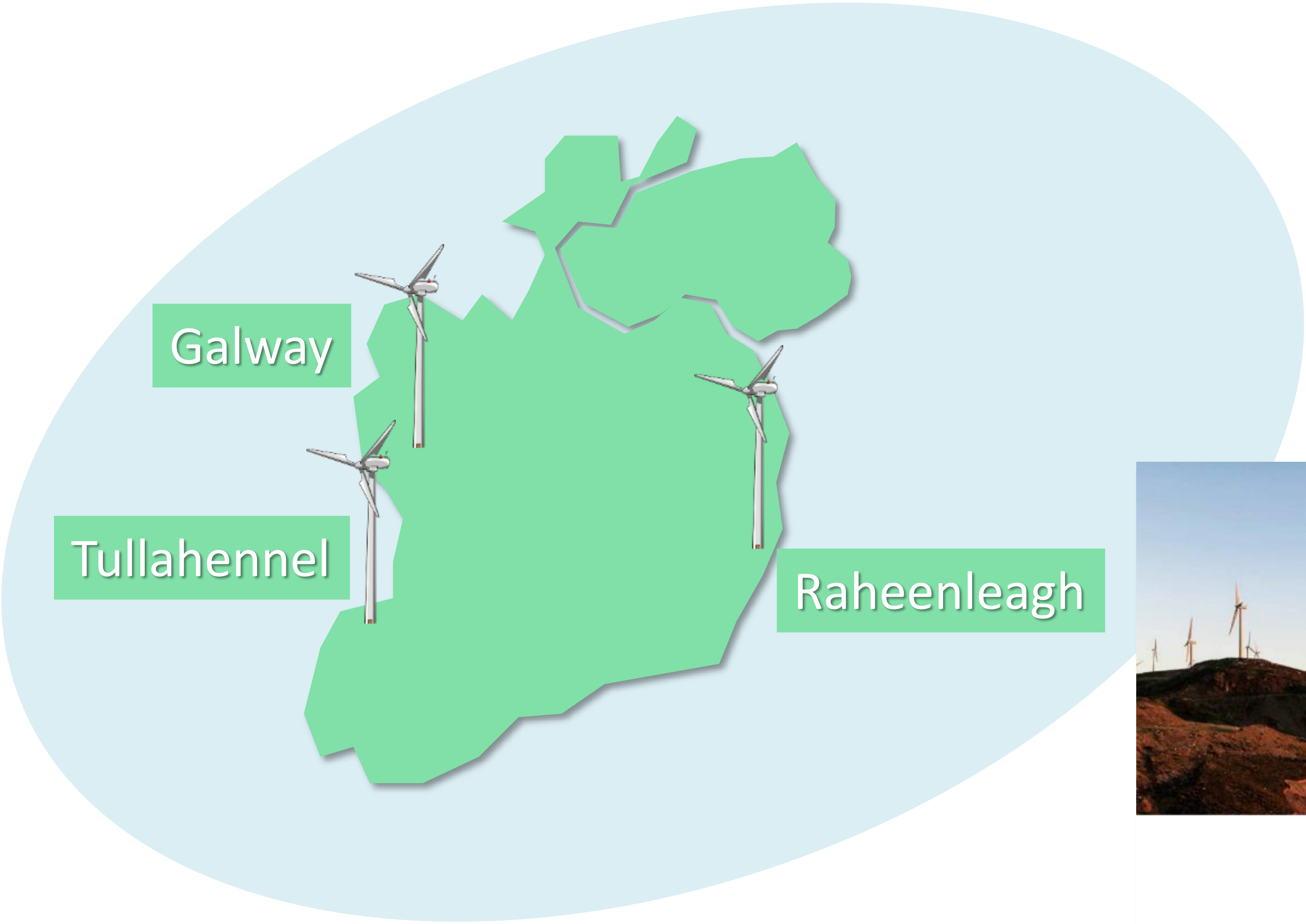
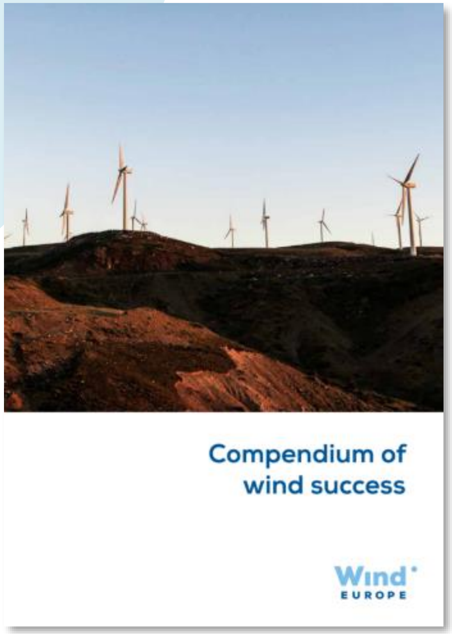
Happy coexistence is about local impact





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Jean-Claude Juncker
President of the European Commission
Rue de la Loi 200
Berlaymont - 1049 – Brussels

Rt Hon Theresa May MP
UK Prime Minister
No 10 Downing St
London, SW1A 2AS

4 September 2018

Dear President Juncker and Prime Minister May,

RE: Prioritising EU27 / UK cooperation on climate change and energy

The continued implementation of the Paris Agreement on climate change is essential to provide clear, long term and stable signals to guide business investment in low carbon infrastructure. To achieve this, the EU27 and the UK need to ensure that the Facilitative Dialogue process results in strong global climate ambitions without undermining economic growth. It will be important for the EU27 and the UK to demonstrate international leadership by cooperating in exploring long term emission targets early in this process to catalyse increased ambitions from other countries. In this regard, we recognise that both the EU Commission and the UK Government see long term net-zero GHG emissions targets as a vital element of the Paris Agreement. We would welcome further guidance on how this could be achieved at the 24th Conference of Parties (COP) to the UN Framework Convention on Climate Change, in December this year.

https://thewindchallenge.com

THANK YOU

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windeurope.org

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