



**Wind**<sup>°</sup>  
EUROPE

# Wind energy facts and figures



# Wind<sup>•</sup> EUROPE

WindEurope is the voice of the wind industry, actively promoting wind energy across Europe. We have 600+ members from across the whole value chain of wind energy - wind turbine manufacturers; component suppliers; power utilities and wind farm developers; financial institutions; research institutes; and the national wind energy associations.

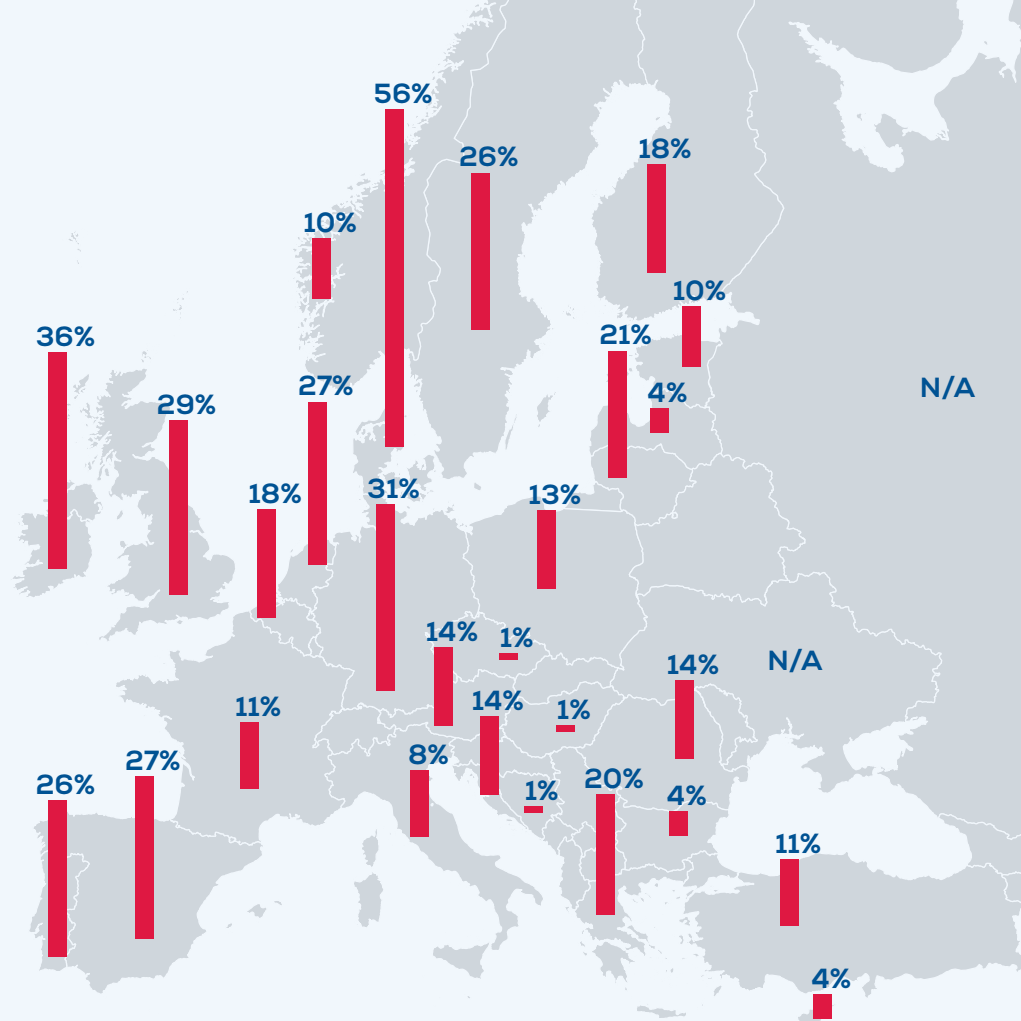
**For more information: [windeurope.org](http://windeurope.org)**

Our 600+ members include

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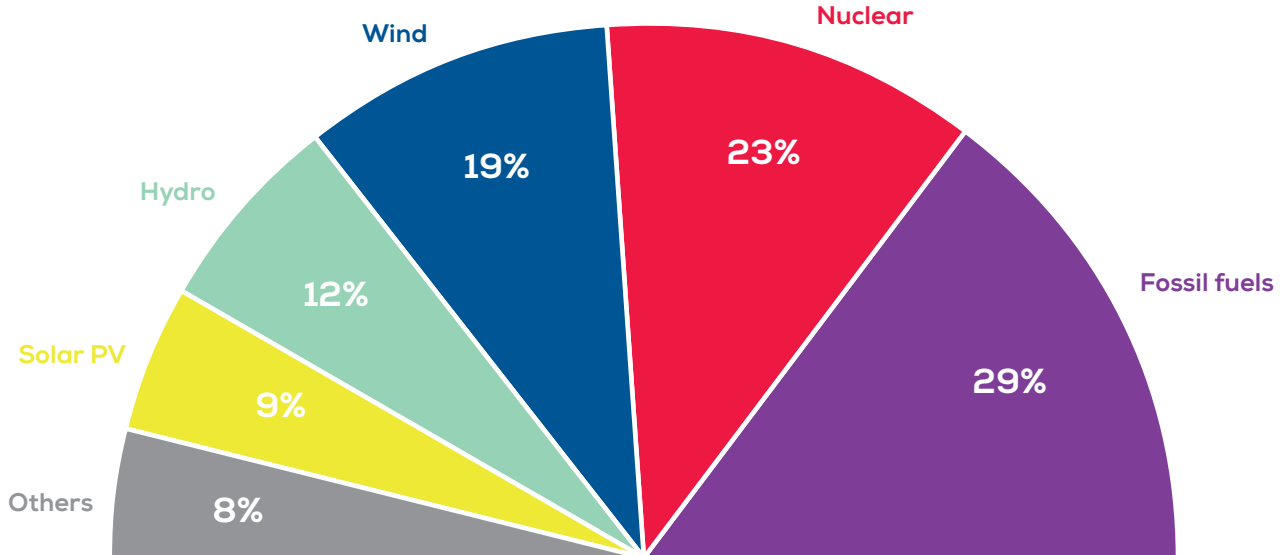
# Wind is 19% of the electricity we consume



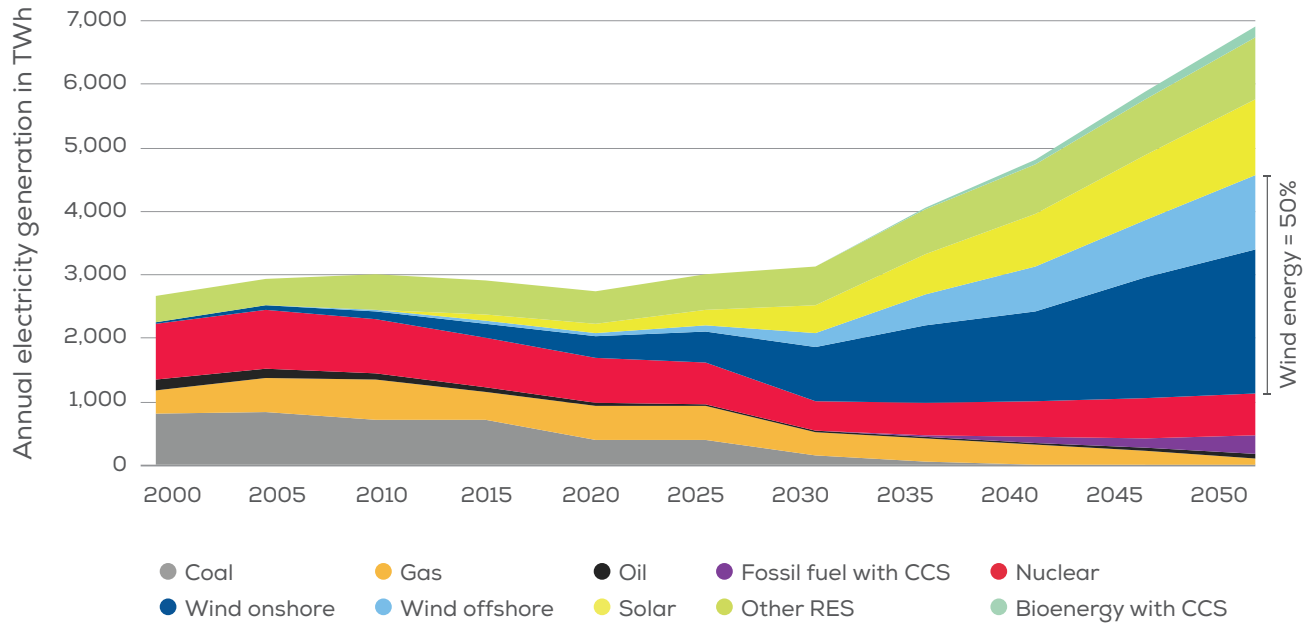
Source: WindEurope

# Where does our electricity come from?

EU electricity generation in 2023 by technology



# EU sees wind being half of electricity by 2050



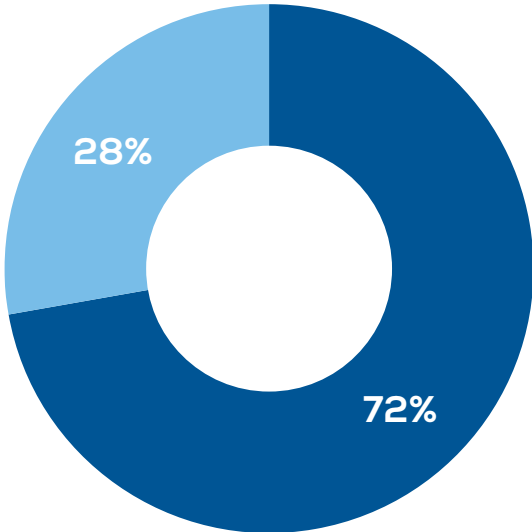
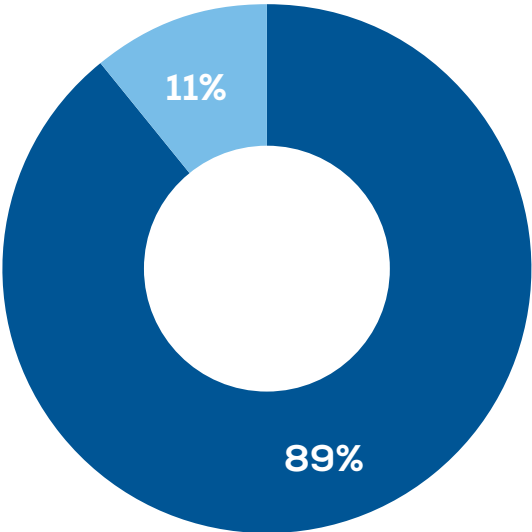


# Most of our wind energy is onshore



Wind energy generation in the EU, 2023

Wind energy generation in the EU, 2030



● Onshore

● Offshore

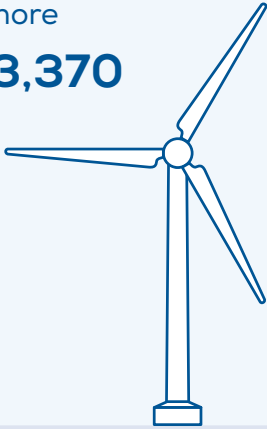


# Europe has 107,000 wind turbines



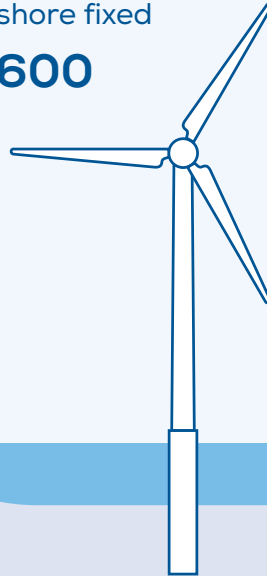
Onshore

**103,370**



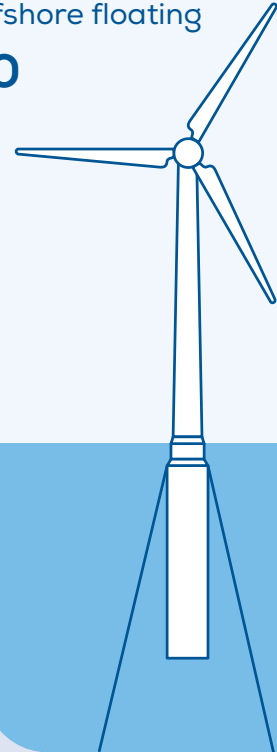
Offshore fixed

**3,600**



Offshore floating

**30**



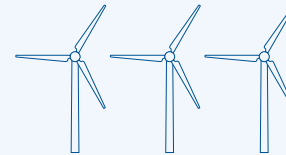
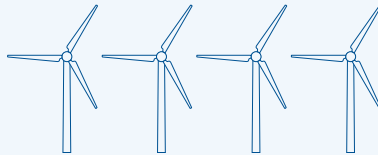
# Modern turbines are more powerful and efficient

Replacing old turbines with new ones.

Before repowering

After repowering

Average number of turbines



**25%**  
reduction

Average turbine output

(increased power rating and improved turbine efficiency)



**4x**  
increase

Average wind farm output

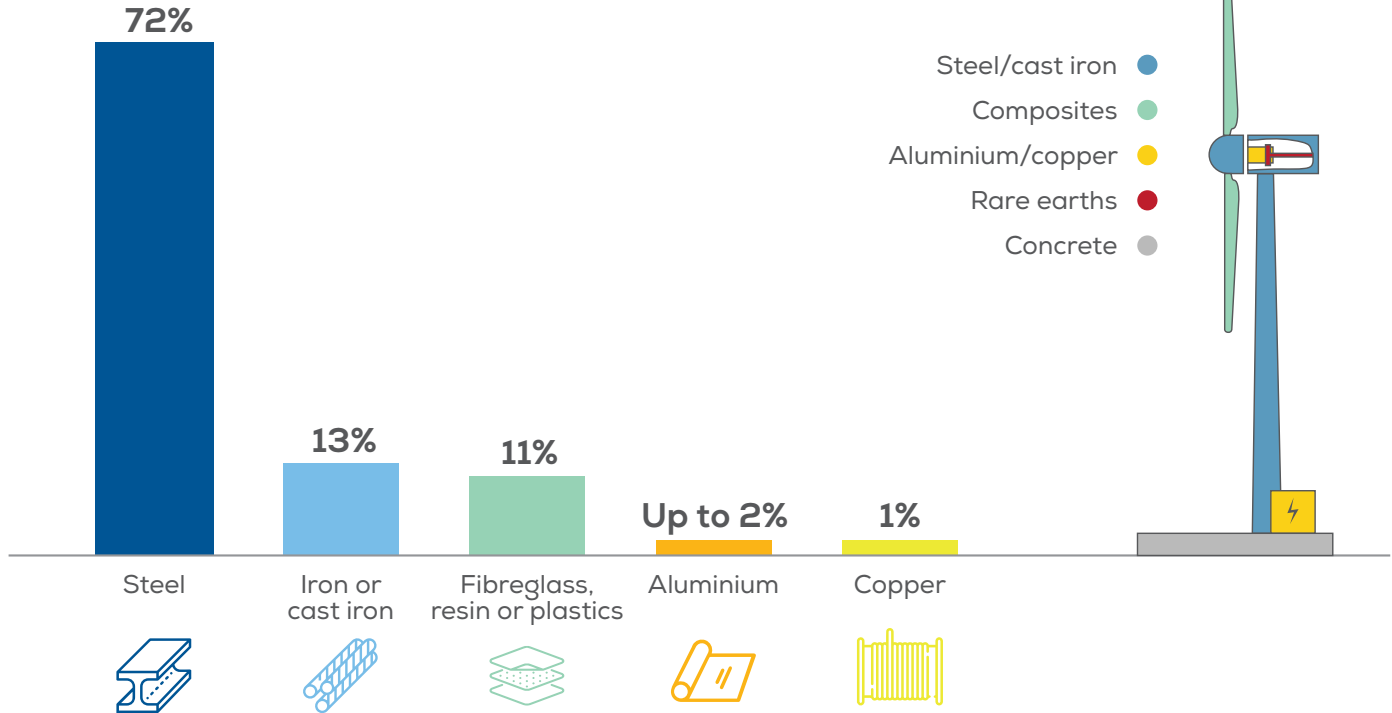


**3x**  
increase

# Materials used in wind turbines



Share of materials by volume



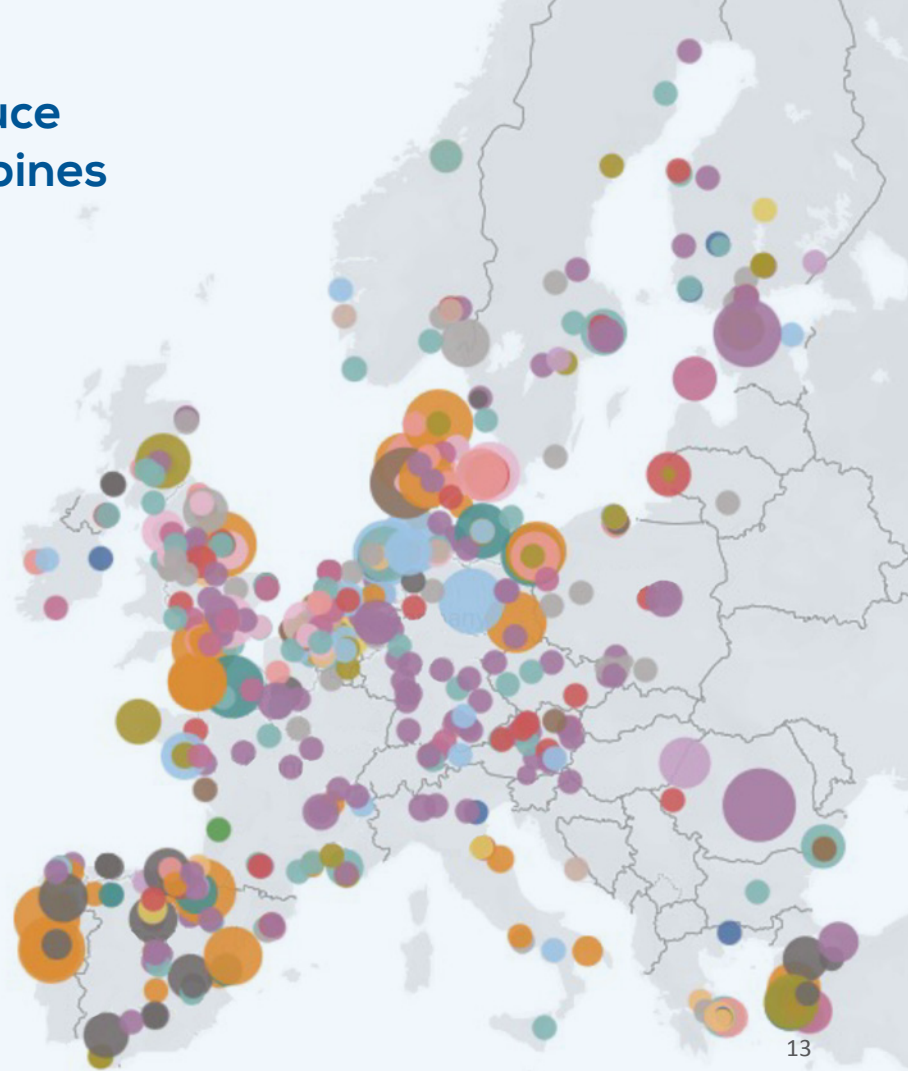
# The European wind industry creates jobs

**560,000**  
jobs  
in 2030

**350,000**  
jobs  
today

# Over 250 factories produce components for wind turbines

- Assembly
- Blades
- Cables
- Components
- Construction
- Foundations
- Gearboxes
- Generators
- Grids
- Logistics
- Nacelles
- O&E
- O&M
- Operators
- Other
- Port
- R&D
- Services
- Towers



Source: WindEurope, 2024 Mapbox. OpenStreetMap

# The European wind industry supports the economy

A woman in a blue protective suit and face shield is working on a large white turbine component in a factory. The background is a blurred industrial setting with other workers in blue suits.

1 new  
turbine =  
**€16m**  
economic  
activity

In 2023  
wind energy  
contributed  
**€52bn**  
to EU GDP

# Europe needs to support its wind energy industry



Brussels, 24.10.2023  
COM(2023) 669 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

European Wind Power Action Plan

EU Wind Power Package  
October 2023 – 15 immediate actions  
to strengthen our industry

Raise the bar  
for turbine  
suppliers

Faster and  
digitalised  
permitting

Ensure a level  
playing field

Finance the  
supply chain

Index  
auctions

# EU Member States have committed to support the wind industry

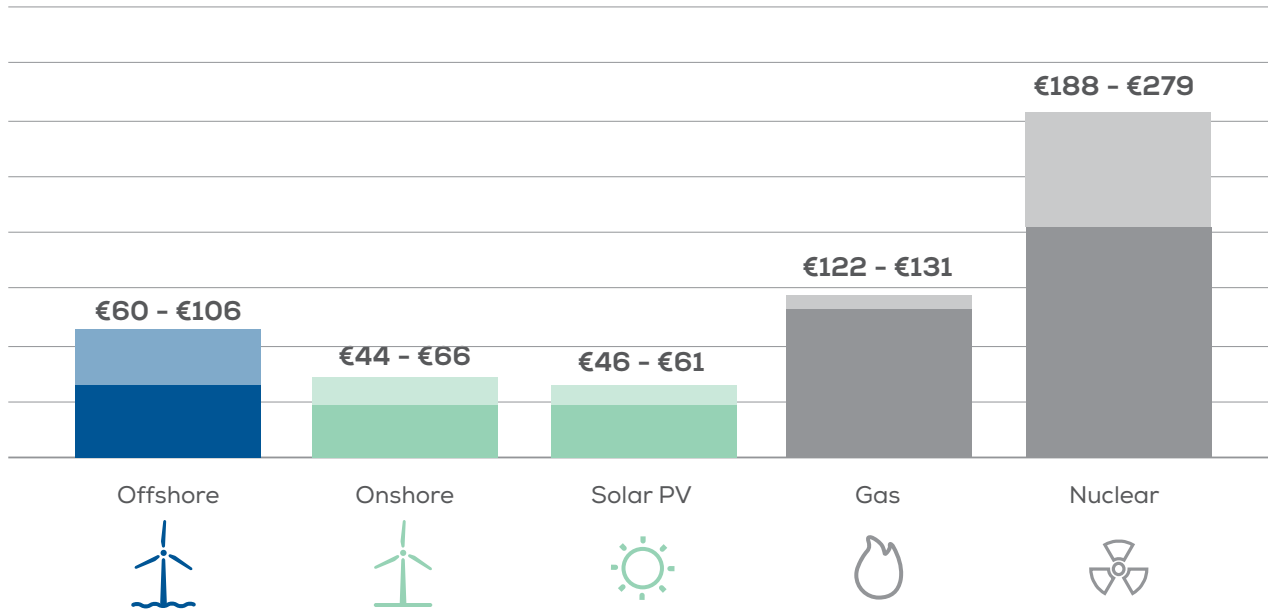
26 EU Governments signed the European Wind Charter in December 2023.





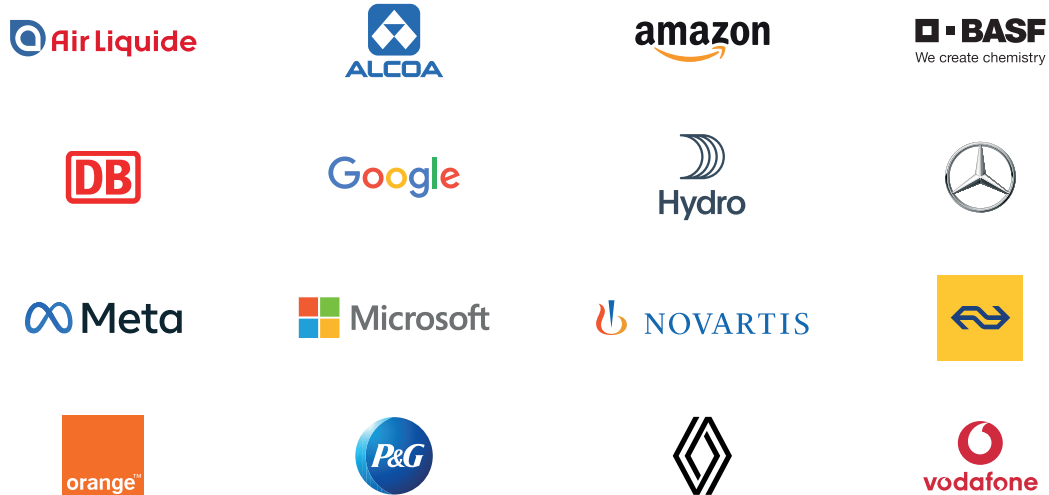
# The average cost of building new wind farms compared to new solar, gas and nuclear

North West Europe 2023 (€ XX = levelised cost of electricity in €/MWh)



# Industry wants more wind power

More and more companies are signing power purchase agreements with wind farms.



# Electricity is only 23% of the energy we consume

We need to electrify industry, transport and heating.  
Wind can help do that.

Electric vehicles



Heat pumps



Electric arc furnaces  
for steelmaking

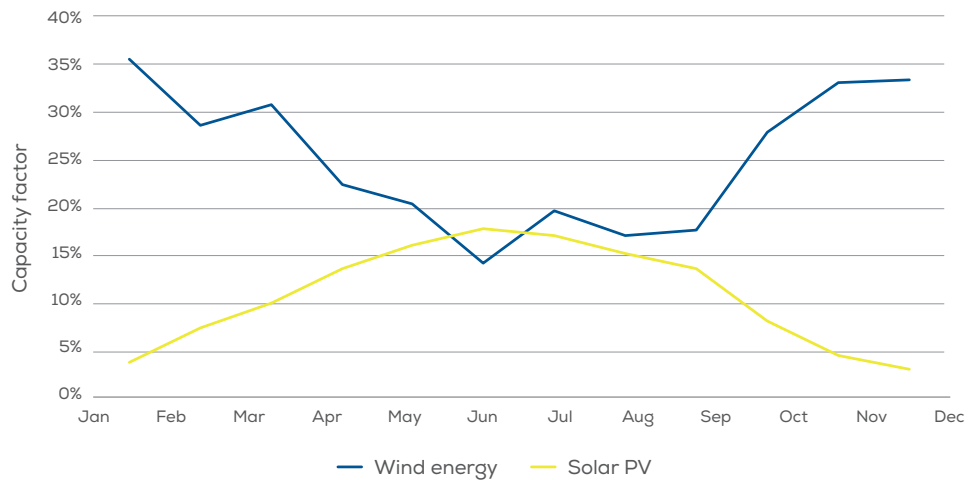


Renewable hydrogen for things  
that cannot be electrified



# Wind and solar complement each other

Average capacity factors of wind and solar in the EU in 2023



# Wind farms pay €10bn in taxes a year and support local communities across Europe

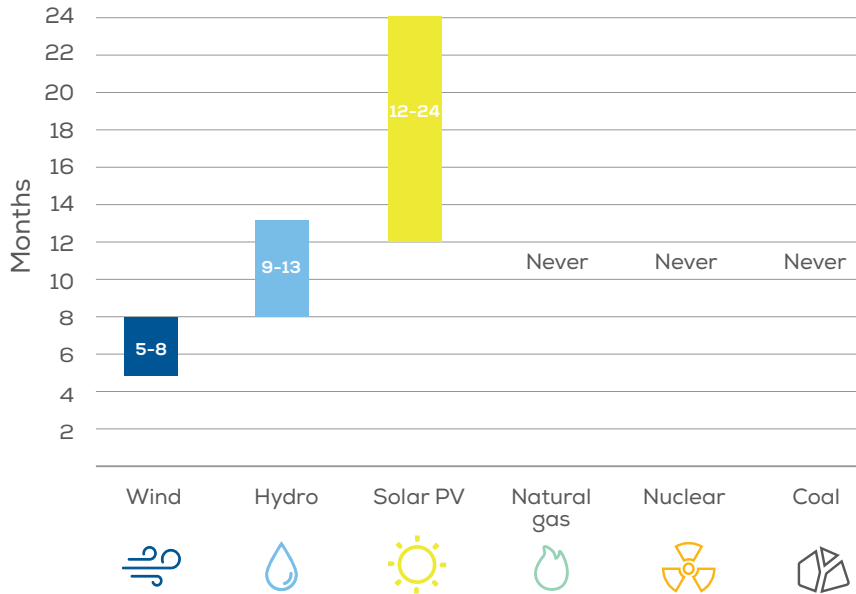
Onshore wind farms pay taxes to municipalities, and many pay additional benefits to local communities.



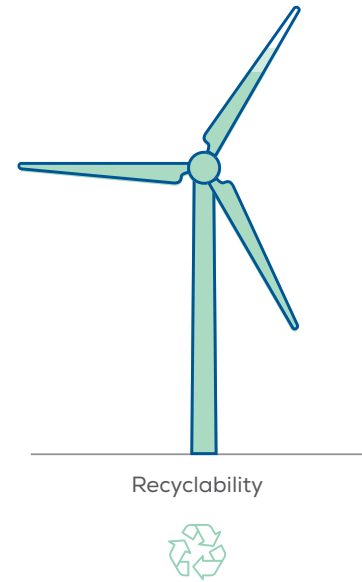
# Wind energy is sustainable



How long it takes different power plants to 'pay back' the energy it has taken to build them.



**85 to 90%** of a wind turbine's total mass is recyclable



# Wind energy can benefit the natural environment

'Fish hotels' being installed in an offshore wind farm.



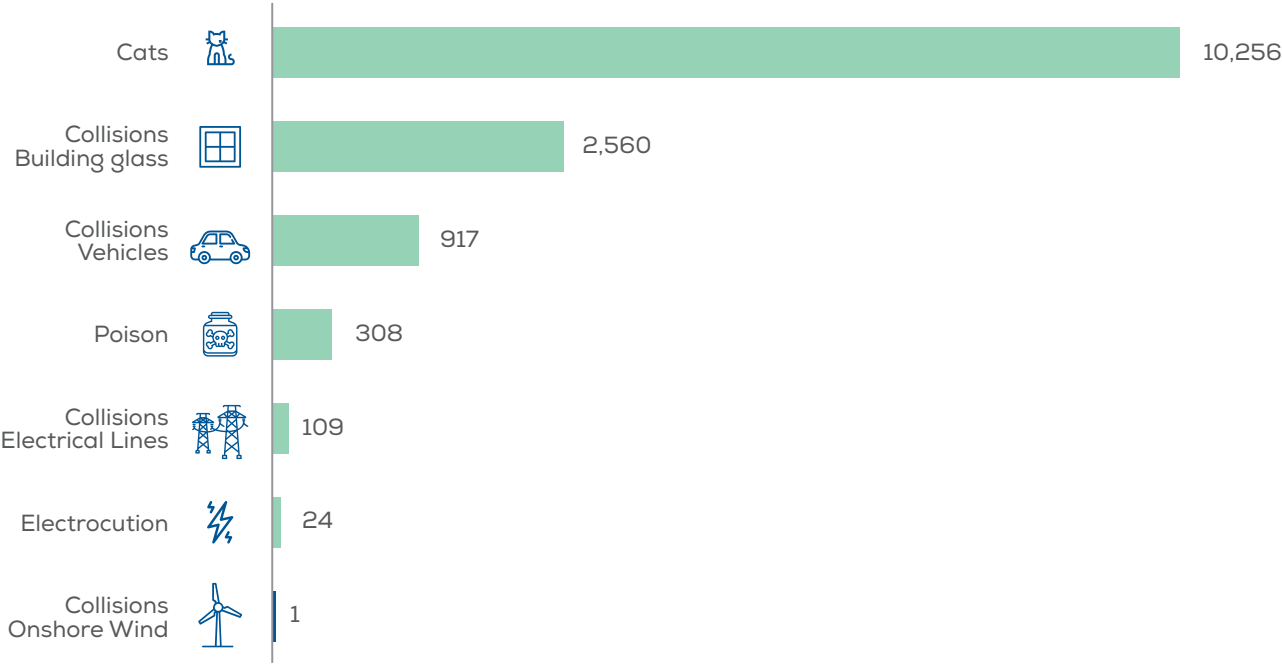
# Wind energy and agriculture are fully compatible





# Wind farms have a low impact on birds

Bird mortality rates from different causes



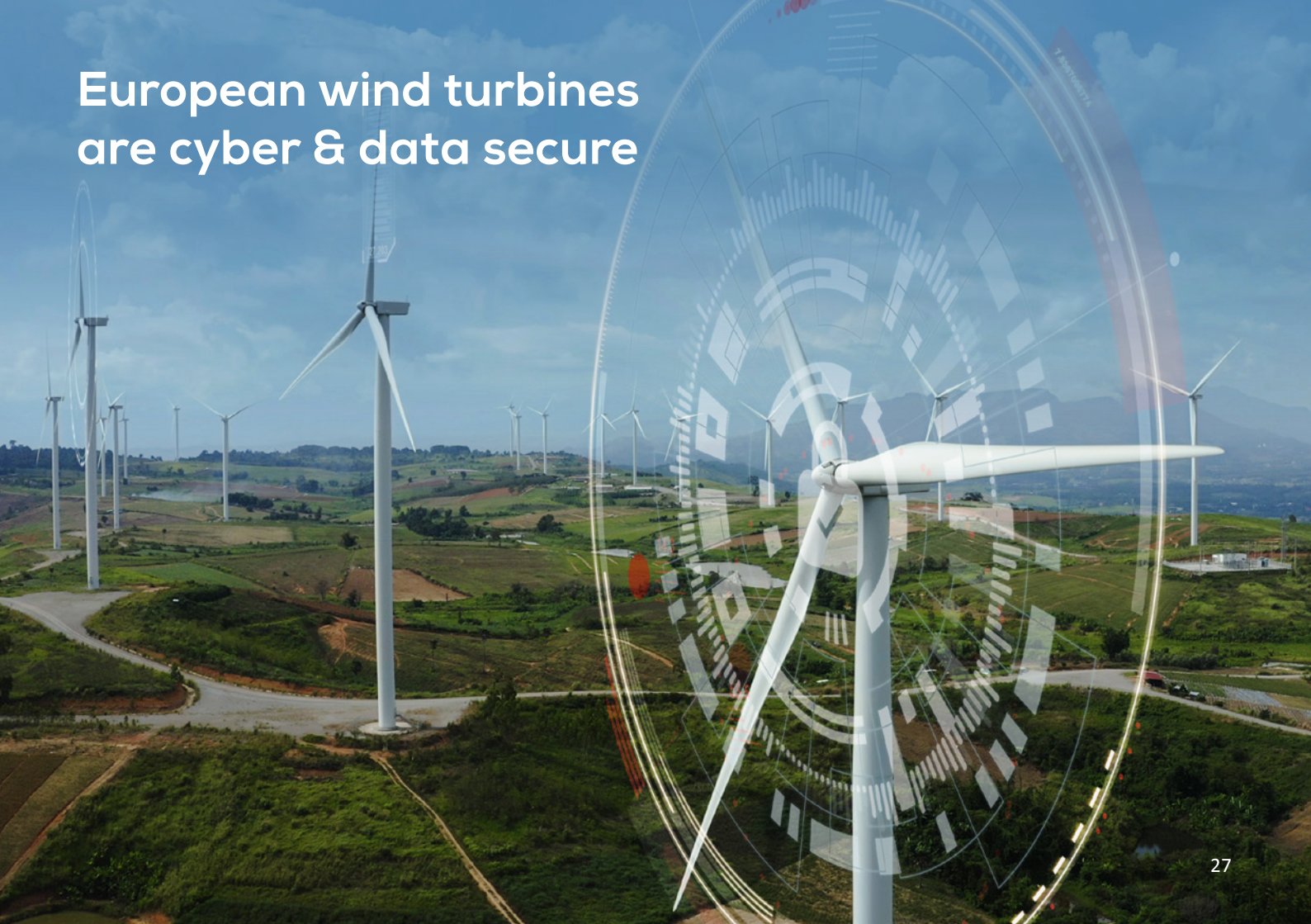
Source: U.S. Fish and Wildlife Services, 2017

# Wind energy improves Europe's energy security

Billion cubic meters (bcm) of fossil fuels imports saved by wind energy every year



# European wind turbines are cyber & data secure



**The wind industry is a European success story.**

It will be central to delivering climate neutrality while making Europe more competitive, resilient and secure.

But the wind sector is challenged by slow deployment, unfair global competition, and a lack of recognition of the value of European manufacturing to job creation, autonomy and security. And Europe is doing far too little to build out the electricity grid and drive the electrification of the economy.

**WindEurope's 5 asks for the next 5 years would ensure Europe gets the most from its wind industry.**

# WindEurope's five asks for the next five years



Invest massively in electricity grids



Accelerate the permitting of renewables, grids and industry



Help heavy industry electrify



Ensure a level playing field for Europe's clean tech industry



Focus innovation on scale-up

# We hope to meet you soon

## Get in touch

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