



Wind[•]
EUROPE

Wind energy facts and figures



Wind[•] EUROPE

WindEurope is the voice of the wind industry, actively promoting wind energy across Europe. We have over 550+ 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.

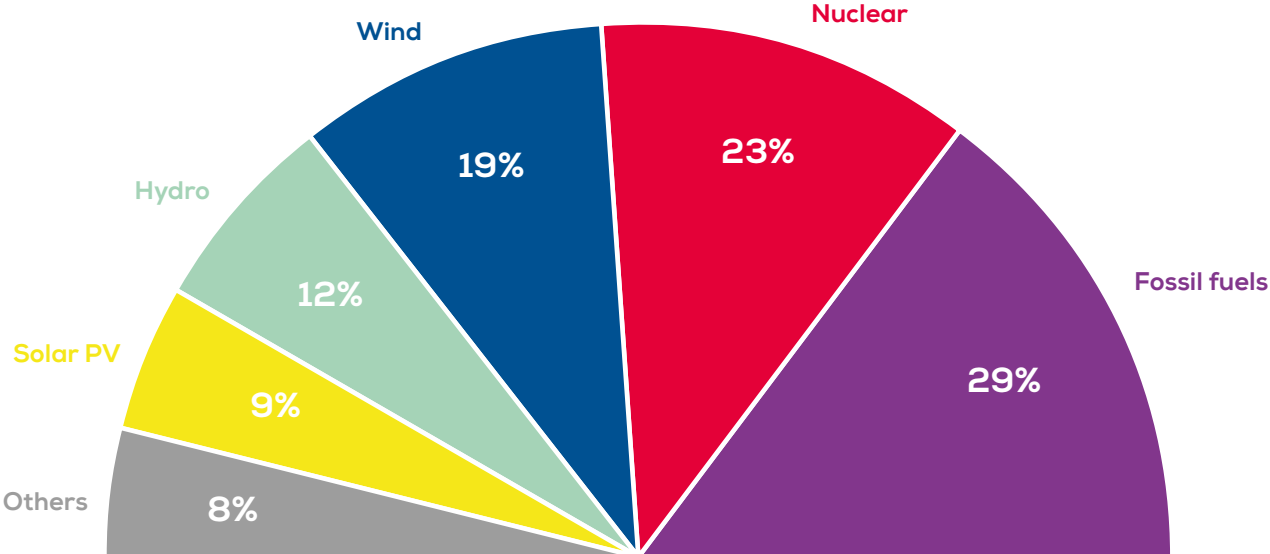
For more information: windeurope.org

Our 550+ members include



Where does our electricity come from?

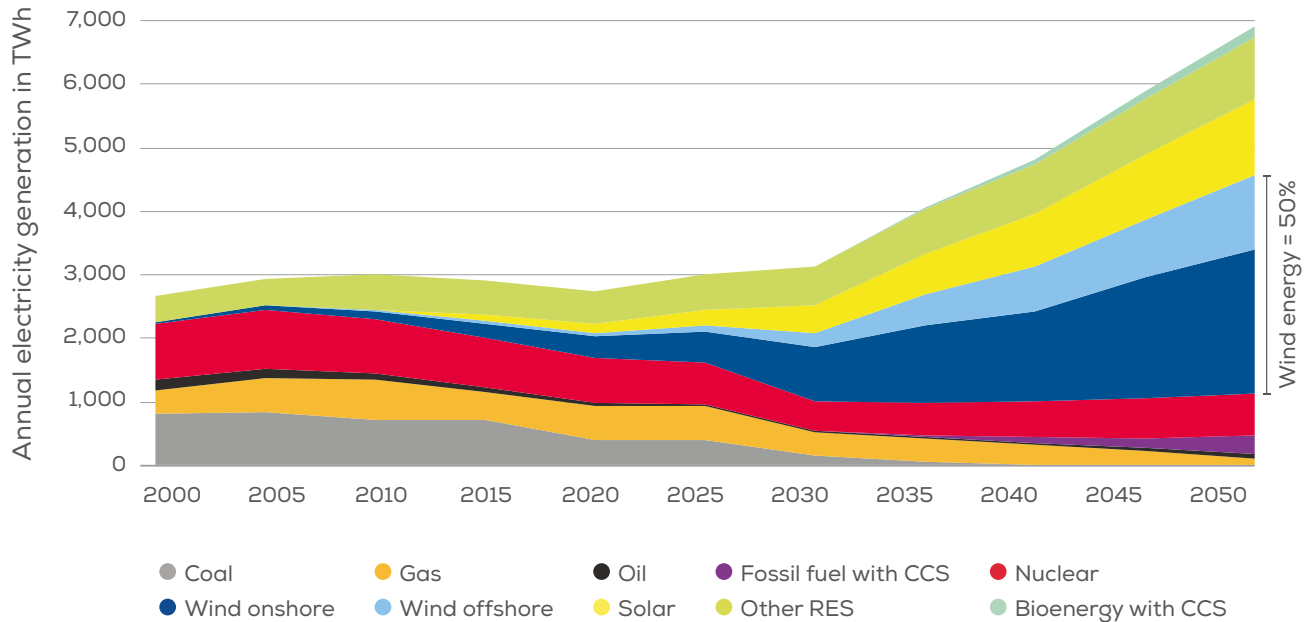
EU electricity generation in 2023 by technology.



Source: WindEurope, ENTSO-E Transparency Platform

EU sees wind being half of electricity by 2050

Annual electricity generation (TWh).

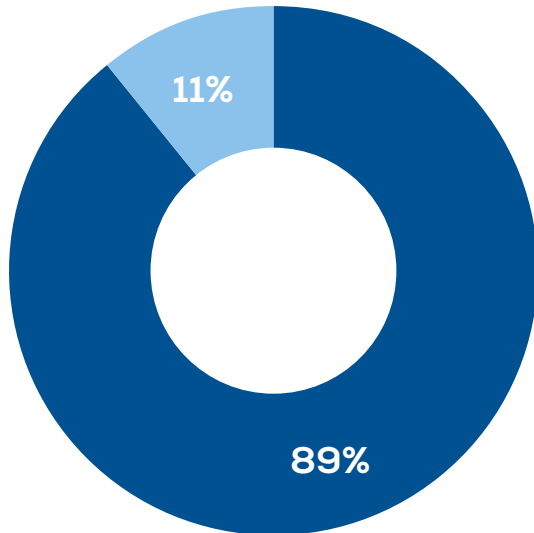


Source: European Commission Impact Assessment, COVID MIX scenario, 2020

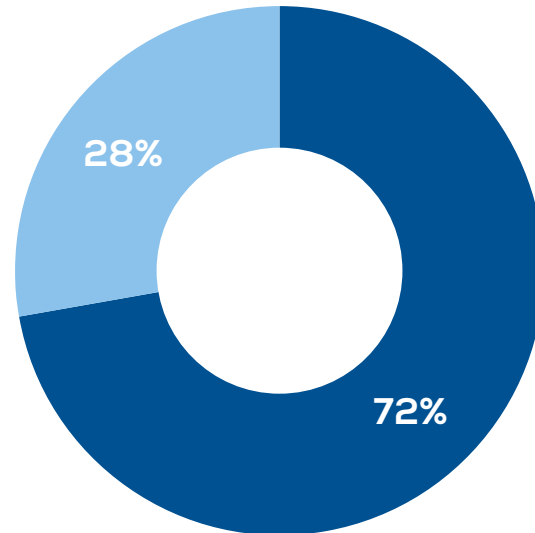
Most of our wind energy is onshore



Wind energy generation in the EU, 2023



Wind energy generation in the EU, 2030



● Onshore

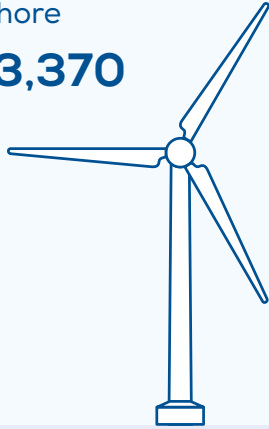
● Offshore

Europe has 107,000 wind turbines



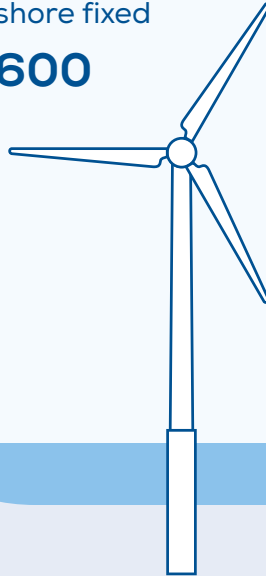
Onshore

103,370



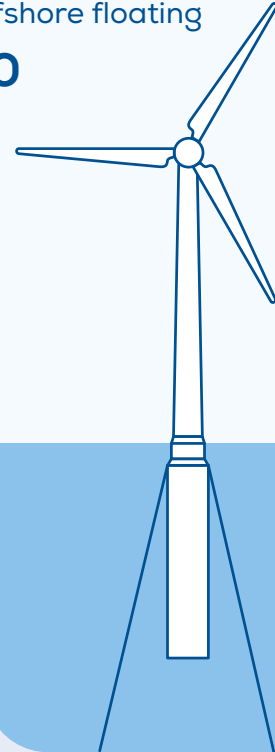
Offshore fixed

3,600



Offshore floating

30



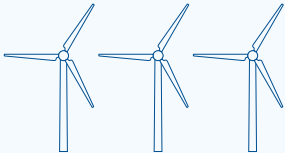
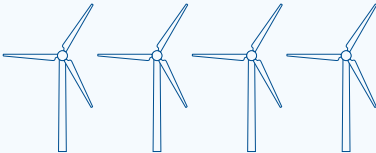
Modern turbines are more powerful and efficient

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



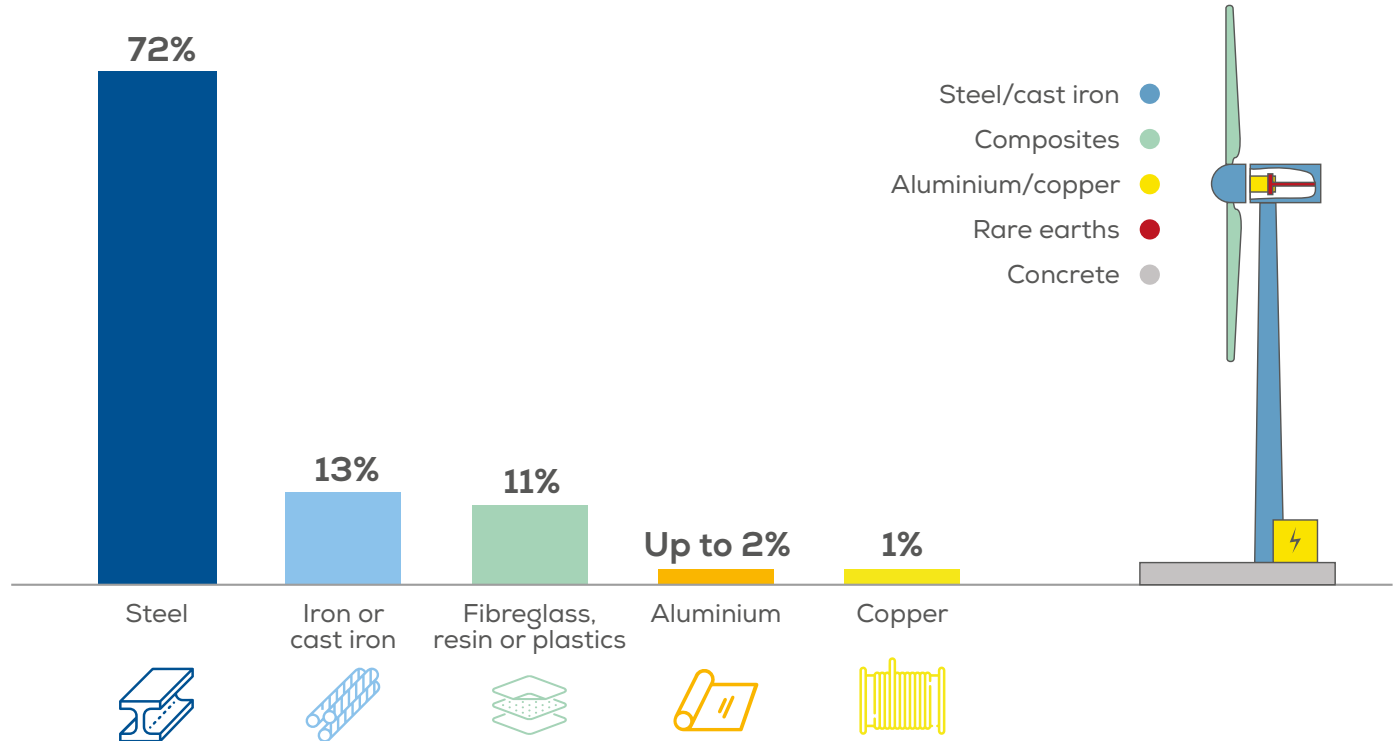
3x increase

Source: WindEurope

Materials used in wind turbines



Share of materials by volume



Source: WindEurope

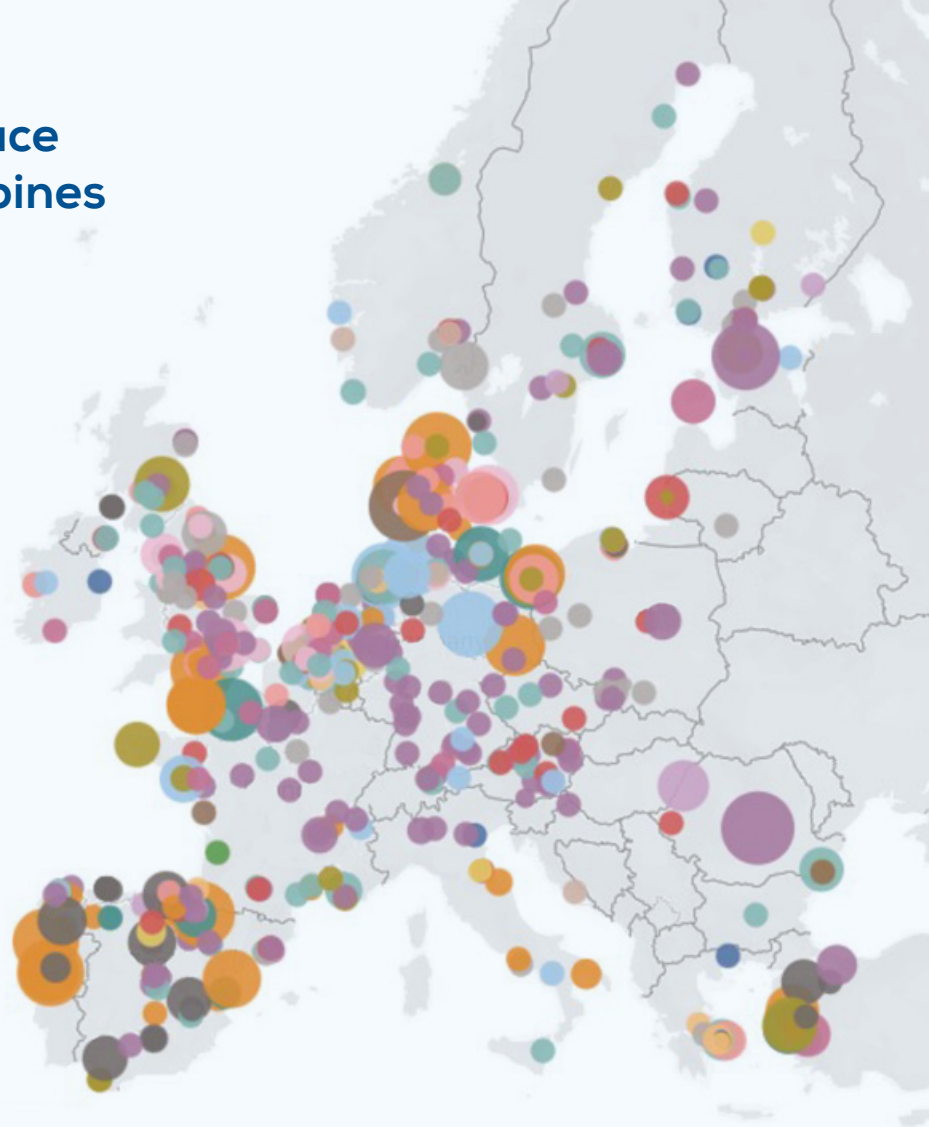
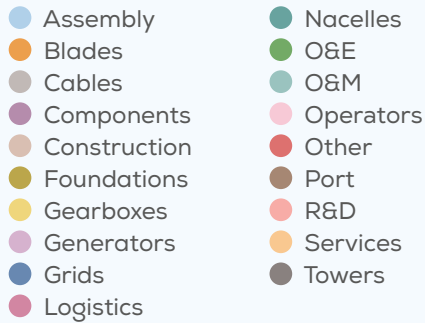
The European wind industry creates jobs



560,000
jobs
in 2030

350,000
jobs
today

Over 250 factories produce components for wind turbines



Source: 2024 Mapbox, OpenStreetMap

The European wind industry supports the economy

1 new turbine =
€16m
economic activity

In 2023
wind energy
contributed
€52bn
to EU GDP

Europe needs to support its wind energy industry



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

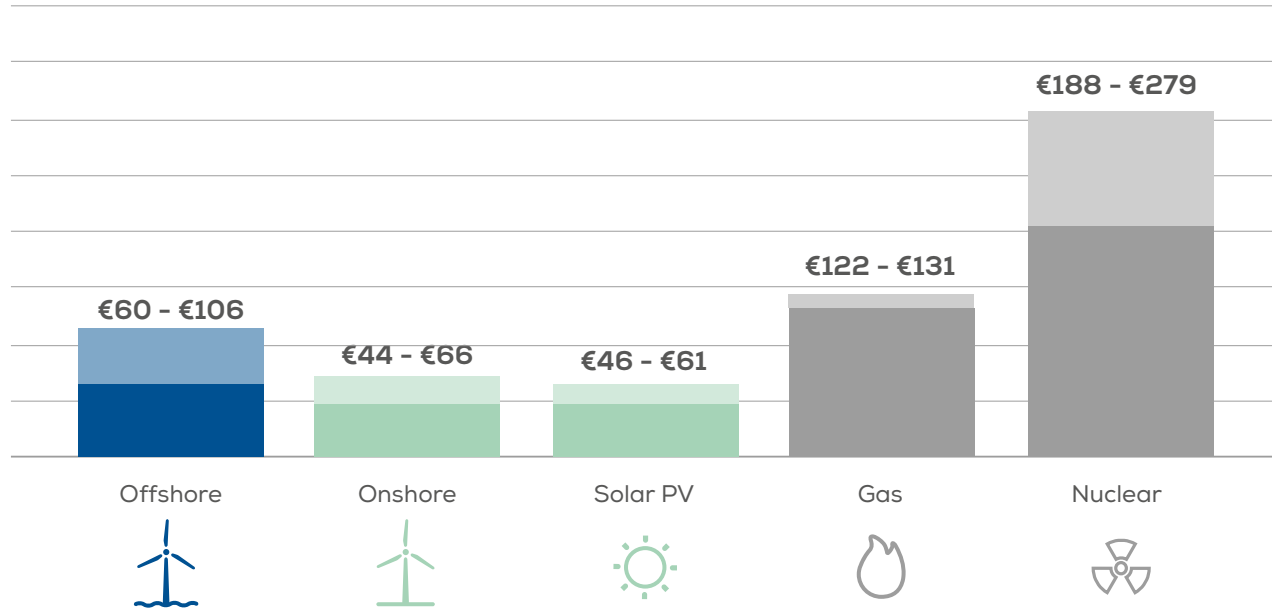
EU Member States have committed to support the wind industry

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).



Source: Ørsted, Bloomberg New Energy Finance

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

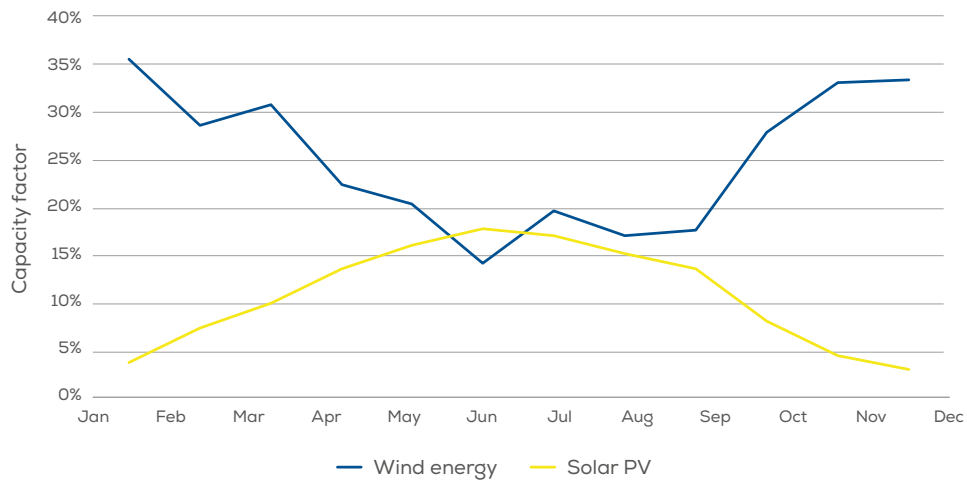


Renewable hydrogen for things
that cannot be electrified



Wind and solar complement each other

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



Source: ENTSO-E

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

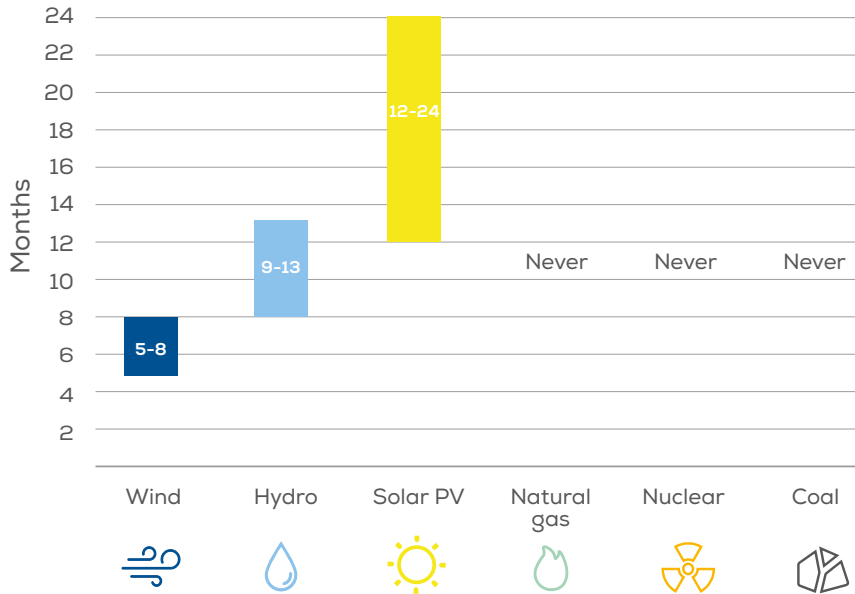
Onshore wind farms pay taxes to municipalities, and many pay additional benefits to local communities.



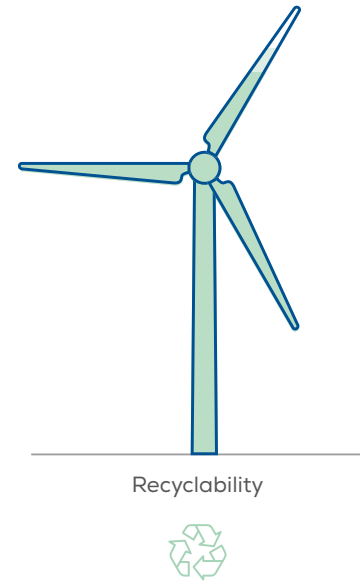
Wind energy is sustainable



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



Source: Vestas

Wind energy can benefit the natural environment

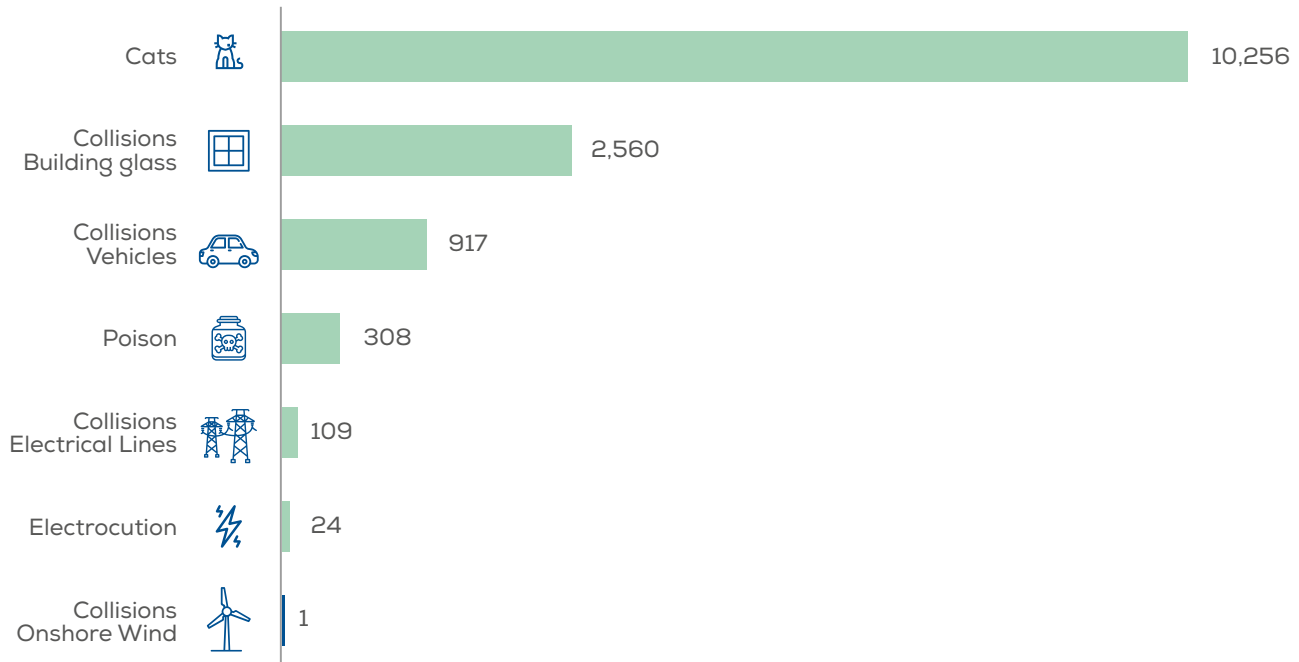


Wind energy and agriculture are fully compatible



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

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



*If the EU's 2030 targets are met

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

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