



PORTUGAL RENEWABLE ENERGY SUMMIT 2025



2-3 OUT
CULTURGEST LISBOA





Javier Pamos

Aurora Energy Research,
Product Manager Iberia

Repowering or retiring: the wind fleet at a crossroads

Javier Pamos

Aurora Energy Research, Product
Manager Iberia

02/10/2025

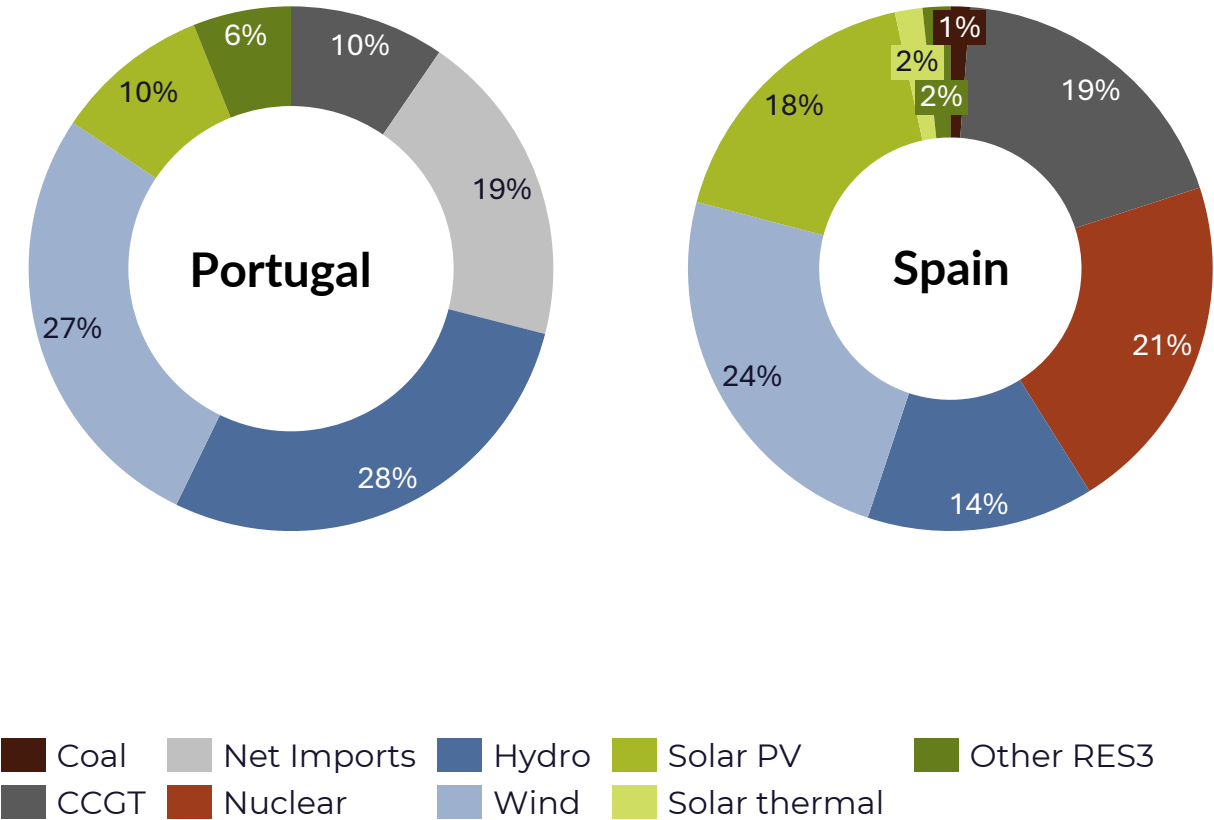


The Portuguese mix relies on wind production

Onshore wind was the second largest power source in Portugal over 2024.

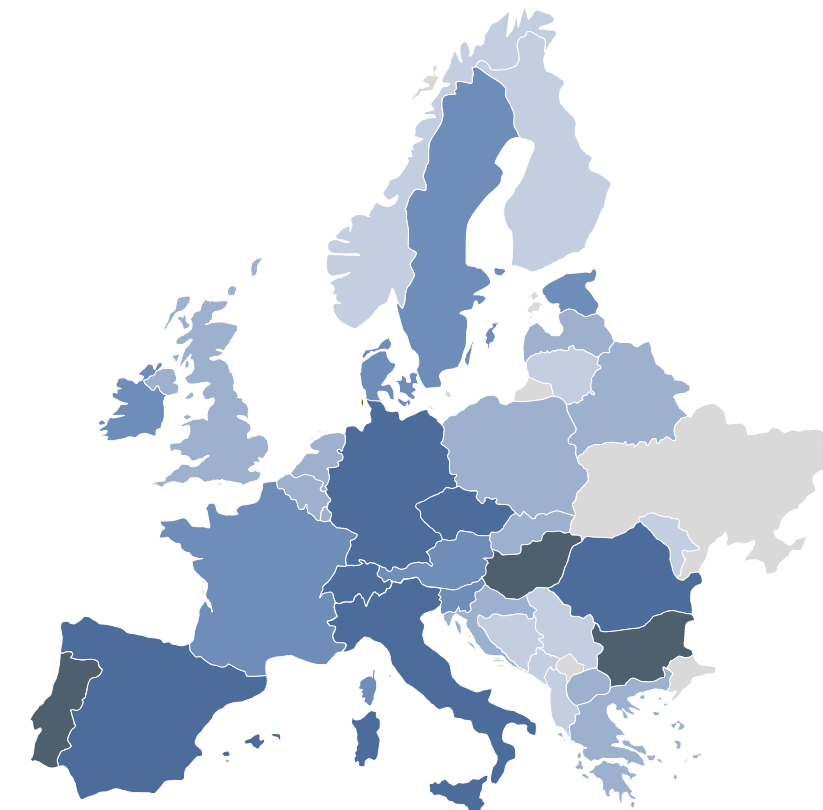
Together with hydro and imports from Spain, they added up to almost 75% of the generation mix in 2024.

Electricity generation mix in 2024
%



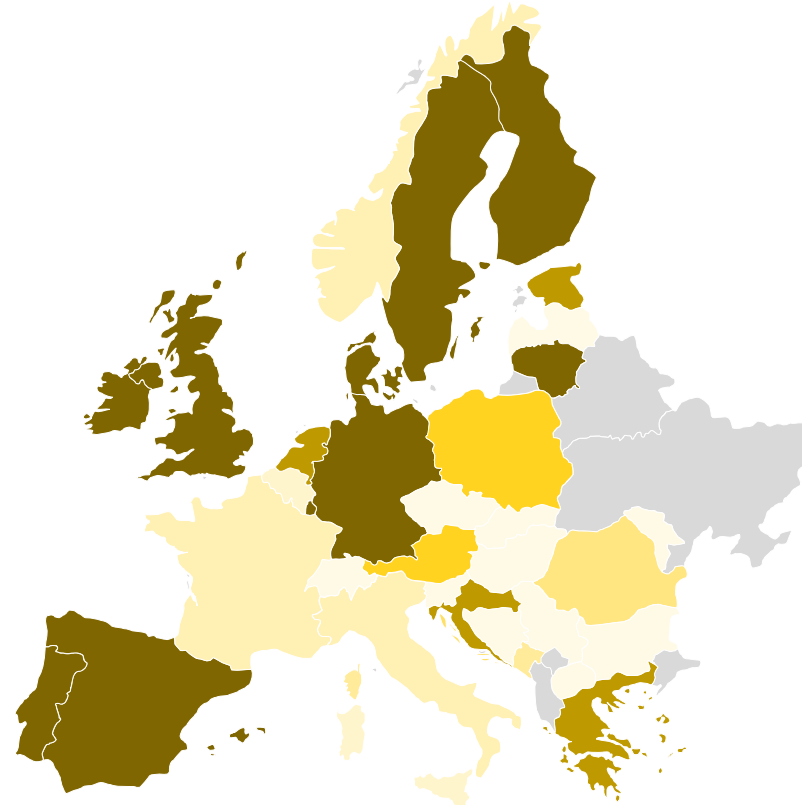
The Iberian wind fleet is one of Europe's oldest and largest, making its renewal essential

Average age of the wind fleet
Years



5-7.5 7.5-10 10-12.5 12.5-15 >15

Share of wind production in the electricity mix
%

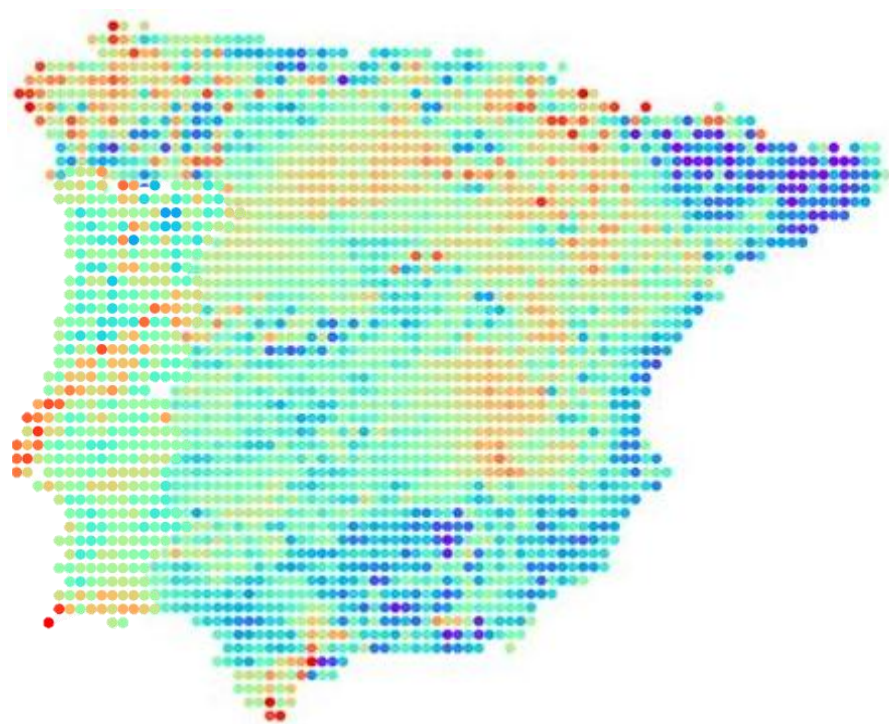


<5% 5-10% 10-15% 15-20% 20-25% >25%

The potential for greenfield development is limited as few high wind resource sites remain unexploited in Iberia

Iberian wind resources

Load factor, %

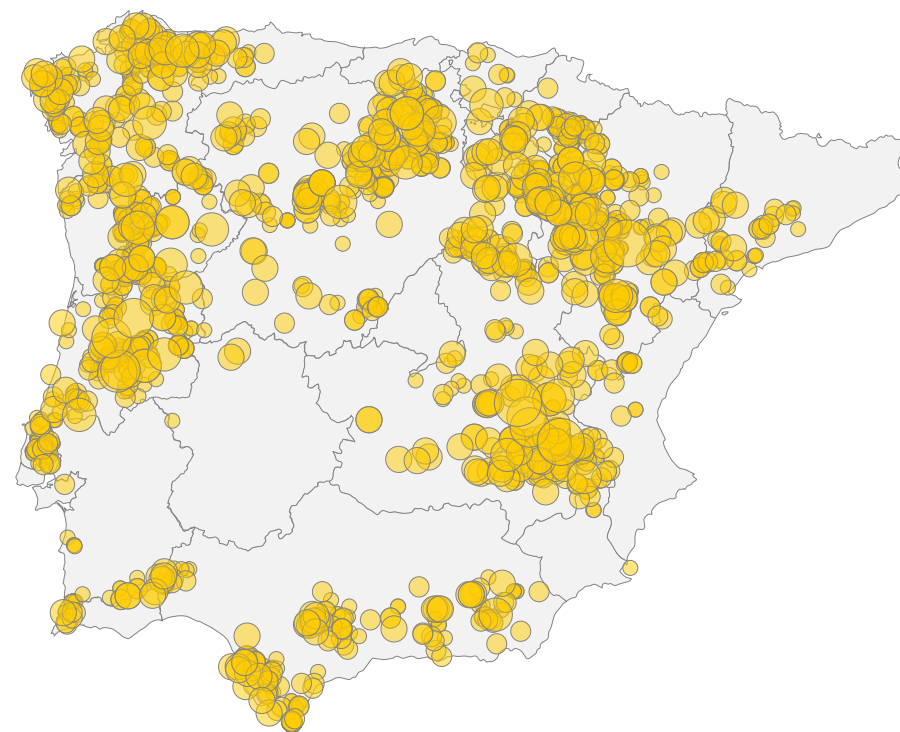


50 30 10



Iberian wind asset's location

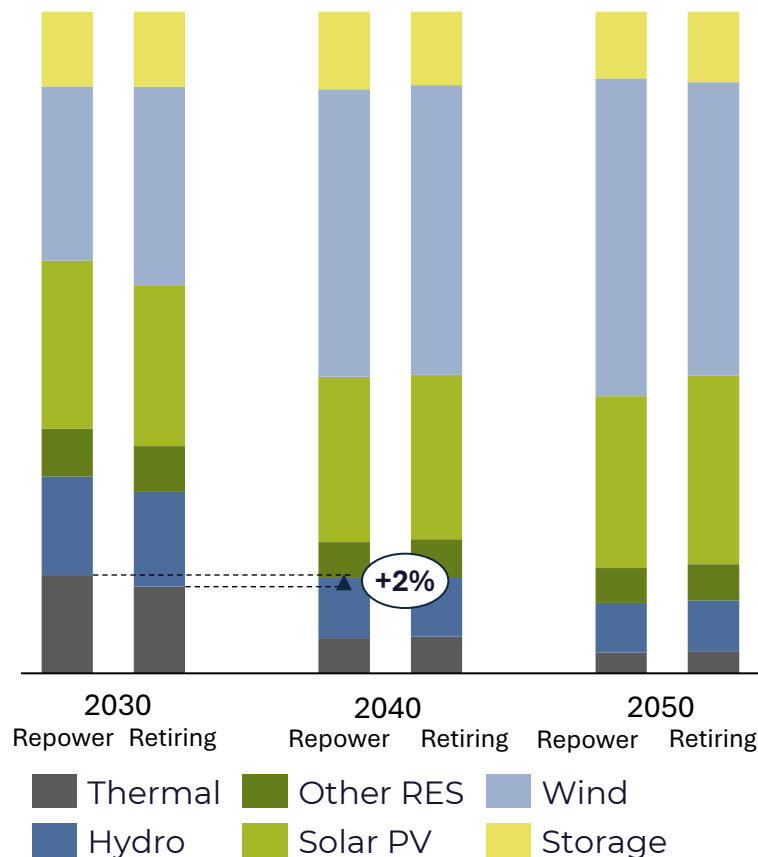
Capacity, MW



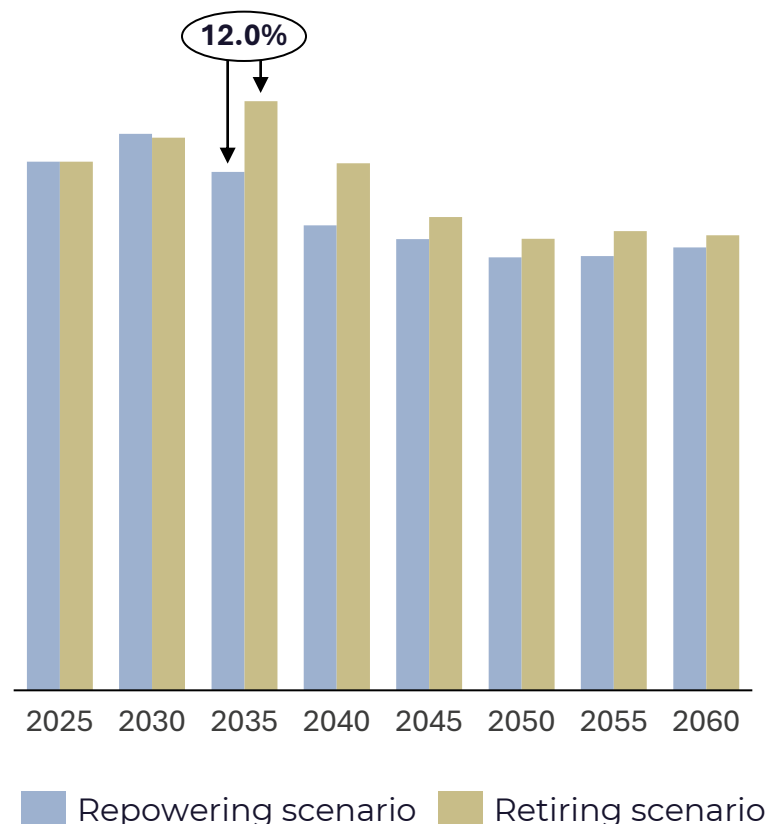
0 - 10 10.1 - 30 30.1 - 50 50.1 - 80 80.1 - 100 >100

In a retirement scenario, there is an increase in power prices and emissions as existing plants retire

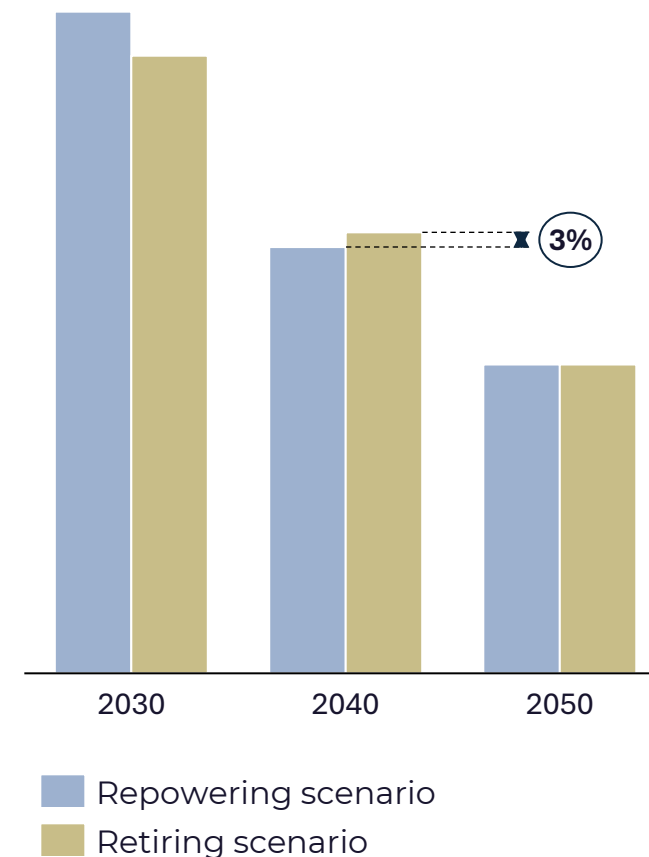
Generation mix
%



Baseload price
€/MWh (real € 2023)



Power sector annual carbon emissions
MtCO₂





Wind repowering is key for the energy transition

1. The **Iberian wind fleet** is the main contributor to the power mix in 2024, underscoring the importance of repowering.
2. The **fleet** is among the oldest in Europe and **faces challenges to be repowered**, including site scarcity.
3. **If the wind fleet isn't repowered**, the system would face a deficit of wind capacity, causing an **increase in prices and higher emissions**.



PORTUGAL RENEWABLE ENERGY SUMMIT 2025

