OFFSHORE WIND FOUNDATIONS
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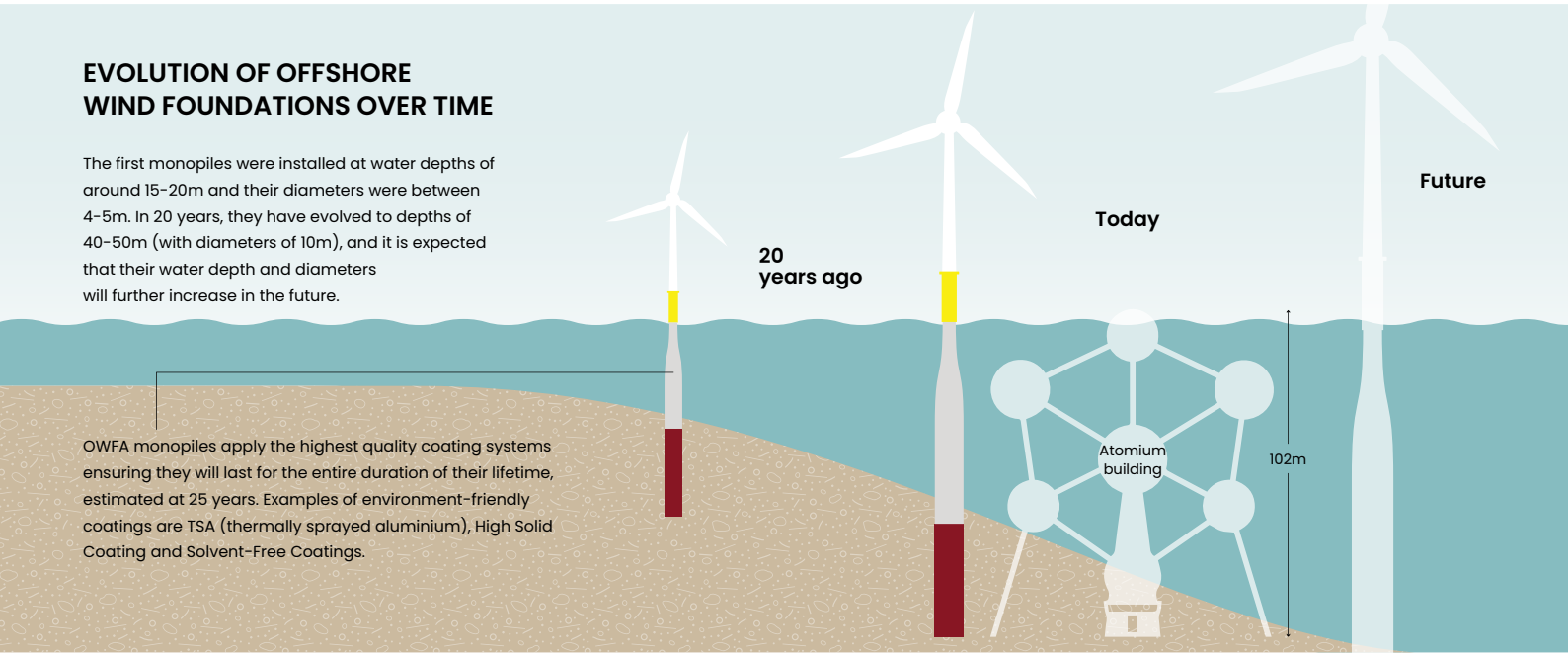
OFFSHORE WIND FOUNDATIONS: BUILDING A SUSTAINABLE FUTURE

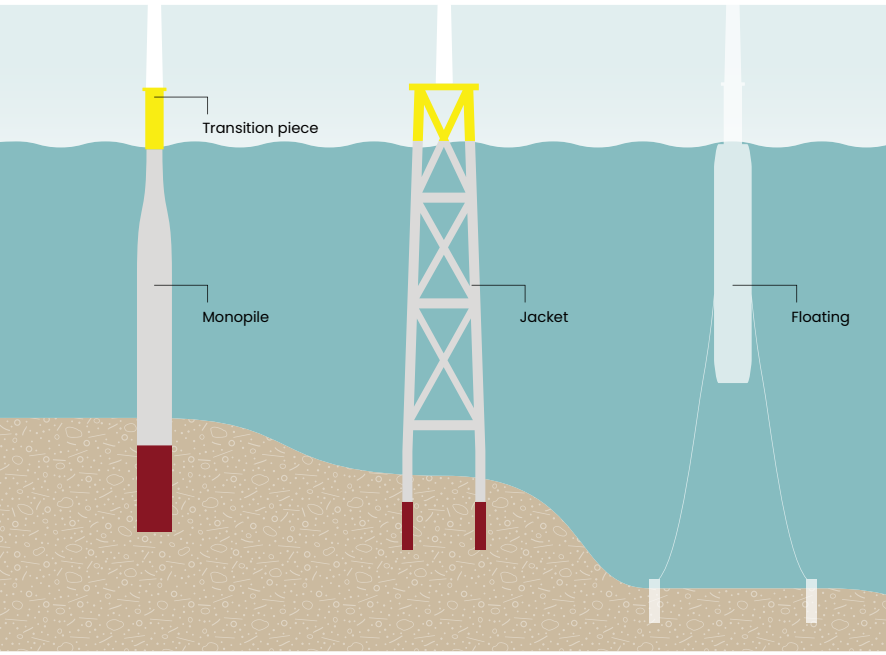
Offshore wind is a type of renewable energy that transforms wind power into electricity by using wind turbine generators in the ocean. Europe has now a total offshore wind capacity of **25 gigawatts** (GW), which has been installed over the last 20 years. An installed wind turbine can currently produce **8-10 megawatts** (MW) of power and is expected to produce even more in the future.

EVOLUTION OF OFFSHORE WIND FOUNDATIONS OVER TIME

The first monopiles were installed at water depths of around 15-20m and their diameters were between 4-5m. In 20 years, they have evolved to depths of 40-50m (with diameters of 10m), and it is expected that their water depth and diameters will further increase in the future.



OWFA monopiles apply the highest quality coating systems ensuring they will last for the entire duration of their lifetime, estimated at 25 years. Examples of environment-friendly coatings are TSA (thermally sprayed aluminium), High Solid Coating and Solvent-Free Coatings.



TYPES OF OFFSHORE WIND FOUNDATIONS

Transition pieces consist of a tube made of steel and they form, together with monopiles, the foundation of the offshore wind turbines.

Monopiles are the most common offshore wind foundation types. Originally monopile diameters were between 4-5m, while nowadays they are above 10m. In the coming years, diameters will probably increase to 13m.

Jackets are used at deeper water depths than monopiles. They are made of four tubular legs connected by diagonal struts.

Floating foundations could allow wind turbines to generate electricity in water depths where fixed foundations are not feasible. The development of floating foundations is still at an early phase. Large-scale deployment of floating structures could happen in the medium term.

FACTS & FIGURES

300 GW

The EU has installed a total capacity of 14.5 GW of offshore wind and has targets of 60 GW by 2030 and 300 GW by 2050[1]

1. European Commission

30%

Offshore wind to supply 30% of the future electricity demand by 2050[3]

3. European Commission

200,000

European jobs in the offshore wind industry are expected to increase from 77,000 today to 200,000 by 2030[2]

2. WindEurope

The Offshore Wind Foundations Alliance (OWFA) is a coalition of five European companies producing offshore wind foundations. OWFA members manufacture different types of foundations such as monopiles and jackets, as well as transition pieces linking them to the wind tower.

If you would like to find out more about offshore wind foundations, visit our website or get in touch:
www.offshorewindfoundations.eu