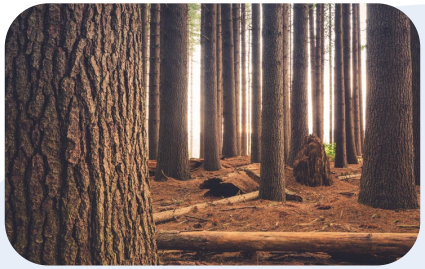
Newcastle Offshore Wind Energy Project Australia

October 2023

AGENDA

- A bit about the climate & energy
- The Newcastle Offshore Wind Project
- Explanation of why offshore wind and why locate it in the Hunter
- Project Status & Community Concerns
- About EDF

What is climate change and what causes it?
What are the impacts of climate change?

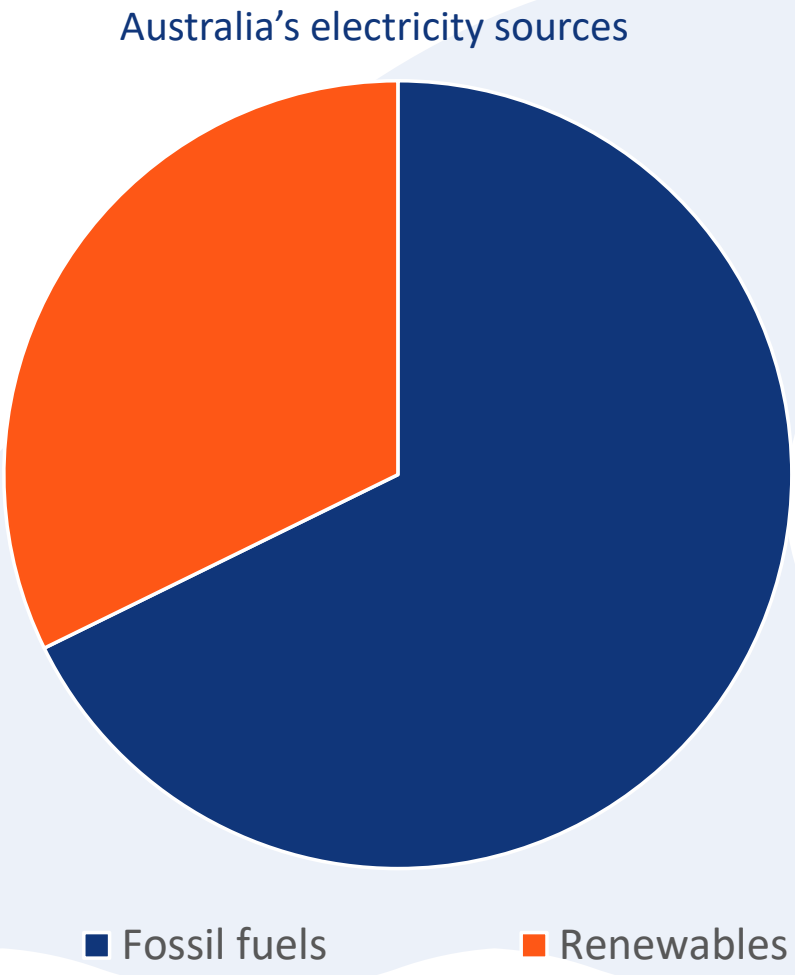







A bit about the climate

Where does Australia get its energy from today?



Over the last decade, the share of electricity generated by renewable energy in Australia has increased significantly, rising from around 10.5% in 2010 to 37% in 2023.

Most of Australia’s energy relies on traditional sources — non-renewable fossil fuels. Coal and gas accounted for around 63% of electricity generation in 2023.

Energy

Australia's whole-of-economy Long-Term Emissions Reduction Plan is our plan to achieve net zero emissions by 2050.

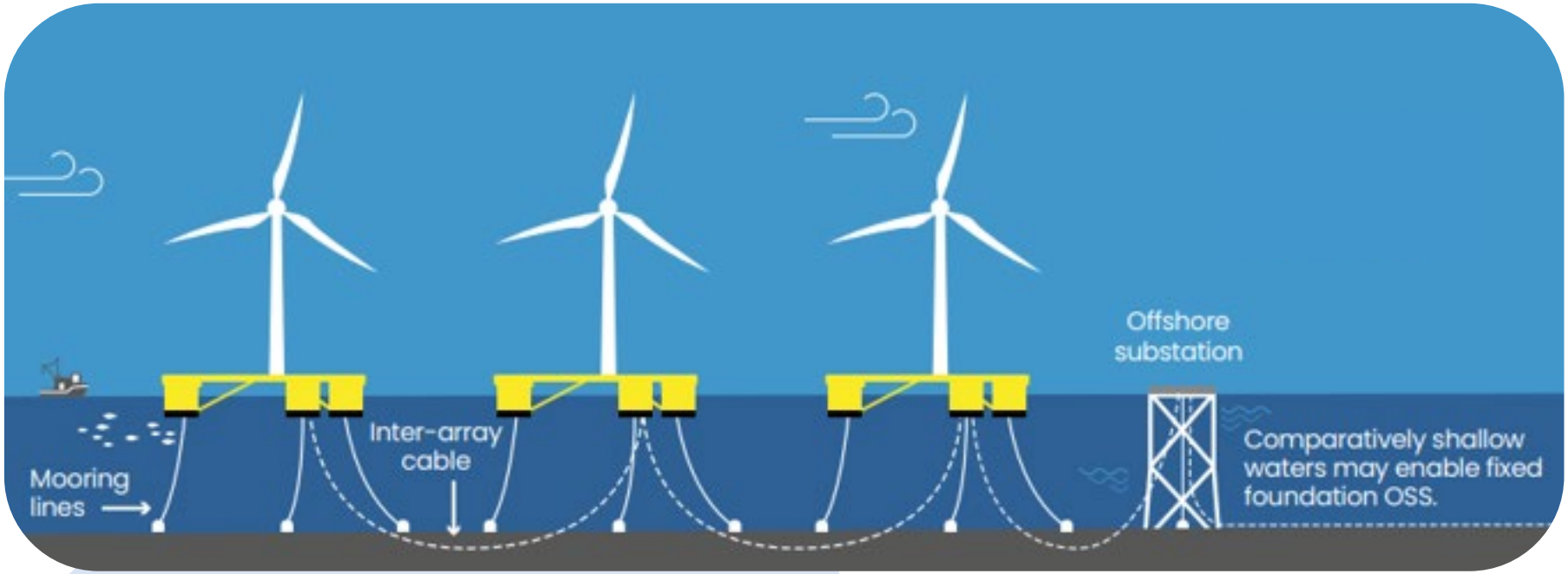
The Plan focuses on technology. The Technology Investment Roadmap is the cornerstone of the plan, and prioritises technologies that will help Australia cut emissions while creating jobs and growing our economy.

The Plan outlines how we will:

- Drive down the cost of low emissions technologies.
- Deploy these technologies at scale.
- Help our regional industries and communities seize economic opportunities in new and traditional markets.
- Work with other countries on the technologies needed to decarbonise the world's economy.

Energy

How offshore wind works

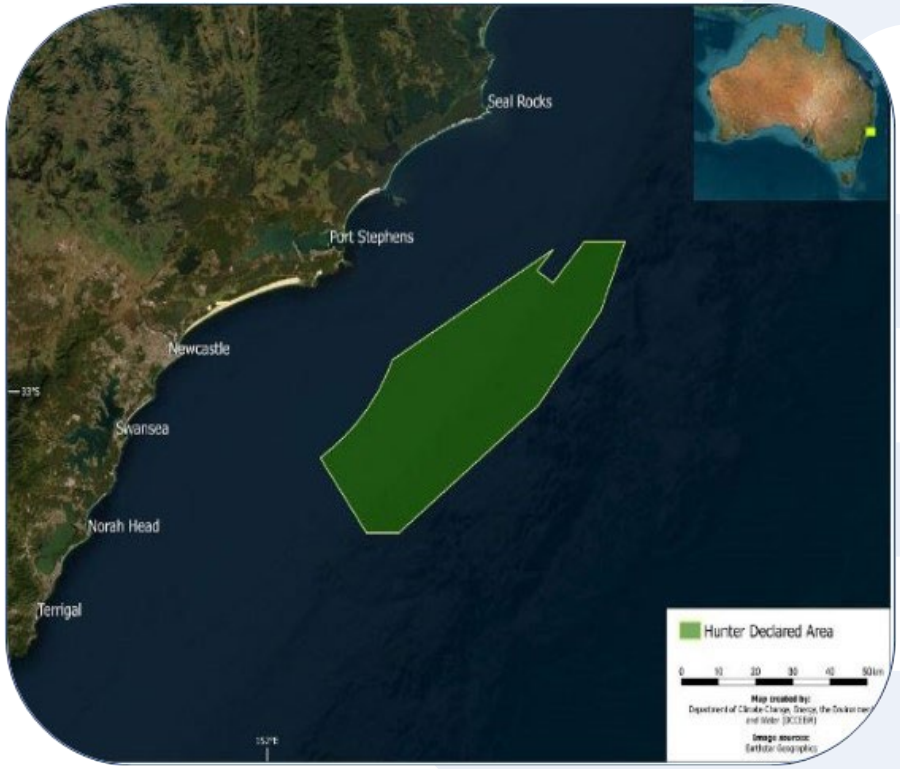


Location choice → Turbine setup → Anchoring methods → Harvesting wind energy → Generating electricity

Inter-array cables → Underwater transmission → Offshore substation → Mainland substation → Voltage adjustment

Energy

Newcastle Offshore Wind Project Overview



Newcastle Offshore Wind (NOW) is an offshore wind project in development, located 25-30km+ from the coast of Newcastle as part of the Hunter REZ and Declared Offshore Renewable Energy Area

Concept developed by Newcastle Offshore Wind Energy from 2010 – a team of local project developers based in and around the Newcastle area

The area is Declared for Offshore Electricity Infrastructure – renewable energy proponents can only construct and operate offshore wind farms in declared areas in Commonwealth waters around Australia.

Why the Hunter Region and why offshore wind?

Extremely strong existing high voltage transmission lines to the National Electricity Network.

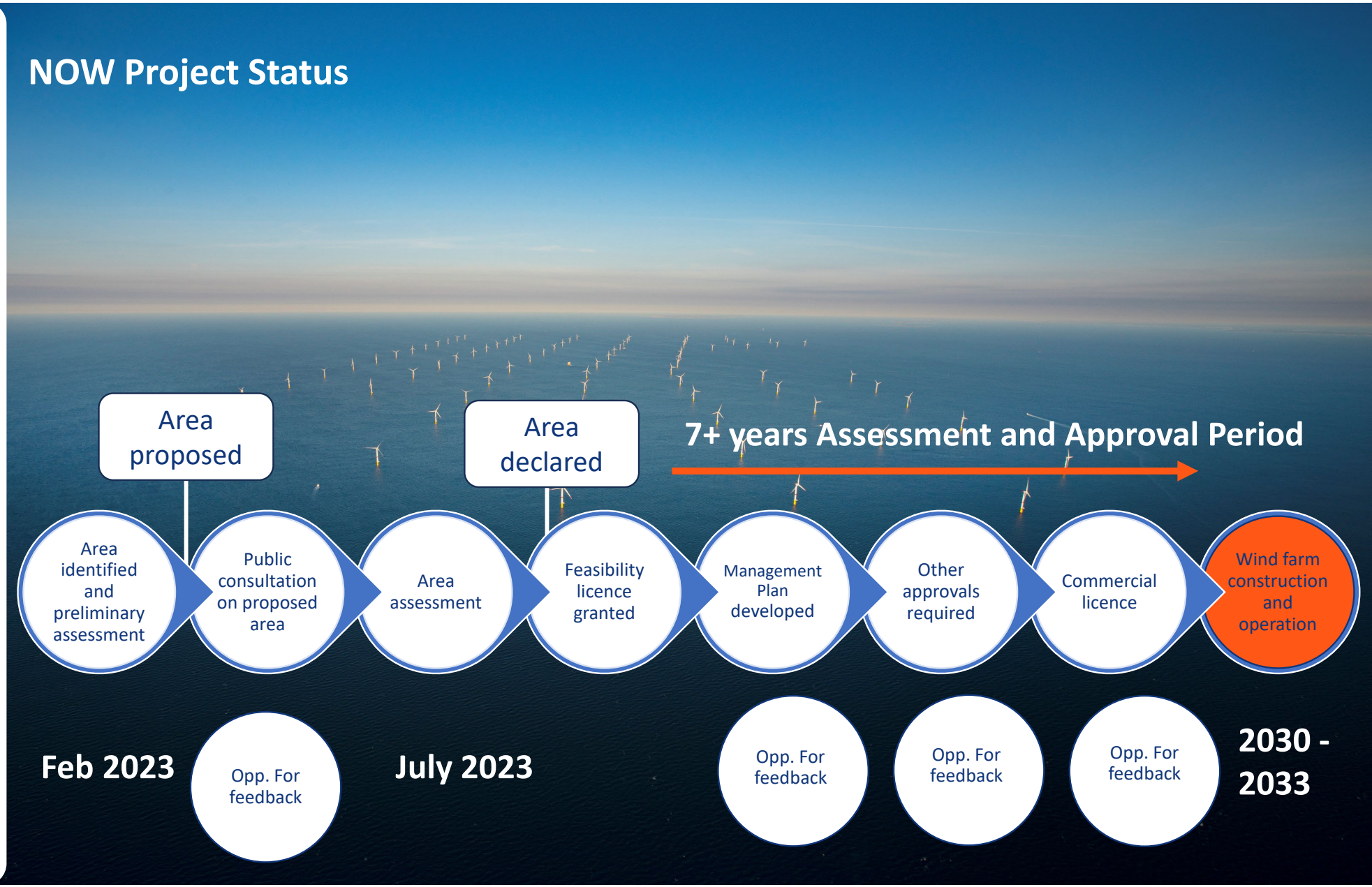
The average daily offshore wind profile compliments onshore solar and wind generation profiles, providing offshore wind electricity generation at times of low onshore renewable energy electricity generation.

Offshore wind is part of the renewable and energy storage mix solution to replace the coal fired power stations as they close.

Port of Newcastle and Hunter Region has a large and experienced workforce ready for new offshore wind and hydrogen industry jobs and training

Supports development of green hydrogen hub at Port of Newcastle, and other opportunities such as green aluminum and green steel

NOW Project Status



Project Status

View at 250m above sea level located 25km offshore from Newcastle

Project Research

What are people worried about?

Proximity/distance to shore and visual impacts

Environmental impacts:
- Whale migration
- Animals including dolphins, crabs, birds
- Sea floor and marine ecosystems

Fishing impacts, including:
- Concerns regarding access restrictions
- Impacts on professional and recreational fishing

Transmission lines, including connection points

Construction impacts including:
- Vibration & noise
- Impacts on environment

Potential impacts on:
- Shipping industry
- Defence
- Light aircraft

Local Opportunities:
- Employment and supply chain opportunities

Project Status

Recap of why offshore wind in the Hunter Region

8.5GW of NSW coal fired generation scheduled to close by 2035 and replaced by renewable energy sources to ameliorate climate change impacts

NOW proposes to connect to the coal fired power station substations as the generators retire utilising existing transmission lines to connect to NSW major load centres

The offshore mean daily wind profile shows strong generation in the afternoon, evening, night and morning filling the gap currently provided by coal fired generation

The NOW energy generation profile complements the NSW onshore solar and wind generation profile

Newcastle is home to large industrial loads and an exceptionally strong and highly skilled workforce

Port of Newcastle is strategically located to support the development and operation of NOW and the international export of hydrogen

Economic benefits - underpinning the development of NSW's offshore wind supply chain and the establishment of a globally competitive green hydrogen export facility at the Port of Newcastle

GHG Displacement:
- 3.6M tonnes pa per GW capacity

Equivalent Households Powered:
- 550000 pa per GW capacity

Equivalent Cars Removed:
- 1.7 Million pa

Project Status

About EDF Renewables

Who is EDF and what do they do?

EDF Renewables is a wholly owned subsidiary of the EDF (Electricitie de France) Group. EDF Group is one of the world's largest electricity producers, and one of the largest renewable energy producers in Europe.

EDF Renewables has a global capacity target of 60 GW by 2030, building on a current net installed capacity of 34.8GW

120 GWe
of installed capacity

€69 billion
of sales

165,200
employees

37.9 million
customers worldwide

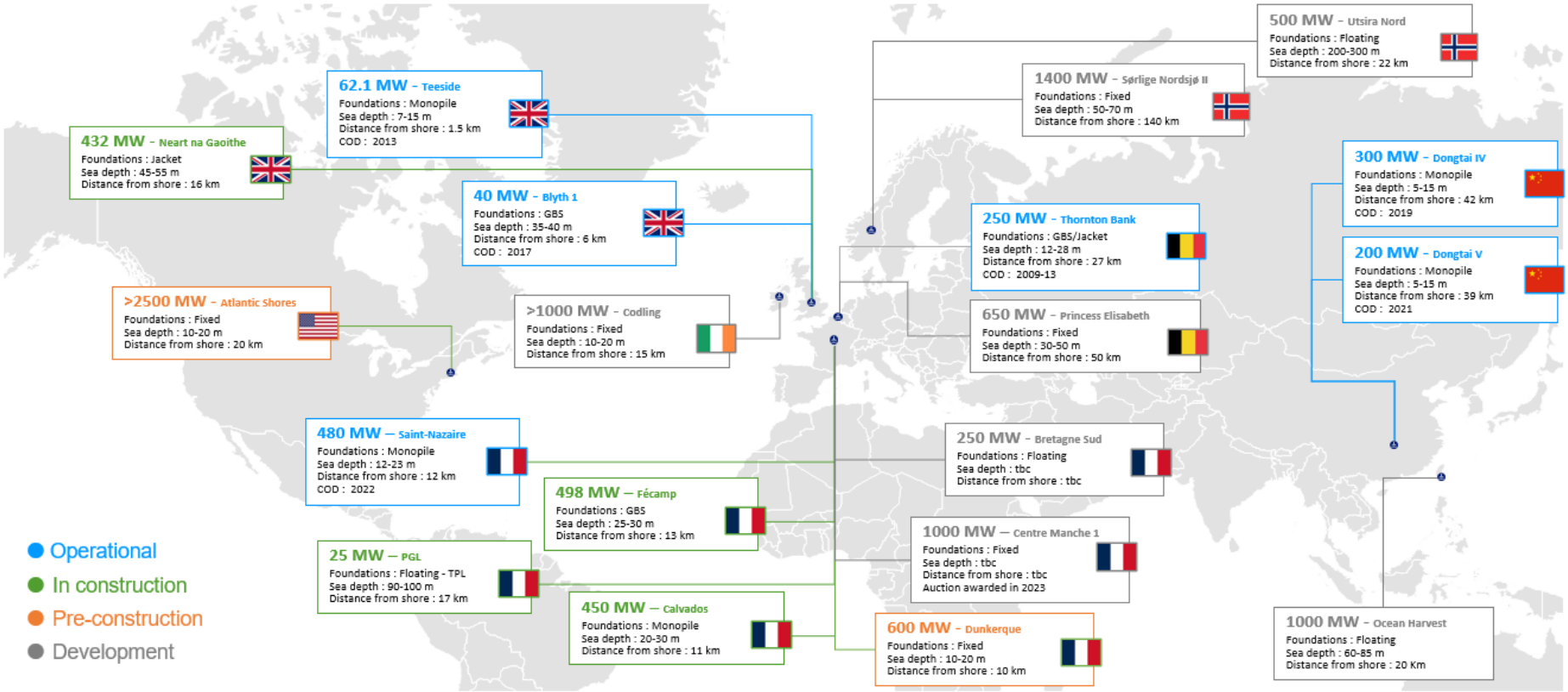
€685 million
of R&D budget

100%
owned by the French State

Nº 1 for renewables in the European Union

Nº 5 for renewables worldwide

EDF's offshore wind presence across the world



About EDF Renewables

EDF renewables

NEWCASTLE offshore wind ENERGY

committed to working with local communities.

Thank you

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Newcastle Offshore Wind