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LETTORATO Dott.ssa R.O'Doherty
rebecca.odoherty@unimc.it

LESSON 12/4/2023

Write a 150-word summary (+/- 10%) of the following:

Denmark's "energy island"

Chris Davies

The world's first artificial wind energy hub, a floating man-made island focused on generating and storing green power, will be built in the North Sea, Denmark has announced today. The project, led by the Danish Energy Agency which is part of the country's Ministry of Climate, Energy, and Utilities, will eventually be capable of providing enough power for 10 million European households, it is claimed.

The artificial island will be constructed about 50 miles off the shore of the peninsula Jutland, the Danish ministry said today, and owned by a public-private partnership.

It's one of two "energy islands" that Danish coalitions have decided to build, as the country weans itself off gas and oil extraction in the North Sea. Already, it has cancelled all future licensing rounds for that, and has set a 2050 cut-off for extraction. Instead, it's looking to wind and other green power sources, but for that to be feasible the projects will need to be significant.

Initially, the island is expected to have an area of at least 120,000 square meters, or around 30 acres. The Danish State will own the majority of the island itself, but private companies will be involved in outfitting it with the necessary components for eco-friendly power generation and storage.

In the first phase, the expectation is that it will be able to supply around 3 million European households. That's sufficient to replace around half the current Danish offshore production. Among the possible occupants will be a power storage and conversion facility, which could initially serve a harbour but, it's suggested, eventually convert it to liquid green fuel that could be distributed via subsea cables to neighbouring countries.

The second project will use an existing island, Bornholm, in the Baltic Sea. That, too, will act as a physical hub for offshore wind farms, and is expected to have a total capacity of 2 Gigawatts.

Completion of the islands projects is scheduled to take place by 2030. Preliminary investigations are already underway, including geophysical and geotechnical studies to ascertain the status of the seabed and its potential for drilling for tethers and other uses, along with environmental studies into the possible impact on birds, fish, and more.

Currently, Denmark has made agreements with Germany, the Netherlands and Belgium. While it's a huge project, and is likely to be an expensive undertaking – with initial estimates of \$34 billion – the European

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Commission has proposed eventually building 300 Gigawatts of offshore wind energy in order to hit its climate neutrality target by 2050.

Source: <https://www.slashgear.com/denmark-reveals-audacious-artificial-energy-island-to-replace-gas-and-oil-05658318>