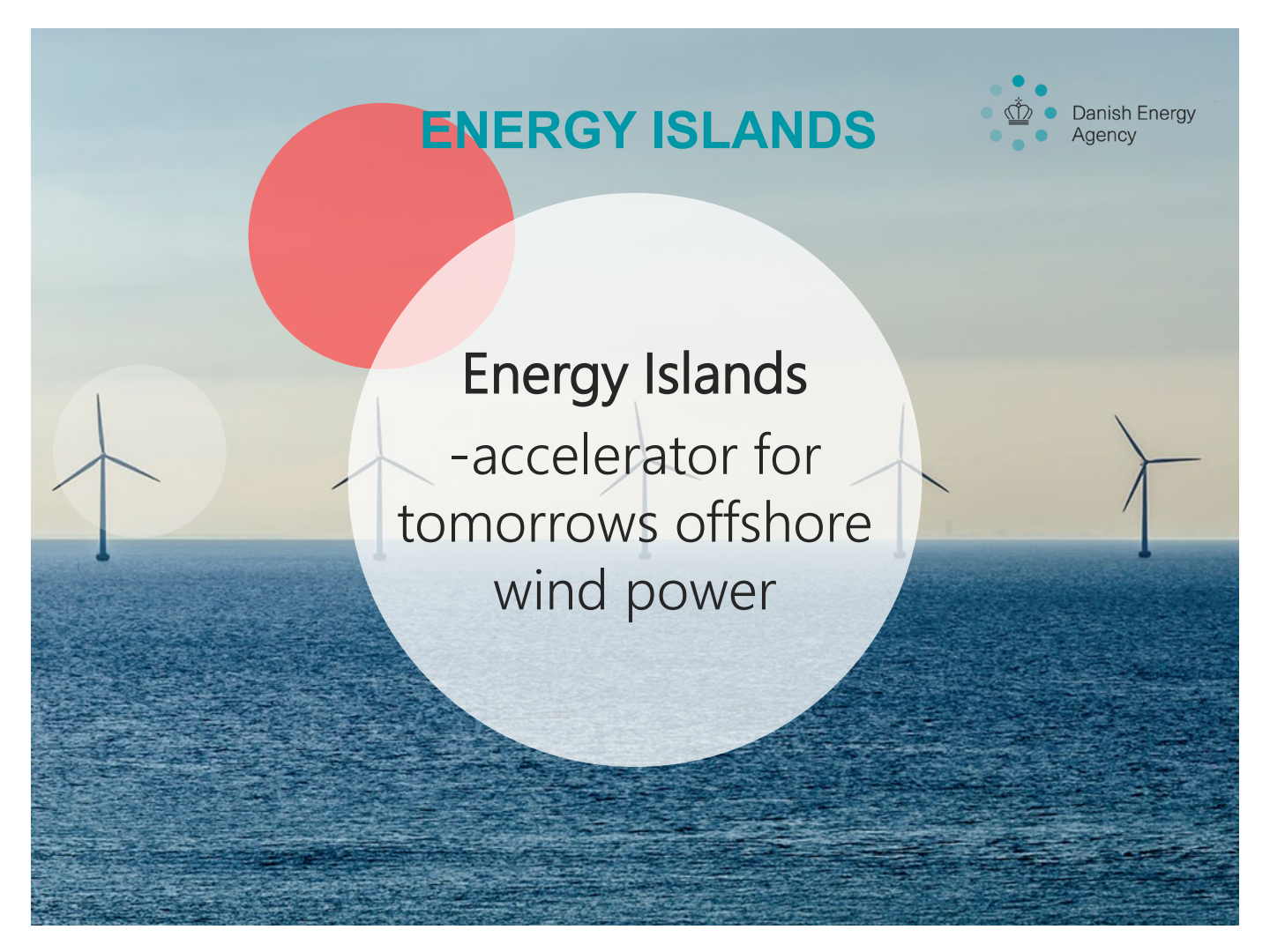


ENERGY ISLANDS



Energy Islands
-accelerator for
tomorrow's offshore
wind power

Why energy islands?

- Ambitious climate goals:
 - reducing green house gas emissions by 70 % by 2030
 - independent of fossil fuels by 2050
- EU goal
 - 450 GW offshore wind
- DK privileged to have North and Baltic Sea in the backyard.



Danish Climate Plan June 2020: The worlds first energy islands

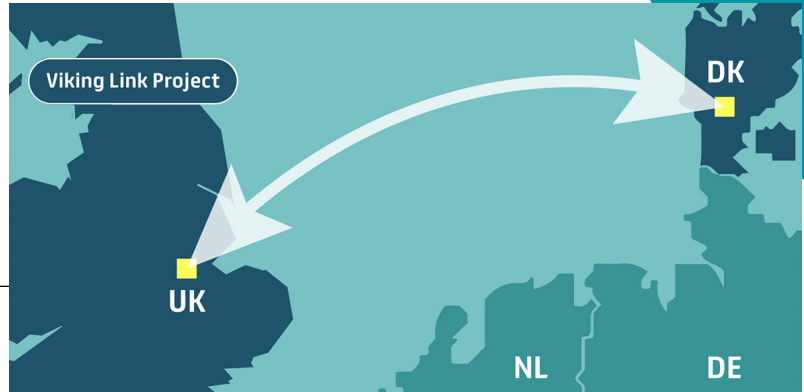
- 2 energy islands by 2030 –
(located in the North Sea and Baltic Sea).
- Minimum capacity of 5 GW
(possibility to expand to 10 GW)
- A first step in a regional build-out of offshore wind
- Focus on interconnectivity



Today's energy system

→ Radial wind farm connections, connected at the nearest onshore connection point.

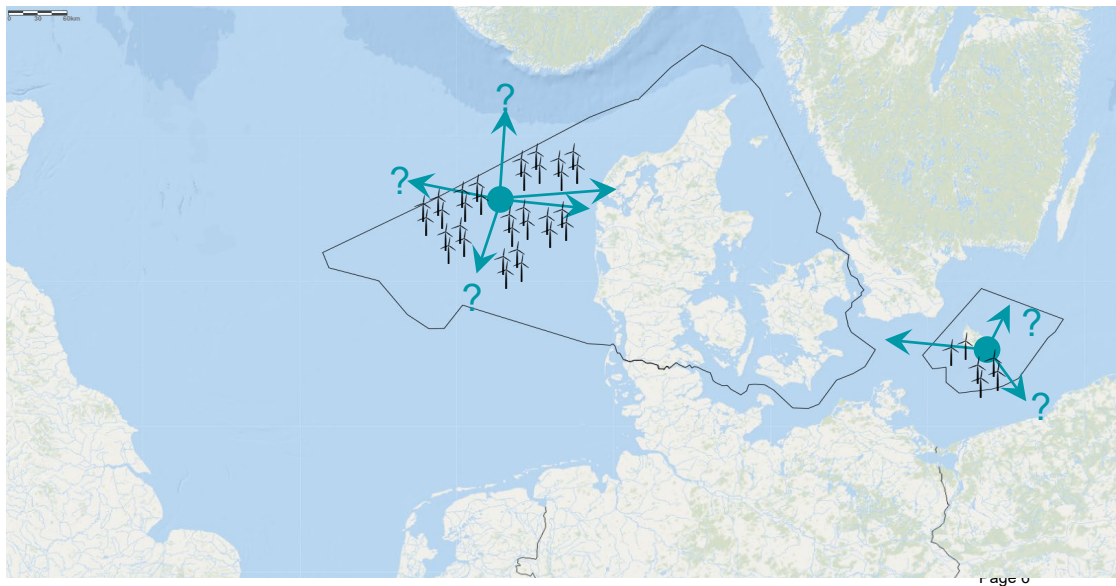
→ Interconnector assets are treated as standalone, binational and radial projects.



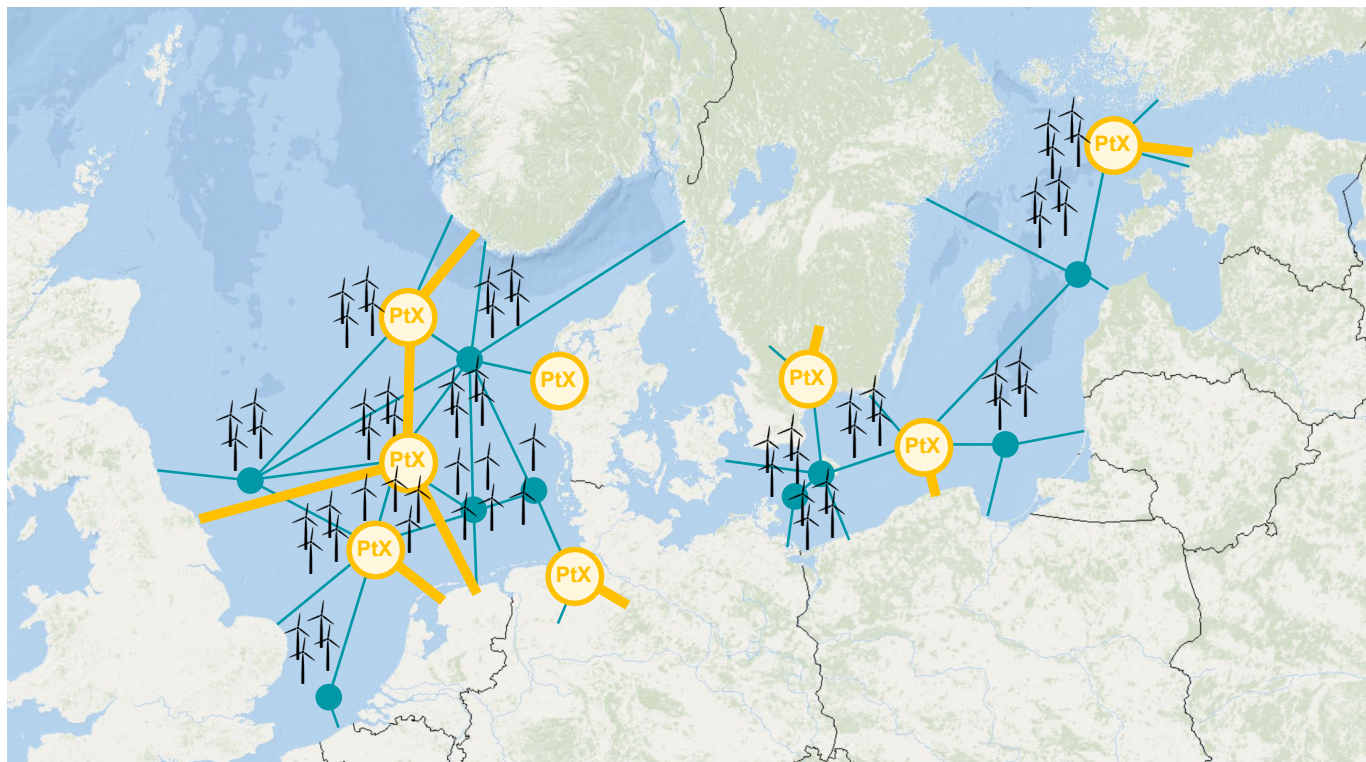
Danish energy islands – a paradigm shift




Danish Energy Islands – *next phases?*



Possibility for Power-to-X – after 2030





Challenges on the
road towards two
energy islands in
2030

Physical planning

The physical planning of the energy islands makes out an important element of the whole planning.

→ The location of the islands requires considerations of many interests: nature protection, existing infrastructure, shipping lanes etc.

Important with early clarification of the physical planning.

Environmental challenges

- *How do we consider different interests at sea?*
- *Apply holistic approach to the use and management of the sea to ensure coexistence of different interests.*



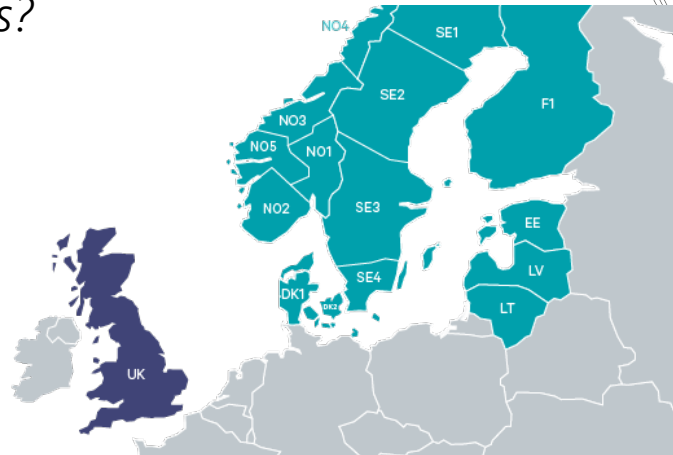
Technological challenges

- *How do we handle the huge amount of wind production in the existing grid?*
- *Should the island be a platform or a caisson island?*



Regulatory challenges

- *Are we looking into separate price zones for the energy islands? Or should they be merged into existing price zones?*



Economic challenges

- Financing and ownership of the islands are elements that are currently under consideration.



Lessons learned so far

- Energy islands can only be realized in a multi-disciplinary, collaborative approach.
- A dedicated project plan early in the process is key.
- Close collaboration with TSO's, and across ministries, agencies and neighboring countries.



Thank you