Energy Islands
-accelerator for tomorrows offshore wind power
Why energy islands?

• Ambitious climate goals:
  o reducing green house gas emissions by 70 % by 2030
  o independent of fossil fuels by 2050

• EU goal
  o 450 GW offshore wind

• DK privileged to have North and Baltic Sea in the backyard.
• 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

3 GW

2 GW

?
Danish Energy Islands – *next phases*?
Possibility for Power-to-X – after 2030
Challenges on the road towards two energy islands in 2030
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?
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