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Offshore Wind Research Lighthouse Initiative

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What is a lighthouse initiative?

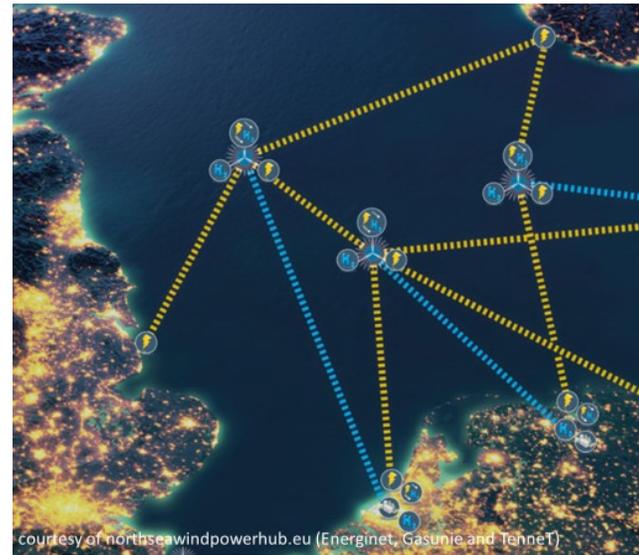
Initiative to develop large European research projects that will address the grand scientific and technical challenges that are crucial for the further advancement of offshore wind energy, providing new knowledge and basis for innovation.



Vision

Offshore wind farms will be the cornerstone of the future energy system, developed with respect for nature and society, and providing prosperity with clean and affordable energy for all.

Offshore wind will supply 1/3 of the electricity in Europe by 2050



Offshore wind is a trillion € industry

- There are fundamental challenges that must be solved
- Ensure reliable and affordable supply of energy
- Exploit the great wind resource at deep sea
- Take care of nature and other use of the sea
- Secure jobs, industrial leadership, value creation and export
- R&I and international collaboration is essential for success

Research is **important**



Flow physics
of wind farms

Grid connection



Wind farm control

Market solutions



Power to X



Open access
to data



Knowledge
sharing



Sustainable
development

European lighthouse initiative:

Integration of large-scale offshore wind energy

Objective: To develop solutions to ensure reliable and affordable power system operation with offshore wind energy to supply one third of the European electricity demand in 2050.

European lighthouse initiative:

Floating wind energy

Objective: To develop knowledge and innovations to overcome the barriers for large-scale deployment of floating wind energy for all European sea conditions.



External conditions

Integrated design



Control

Logistics



Grid connection



Open access
to data



Knowledge
sharing



Sustainable
development

European Centre of Excellence

- European co-fund of research and development
- Addressing offshore wind, more specifically floating wind and large-scale integration
- Accelerate the development through more efficient use of resources that save costs and strengthen innovation, value creation and export
- Offshore wind is a trillion € market
- Research, innovation and international collaboration is essential for success.



Acknowledgements



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