



Report 2023

# Task 55

Render: 22MW Offshore Reference Wind Turbine.

## Reference Wind Turbines and Plants (REFWIND)

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**The purpose of IEA Task 55 is to coordinate international efforts to facilitate the definition of reference wind turbines and plants. Reference systems address land-based applications as well as fixed-bottom and floating offshore installations.**

They are designed collaboratively by organisations across the world and are fully open source. Additionally, the designs are suitable for studies into new technologies that maximize the value of wind energy as well as studies investigating the social and environmental impact of wind energy. Task 55 builds upon the successful efforts conducted within the

now-concluded IEA Wind Task 37 on Wind Energy Systems Engineering: Integrated Research, Design, Development and Operation. The first two outcomes of Task 55 have been the detailed design of a 22 MW reference offshore wind turbine and the conceptual design of a 740 MW offshore reference wind plant.

Task 55 also continues the series of successful workshops focusing on systems engineering for wind energy aimed at promoting studies around multi-fidelity, risk-awareness. Additionally, surrounding multi-disciplinary approaches to solving design problems for existing and future wind energy systems. The main workshops led by Task 55 will be the seventh and eighth Wind Energy Systems Engineering (WESE) Workshops, which will be held in December 2024 and 2026, respectively. The sixth WESE Workshop was held in Boulder, Colorado, and co-organised by the US National Renewable Energy Laboratory and the Technical University of Denmark (DTU), in conjunction with Task 37. Task 55 works in tight collaboration with existing IEA Wind Tasks, such as Task 43 on Wind Digitalisation, Task 47 on Aerodynamics, Task 49 on Floating Wind Arrays, and Task 50 on Hybrid Power Plants.

## Contact

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