

RWE

RWE's Thor Case Study

First learnings from applying the SUSJIP Offshore
Wind Carbon Footprinting Guidance



What was the challenge?

RWE is committed to achieving net-zero emissions by 2040, and offshore wind is central to that goal. While offshore wind is already a low-carbon technology, identifying further decarbonization options across the entire project lifecycle is essential to meet our climate targets. To support this, RWE has adopted a Life Cycle Assessment (LCA) approach that provides transparency and guidance, helping identify key levers and inform decisions throughout a project's life. Generic LCA standards, such as ISO, do not fully address the unique requirements of the offshore wind sector. Recognizing this, RWE collaborated with other developers and the Carbon Trust to co-develop a tailored methodology. This industry-specific approach ensures best practices are captured, sector needs are met, and it enables benchmarking for continuous improvement. By working together as an industry, we are driving meaningful progress toward a more sustainable future.

Our solution

RWE is committed to driving innovation on the path to net-zero, and our Thor offshore wind project is exemplary of these efforts. Thor is RWE's flagship offshore wind project in Denmark, currently under construction in the Danish North Sea, approximately 22 km off Jutland's west coast near Thorsminde in Holstebro municipality. Of its 72 turbines, 36 will incorporate Siemens Gamesa's innovative 'Greener Towers,' which reduce emissions by at least 63% compared to conventional steel.¹ Other measures include installing recyclable rotor-blades and utilizing reusable monopile covers during construction. Thor also served as the ideal test case for this new methodology.

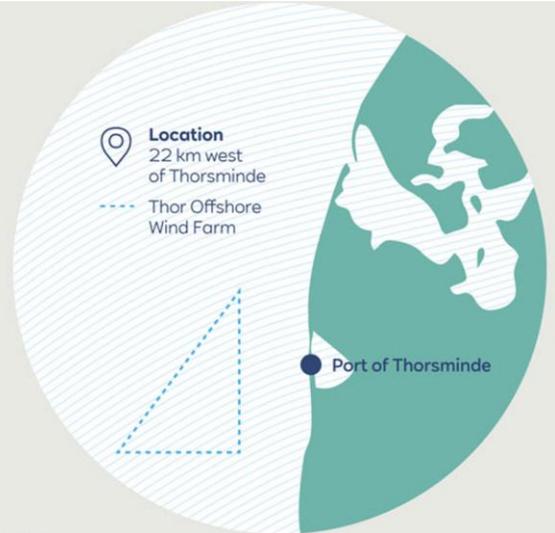
We calculated the project's carbon footprint and explored scenarios to assess the impact of innovative measures - such as using greener steel towers compared to conventional steel. To achieve this, RWE applied its in-house Life Cycle Assessment (LCA) tool and methodology at an early stage in Thor's development. For the carbon footprint aspects, we later benchmarked our methodology against the Carbon Trust approach, ensuring alignment in taxonomy and emission factors. This exercise demonstrated how the SUSJIP guidance enables harmonization of methodological aspects improves data quality, and its ability to support informed decision-making to enable emission reductions.

¹ <https://www.rwe.com/en/press/rwe-offshore-wind-gmbh/2023-04-21-rwe-will-install-co2-reduced-towers-at-thor-offshore-wind-farm/>



**Together we will build
>1 GW of offshore wind**

Our partners in the Thor Offshore Wind Farm



Our learnings

The alignment observed between the two approaches for Thor supports confidence in the strength of the methodologies used. Using the SUSJIP methodology helped further improve our in-house tool, strengthening confidence in assumptions, scoping, and conversion factors. The methodology proved sufficiently detailed to deliver robust results while remaining easy to use. In this way, it provides a solid foundation for the offshore sector to adopt a harmonized product carbon footprinting guidance, enabling greater transparency and supporting further greenhouse gas reductions on the path to net-zero. Additionally, the methodology improved data quality, fostered a common language for communication, and laid the groundwork for future LCA harmonization.

Applying this sector-tailored approach, RWE will enhance transparency and benchmarking during offshore project development

 Our collaboration with the Carbon Trust and leading industry peers in developing and piloting the SUSJIP methodology has further strengthened our confidence in carbon footprint calculations, enhancing data quality and enabling consistency across the offshore wind sector. This tailored approach establishes a robust foundation for benchmarking and will help unlock further greenhouse gas reductions on our path to net-zero. 

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