

A combined supply chain optimisation model for the installation phase of offshore wind projects

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Abstract	<p>This paper proposes a combined model for port selection and supply chain optimisation for the installation phase of an offshore wind farm. Two strategic models are proposed where the first model, based on Analytical Hierarchy Process (AHP), aims to select the most suitable installation port. The second model is developed using Integer Linear Programming (ILP) in order to determine the optimal transportation schedule of the components from suppliers to the chosen installation port. The proposed models are evaluated for the West Gabbard (UK) offshore wind farm located in southern part of the North Sea. According to the computational results, the AHP model chooses port of Oostende, Belgium as the most suitable installation port for this offshore wind farm whereas the proposed supply chain model shows that the total transportation cost makes up 9% of total supply chain cost.</p>

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