

ABSTRACT

Title: A Determination of the Optimum Site Locations for the Development of Wind Farms Sites in Ireland, with respect to Onshore and Offshore Locations.

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Purpose: The purpose of this dissertation was to investigate and establish the optimum site locations for constructing a wind farm in Ireland with regard to offshore or onshore locations. Wind farms are currently being constructed in locations across Europe and it was intended in the study to identify the most important factors relevant to selecting the most viable sites for Ireland's future wind power development practices.

Methodology: The research objectives were defined initially and then consideration was given to determining the most effective research process to be employed to achieve those objectives. It was decided that both primary and secondary sources would be used to compile the study. For the purposes of completing the secondary research element, a comprehensive Literature Review was undertaken. With regard to the primary research, semi structured interviews were carried out with experts from within the wind industry

Findings: The potential for future development of the wind energy sector in Ireland is huge. The availability of an abundant wind resource on land and off the coastline confirms that the main technical requirement is already in place. The other main factors that contribute to selecting optimum site locations are geotechnical, construction and transportation issues, grid access, water depth, limits of technology and cost. Suitable sites are available in both onshore and offshore locations but the optimum location for the long term development of the industry is considered from the research to be from offshore sites.

Keywords: Renewable energy, wind power, cost, offshore locations, onshore locations, best practice procedures, site feasibility.

Classification: Renewable Energy