



Comparison of policy instruments in the development process of offshore wind power in North Sea countries

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Abstract Offshore wind power has made remarkable strides over the past decade, establishing itself as a financially viable technology with substantial potential to drive the energy transition of North Sea countries. The energy crisis commencing in 2021 further underscored the critical role of offshore wind in attaining net zero climate (or climate neutrality) objectives, prompting North Sea countries to adopt comprehensive strategies, including a fundamental energy system overhaul centred around offshore wind. Consequently, these countries have set ambitious offshore wind installation targets for both 2030 and 2050. To assess the attainability of these targets, this paper conducts an extensive policy analysis of the eight nations surrounding the North Sea, focusing primarily on the development stage, a crucial determinant of project success. Notably, competitive tenders and Contract for Difference (CfD) mechanisms are becoming standard tools across the region, indicating a collective shift towards efficient subsidy frameworks. Historical data and disparities suggest the formidable challenges in achieving the 2030 and 2050 targets, with streamlining the approval process emerging as a top priority. The emergence of negative subsidies in conjunction with zero-bid scenarios is reshaping industry paradigms is significantly impacting offshore wind project economics.

Keywords Offshore wind, Contract for Difference, North Sea

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