Oil Company Investment in Offshore Windfarms: A Business Case

Petter Osmundsen,^a Magne Emhjellen-Stendal,^b and Sindre Lorentzen^c

European petroleum majors have moved into offshore windfarm projects, with large investments, ambitious capacity targets and aggressive bidding. The profitability of the projects has been questioned. We address this by a transparent project economics analysis seen from the perspective of an oil company. Our case is the UK bottom-fixed Dogger Bank project, the largest offshore windfarm project in the world under development. The project is owned by Equinor, SSE Renewables and ENI. Our base case analysis shows that the project is expected to be unprofitable. Several of the input variables, however, are subject to considerable estimation uncertainty. We also present a low case and a high case scenario. The low case is relevant for a European offshore wind industry that struggles with competitive pressure, increasing prices of raw materials, and bottlenecks in the value chain. The high case is crucial to realise the EU-countries' ambitious capacity targets for offshore wind. The decomposition of the high case reveals factors that can contribute to a profitable wind power industry. Increasing prices on raw materials and bottlenecks are temporary challenges, and innovation and learning by doing can lead to reduced cost. However, this still leaves the industry with high competitive pressure, which is a structural problem. The industry asks for discretionary auctioning criteria and state aid. Another path that may lead to restoration of profitability is industry consolidation.

a Corresponding author. Section of industrial economics, University of Stavanger, 4035 Stavanger, Norway. https://www.researchgate.net/profile/Petter-Osmundsen. E-mail: petter.osmundsen@uis.no.

b Petoro ASA.

c University of Stavanger.

The Energy Journal, Vol. 45, No. 2