



Submission for Druid Academy 2022

Paper title: *From Cradle to Asset Class: A Network Analysis of How Offshore Wind Technology Matured and Became Financialised*

Name: Asker Voldsgaard

Affiliation: University College London, Institute for Innovation and Public Purpose

Position: PhD Candidate

Supervisor: Mariana Mazzucato

Email: Asker.voldsgaard@ucl.ac.uk

Keywords: Low-carbon finance, offshore wind, green finance, entrepreneurial state, induced learning, learning-in-production, market creation, state investment banks, state-owned enterprises

Abstract

Offshore wind power (OWP) has matured to become a key technology for deep decarbonization scenarios. This paper examines how OWP developed to this point from a nascent technology by adopting a combined learning curve and financial knowhow diffusion perspective: Those who finance the deployment of a technology enable the industry to explore and change its cost-curve and descend towards competitiveness with carbon-based energy sources. Also, the financial knowhow for investment appraisal of the evolving technology space, that is generated and accumulated by investment, diffuses through co-financing of projects. As such, this perspective combines the green industrial policy literature with a complex system ontology of the financial system underpinning the investments that drive the falling cost curves. The deployment-perspective raises institutional questions about how the political economy of offshore wind finance has evolved since its burgeoning days in the early 1990s and the implications for the attempts to bring about a just transition.

Temporal network analysis of the evolving system of offshore wind finance reveals how OWP has gone through five distinctive stages: 1) *State-owned enterprise exploration* (1989-2001), 2) *Energy and utility company upscaling* (2002-2009), 3) *State-owned enterprise-led maturation* (2010-2015), 4) *Post-Paris learning and knowhow diffusion to private financiers* (2016-2018), and 5) *Offshore wind as a mainstream asset class* (2019-2021). This is a story of successful industrial policy resulting in financialisation, where the logics of money manager capitalism govern future deployment. This result contributes to the burgeoning literature on the politico-economic implications of a Wall Street-tailored green transition.