

Quantifying the Environmental Costs and Benefits of Offshore Wind Power

by

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All human actions bear consequences. In the energy system many of those consequences are environmental. This presentation is a master's thesis proposal which seeks to quantify the environmental costs and benefits from the installation of offshore wind power. Offshore wind is a local, close to market cost, and high-potential carbon-free technology for the 21st century. The external costs of installation are clear when compared to no action, while the benefits are only clear when considering what type of generation offshore wind is likely to replace. The offshore wind consequences will be analyzed according to the best government, industry, scientific knowledge and quantified with contingent valuation studies. The environmental externalities of other electricity generation technologies will be taken from the best available peer-reviewed literature. Several build-out scenarios will be considered and the presentation will include a discussion of how to proceed in the face of large uncertainty or lack of data. The presentation will conclude a brief introduction to what kinds of policies can level the playing field when including energy externalities.