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Social acceptability of wind farms for electricity export.

Abstract

For Ireland, increased interconnection and the ability to trade in renewable electricity generation could lessen the potential negative impacts of wind energy intermittency, deliver cost reductions and provide diversification and energy security. However, the concept of exporting wind energy can face public acceptance issues. Exportation projects have been criticised on the basis that the market benefits of development and the positive externalities would be received by the importer with all of the negative externalities of wind energy being imposed on the exporting country and its local residents. This project aimed to identify how exporting wind energy impacts societal acceptance and to assess which combination of attributes minimises impact in the context of an integrated renewable energy framework for international trade. To assess this, both local and national level choice experiment surveys were conducted.

domestic consumption.

The national survey; conducted with 1107 members of the public; assessed preferences for wind energy development across Ireland. This survey included various intermittency management options (storage, trade, demand side management); local benefits and engagement attributes. This study finds that the perception of trade as an intermittency management solution vs the concept of exporting energy is viewed more positively, with the majority willing to forego personal benefits to support it. Although the majority of the national respondents do not live near likely wind farm development areas, 95% of the sample derive strong positive utility and are willing to pay for the provision of a Green Fund for residents within 5Km of wind farms which would finance environmental domestic improvements

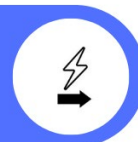


GREEN FUND

The provision of a Green Fund to residents within 5km of a wind farm project to enhance local wellbeing and wider social acceptance.

FRAMING "EXPORT OPPORTUNITIES"

Policymakers should be mindful when highlighting the potential for an "export market" in renewables.



PUBLIC KNOWLEDGE GAPS

Research required to understand knowledge gaps and address public concerns on intermittency solutions.

Research Outcomes

The local level survey was conducted with 253 individuals across 5 counties in Ireland to assess preferences for new wind energy projects in their area. This research finds that the number of turbines and setback distance are crucial determinants of project acceptance in Ireland and, generally, the concept of exporting wind energy has a negative impact on an individual's preferences. Respondents reveal strong preferences in favour of wind farms to supply domestic requirements compared with exports even for cases where 50% of the power is retained for

such as grants for insulation and solar panels.

Recommendations

Our results highlight the positive utility associated with a local Green Fund, acknowledging that the energy transition will impose a greater burden on some members of the public than others. The concept of an "export market" in renewables may not be viewed favourably by the public, particularly in wind farm development areas. A general lack of public knowledge on the merits and types of intermittency management solutions is also evident, requiring more research and public information provision.