

# Whitaker Institute Policy Brief Series

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**Cluster:** Socio-Economic Marine Research Unit (SEMRU)

**Theme:** Sustainable and Inclusive Societies

**Further Reading:** Brennan, N., & van Rensburg, T. M. (2020). Public preferences for wind farms involving electricity trade and citizen engagement in Ireland. *Energy Policy*, 147, 111872.

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## Public preferences for solutions to address intermittent renewable power generation in Ireland

The urgent need to take action on climate change has motivated an increasing number of countries to set ambitious renewable energy targets. Yet meeting these goals is challenging even for countries with high potential renewable energy endowments in part due to the intermittent nature of power generation from renewable sources. Although statutory agencies and industry stakeholders acknowledge the complexity of the challenge and potential solutions associated with power generation intermittency from renewable sources, few economic studies assess the public's recognition of the question, or attempt to solicit their views despite the fact that they are likely to, at least partially, be expected to pay for solutions to it.

### Research findings

Data were gathered using an online choice experiment survey of 1107 respondents conducted by a survey company in Ireland between August and November 2020. Respondents completed a choice experiment presenting options for wind energy development in Ireland offering different types of intermittency management (trade, storage and demand side management); local benefits (provided to those living near developments); and local engagement (via a community representative). Results were analysed using a latent class structure.

While the majority of respondents indicated positive preferences for intermittency solutions; particularly trade; substantial preference heterogeneity was observed across the sample for this attribute. This preference heterogeneity could be defined across a number of respondent classes. Respondents in one class indicated negative preferences for battery storage. Price alerts as a demand side management solution was insignificant for all classes except one. Individuals in another class were particularly concerned about wind energy and its associated infrastructure development and had insignificant preferences for all options presented. Even though most respondents did not live near a wind farm or expect one to be built nearby, they derived significant positive utility from local benefit provision and engagement.

### Policy Implications

Although the majority of the respondents valued intermittency solutions, substantial preference heterogeneity was observed in regards to this attribute. Public understanding of the role of intermittency solutions may be limited, and many respondents had reservations about the benefits of trade and the environmental, health, visual and property price impacts of grid expansion and energy storage in particular. Early engagement, flexible development design, independent environmental and health monitoring, protection and reporting, education, the provision of local benefits and political support are all required to reduce the likelihood of opposition. The findings reveal that the vast majority of respondents prefer renewable energy developments which provide local benefits and engagement in the decision making process and are willing to give up personal compensation to support it. The provision of an earmarked local benefit fund could be viewed positively both locally and nationally.