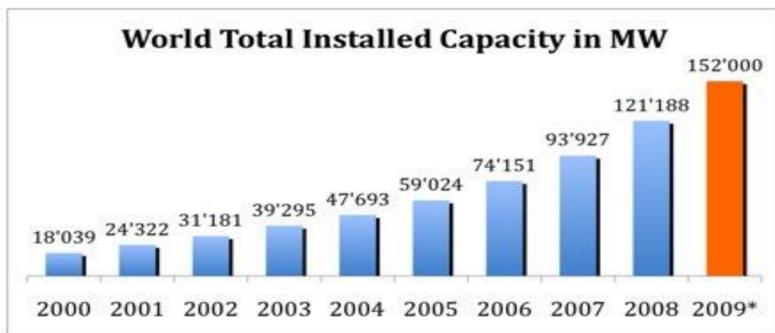


INTRODUCTION

- The generation of renewable energy has in recent years become a very important policy goal for Governments around the world
- Wind power is the most developed and fastest growing form of renewable energy



© World Wind Energy Association

- Idea that there might be a social cost has generally been ignored.

Sound pollution from wind turbines

Wind turbines create noise from either the blades moving through the air or from the mechanical hub that produces the electricity. Sounds from wind turbines are a problem for some who live closest to the machines.

1 Air-foil turbulence

Sound is generated by air moving over the surface of the blade or at the trailing edge of the blade called "vortex shedding."

2 Pulsing sounds

Outdoors Turbines may appear to move slowly, but the tips of their blades often reach speeds of more than 100 mph. This, coupled with wind conditions that may include faster-moving air at the top of the arc and slower winds at the bottom, can produce a pulsing or oscillating sound.

Indoors Low-frequency sounds can penetrate walls and windows and are sensed as vibrations and pressure changes.

3 High-pitched sounds

Some noise may come from the nacelle, or hub: a high-pitched whining similar to a jet engine, but not as loud.

4 Distance differences

Standing beneath a turbine may not be as noisy as standing further away. Depending on wind conditions, some types of sound increase with distance before becoming quieter.

5 Shadows

The flickering shadows of rotating turbine blades at certain times of the day can also disturb residents.

Source: American and Canadian Wind Energy Associations

MARK BOSWELL - Minneapolis Star Tribune

Objectives:

- Use a hedonic house price model to estimate the effect that the construction of wind farms has on house prices in Ireland.
- Examine the effect that being distance relative to wind farm has on house prices.

METHODOLOGY

- Basic hedonic technique involves regressing the property price on a set of variables measuring quality
- Price = $f(\text{Structural}, \text{Neighbourhood}, \text{Environmental}) + e$
- Examples of Variables: number of bedrooms/house size/distance to local amenities
- ArcGis will be used to accurately model the location of both homes and Wind Farms.

DATA

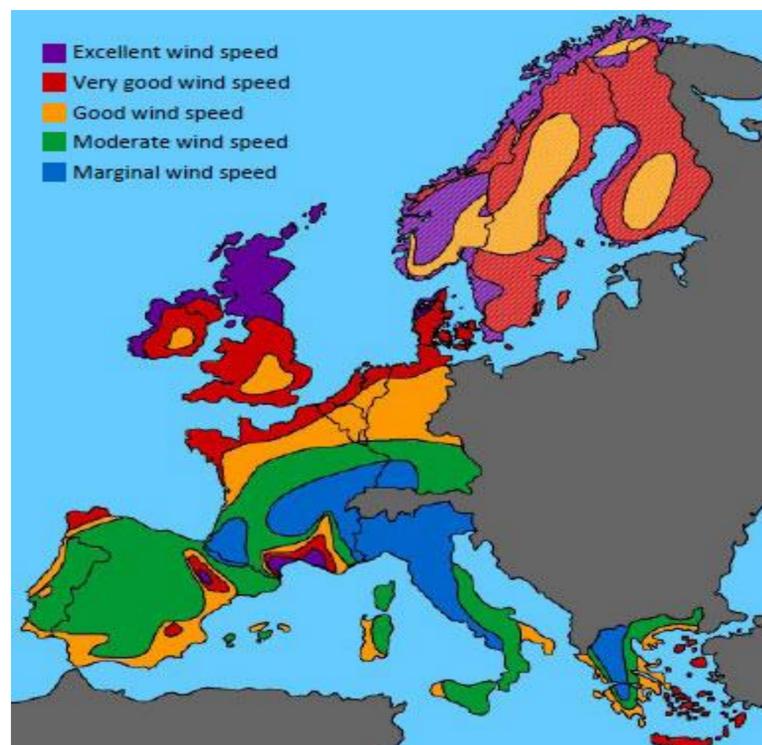
- GIS mapping data giving the location of all Wind farms in Ireland provided by the SEAI.
- SEAI also provided information on nationwide infrastructure.
- Geo-coded house price and characteristics data set provided by Daft.ie.
- Environmental data has been provided by the EPA.



Fig. 1 Wind Farms in Ireland

EXPECTED RESULTS

- Some negative impact is expected as this would be inline with other literature in the field.
- It is hoped that these results can help advise policy makers when deciding on future renewables strategies



ACKNOWLEDGEMENT

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