Northern Ireland Assembly

Research and Information Service Briefing Note

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Approved Wind Farm Applications and Buffer Zones

The following paper was requested by the Environment Committee during its consideration of a wind inquiry. It is supplementary to the research paper "*Wind Turbines: Planning and Separation Distances*" and should be read in conjunction with it.

Introduction

The following diagrams show the locations of approved wind farms in Northern Ireland in relation to different buffer zone scenarios or set back distances from domestic properties. It is clear that with an increase in the distance of buffer zone the area of available or suitable land (represented by green) decreases. When considering how this would affect approved or current wind farm sites, the maps suggest that as the buffer zones widen fewer approved wind farms actually fit within the areas that would be suitable for development.

It is important to highlight that these scenarios do not take into consideration other constraints such as availability of wind resource, buffers for water courses, roads, communications, airports, protected sites etc. Therefore the

total land area remaining available could in fact be smaller than the scenarios suggest.

Buffer zones

The scenarios used are based on the idea taken from research produced by the All Ireland Research Observatory (AIRO) in NUI Maynooth who produced set back scenarios for wind development from domestic properties in the Republic of Ireland.[1]

Ring buffers were created around every domestic property in Northern Ireland in a Geographical Information System called ArcGIS. The remaining area of land which is not covered by a buffer is shown in green on the maps.

The property data was extracted from Northern Ireland's address database called Pointer, which is maintained by Land and Property Services and has input from Local District Councils and Royal Mail. The data is current as of 17 October 2013. Only properties which were approved, built and domestic were used to create the buffer zones. There are 716,123 domestic properties in Northern Ireland.

The ring buffers have a radius of: 500 metres, 1000 metres, 1500 metres and 2000 metres.

Approved wind farm applications

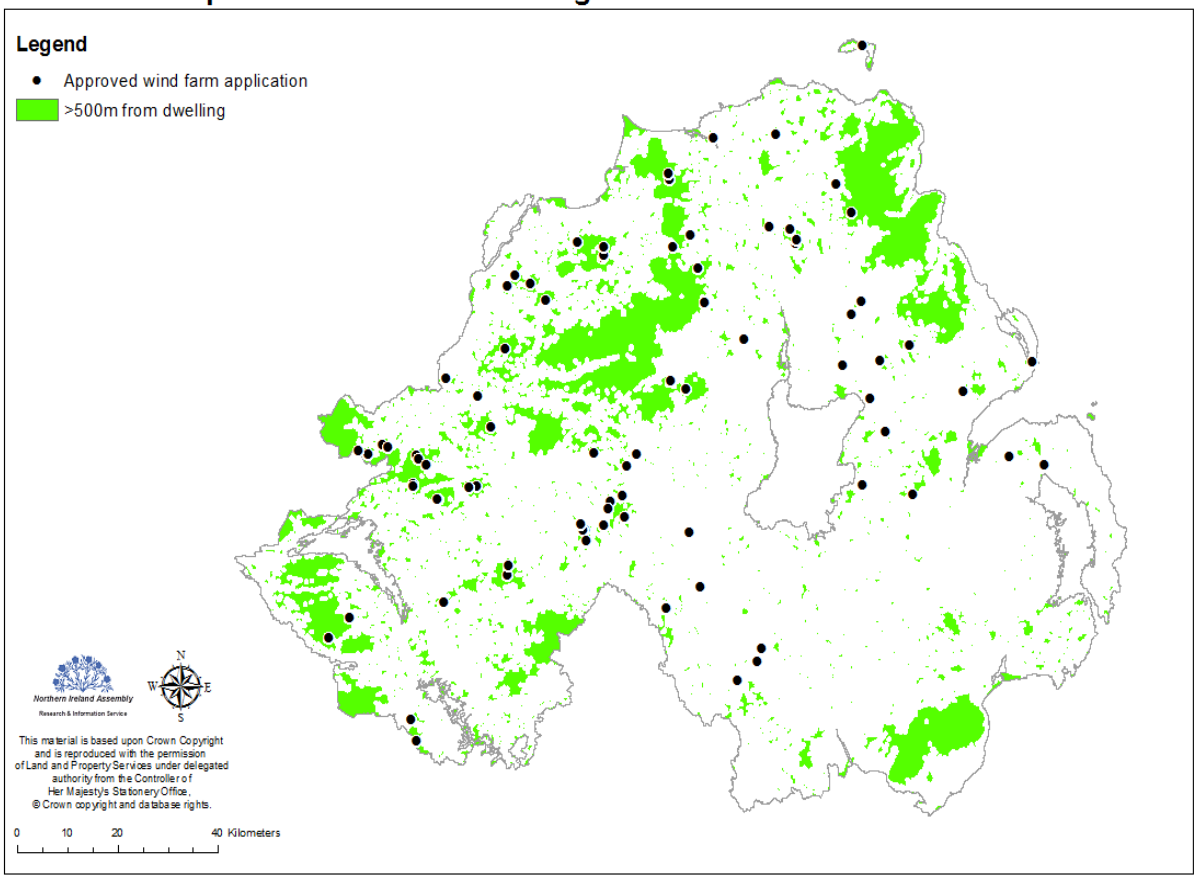
The data used to map the approved wind farm applications is sourced from Planning NI. The following link leads to a downloadable csv file containing grid coordinates of all applications for renewable energy:

http://www.planningni.gov.uk/index/tools/about-statistics/renewable-energy.htm

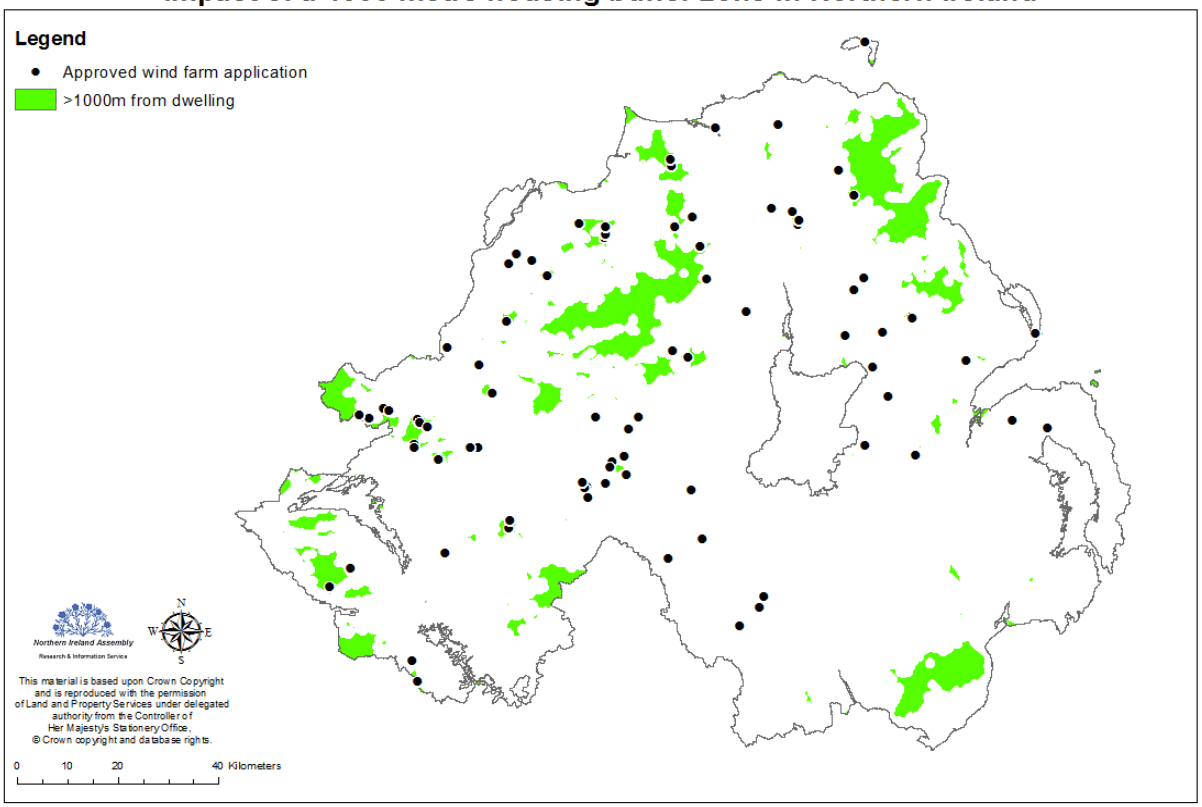
Only applications which had a status of "approved on appeal" or "permission granted" were mapped. Filters were also applied so that only small and large wind farms were included (single wind turbines were excluded). The data is current as of August 2013 and dates back to 2002.

[1] For more information visit the AIRO website: http://airo.ie/news/airo-mapping-asking-questions-new-wind-turbines-bill-0

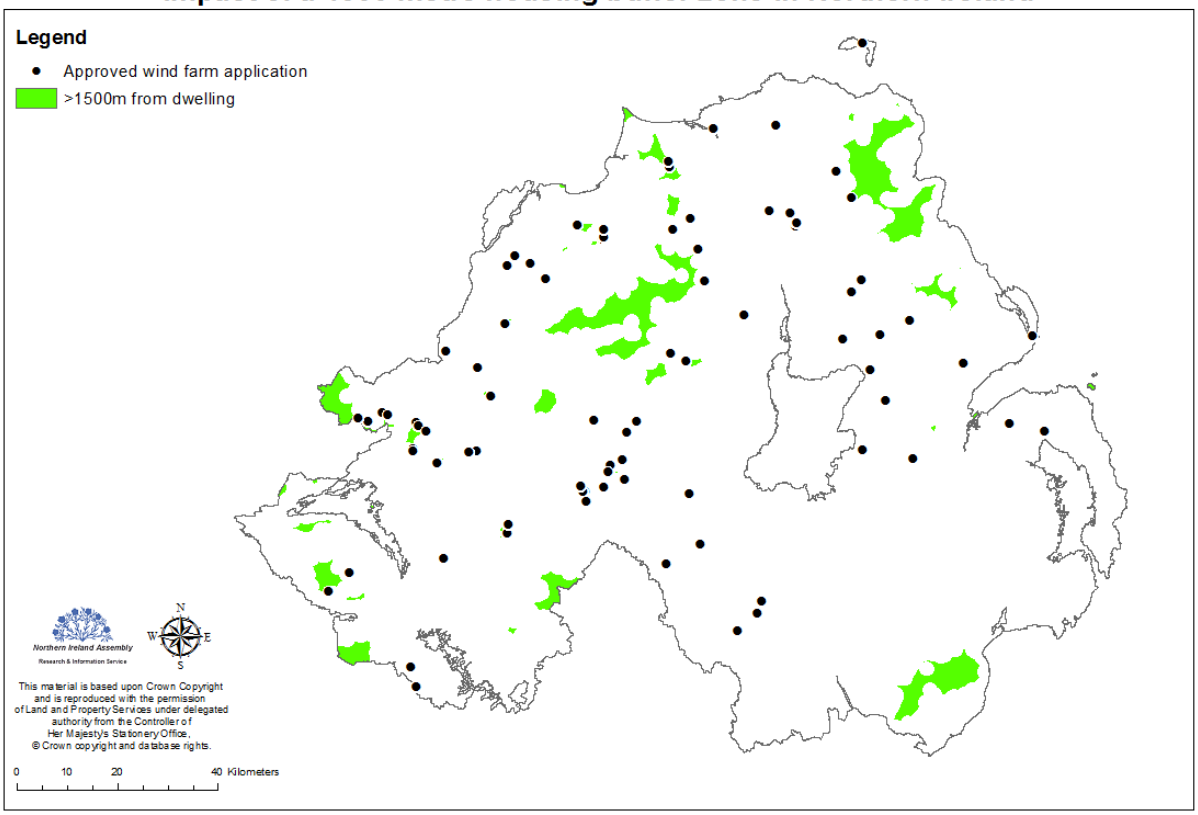
Impact of a 500 metre housing buffer zone in Northern Ireland



Impact of a 1000 metre housing buffer zone in Northern Ireland



Impact of a 1500 metre housing buffer zone in Northern Ireland



Impact of a 2000 metre housing buffer zone in Northern Ireland