WDC Briefing on Electricity Transmission Infrastructure Needs in the West and Northwest

What is the issue?

The west and northwest of Ireland have some of the best wind resources in the world for both on and offshore renewable wind generation. This presents a very significant opportunity for the region and for Ireland to grow and develop sustainable economic enterprises both in renewables and other fields.

However, the potential for this development is currently constrained by very weak electricity transmission infrastructure in the northwest and west. There is currently only one 220kV line to Sligo. Donegal, Mayo and west Galway, which have the best onshore resources and have the most potential for offshore generation, do not have any 220kV infrastructure. Offshore renewables will require 220kV or 400kV transmission.

It takes a long time to develop electricity transmission infrastructure. Even if a commitment was made today to develop significant infrastructure in the region, it is likely to be 15 years (2040) before such infrastructure can be commissioned and is in use.

This long lead in time means it is essential that there are no further delays in committing to, and developing, transmission infrastructure to allow the region, and the country to take advantage of offshore generation opportunities.

There needs to be clear direction by government that the electricity transmission grid in the northwest and west should be future proofed to allow for the development of the significant offshore renewable resources. This will also have benefits for onshore wind and other renewable opportunities.

Background

As noted, there is, and has been for a number of years, a need for significant investment in the network in region. The wind resource is the best in Ireland, but lack of investment in the transmission network in the northwest undermines the region's, and Ireland's, capacity to efficiently achieve national climate action targets and to meet our ongoing needs to 2050.

A very significant increase in renewable electricity will be required to achieve climate targets for 2030 and beyond to 2050. Given the time it takes to plan and develop the transmission network, a longer-term view needs to be taken to ensure investments we make in this decade have capacity to meet our needs in the longer term. This is especially important in the Western Region which has significant resources for renewable energy but has been left behind in terms of network development.

Many businesses (particularly Multinational Companies (MNCs)) already have clear targets to reduce emissions and are aiming for net zero by 2030 and sooner. At the same time the Western Region is already more than 100% renewable with the seven counties of the Western Region

currently producing more renewable electricity than they are using (renewable wind generation is almost double the region's demand (192%)). This provides an excellent opportunity to attract and secure large enterprise in the region. This should be a focus of government policy alongside the development of the necessary infrastructure.

While much of the focus is on the development potential of offshore renewables this lack of infrastructure is already affecting on shore wind generation with constraint levels of 11.4% in Donegal and 8.7% in the West (Mayo and West Galway). The next highest levels of constraint are in the south west (2.3%), which has well developed infrastructure. These current high levels of constraint are clear evidence of insufficient grid infrastructure.

Infrastructure projects developed by EirGrid in the region have usually focused on solving on meeting short and medium term capacity issues for onshore renewable generation. They are not future proofed to allow for further growth. For example, the North Connacht 110kV project will be at capacity, or nearly so, once commissioned as there is already significant contracted generation in that area.

The recently published 'Strategic Framework for Grid Development in the Northern and Western Region' (8.10.24) indicates that EirGrid is exploring options for grid development in the north west, with an extension of the 220kV network into south Donegal and the possibility of a second 220kV line to Sligo. These are welcome options but the focus of the plan still seems to be on needs for current onshore contracted and planned development. It does not appear to take into account potential offshore development. As noted, grid development takes about 15 years so the needs of offshore generation must be taken into account in any plans being currently developed. It is important that a strategic framework such as this looks to the future and ensures that infrastructural investment will meet future needs.

The WDC has been highlighting this lack of transmission infrastructure in the northwest since 2010 and while a number of projects in the region have reached pre planning stages these have been shelved for a variety of reasons. It is important that this does not happen again.

What should be done?

The DMAP for areas off the west coast is to be prepared in 2025. It is essential that grid infrastructure projects with significant capacity are developed alongside this (or in advance of this), so that the appropriate areas are infrastructure ready.

A clear policy directive needs to be given to the Transmission Asset Owner (TAO) and the Transmission System Operator (TSO) to future proof the transmission grid to allow for the development of such offshore opportunities.

Other infrastructure (e.g. ports) services and skills also need to be developed to take advantage of our offshore renewable energy potential, but the very significant time required to develop the transmission grid means this should be an immediate priority.

18.10.24

For more detailed analysis, data and sources or to discuss this further please contact helenmchenry@wdc.ie