

## **Appendix 16. Cumulative Impacts**

### **16.2. Technical Note - Gannow Wind Farm Grid Connection Review (TLI, 2026)**

# TECHNICAL NOTE 03

Project: Cashla Peaker Plant 220kV Grid Connection

Ref: Rev 01

Section: Gannow Wind Farm Grid Connection Review

Job No: 300-101269

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Made By: DB

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Sheet No: 1 of 6

## Details:

The purpose of this technical note is to assist Bord Gáis Energy Ltd. (client) observe and query the legitimacy of a Grid Connection, that has been submitted as part of a renewable development application, who seek permission for a wind farm development, over a 10-year period. Planning application (Reference Nr. 2561412).

As part of this planning application (Reference Nr. 2561412), the applicant (Gannow Ltd) has applied to Galway County Council local authority for permission to construct and lay 38kV Grid infrastructure, primarily located within the public road network and to construct a 38kV Substation within the townlands of Attymon, Co.Galway.

Below is read, from the development description;

*ii. A permanent 38kV substation compound (including a control building (157.6 sqm) with welfare facilities, all associated electrical plant and apparatus, security fencing, underground cabling, storage containers, wastewater holding tank, site drainage and all ancillary works);*

*iii. Permanent underground electrical (38kV) and communications cabling to the existing Cashla Substation in the townland of Barrettspark (including joint bays, communication and earth sheath link chambers and all ancillary works along the route). [1]*



**Figure 1 – Gannow Wind Farm Grid connection route**

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TLI Group have obtained a viewer copy of the application prepared by the Planning Consultant MKO, from the Galway Co.Co Planning portal. The Grid consultant (TLI Group) is questioning the validity of a 38kV grid connection to the Cashla 220kV/110kV substation node at Barrettstown and question how it is envisaged that the Gannow Wind Farm development will connect to the Cashla 220kV/110kV substation. At the Cashla substation facility, there are only two operational voltages. A primary voltage side 220kV and a secondary voltage side 110kV. Aside from these voltages, there is no other voltage potential at this substation node.

Below is a drone view of the Cashla substation site, source TLI Group.



*Figure 2 - Drone Image of Cashla 220/110 kV substation*

TLI Group is an appointed contractor, working closely with and on behalf of ESB Networks and EirGrid plc. Access to the Cashla 220kV/110kV substation permitted airspace has been obtained as part of ongoing scopes, with both ESN and EirGrid respectively.

There is currently no planned works to deep retrofit or reinforce this EirGrid node for Distribution connections. This Transmission system operated (TSO) substation can and will only accept transmission connections (110k & 220kV) from renewable generators, with a potential megawatt export, ranging from circa 80MW to 450MW on the primary bus bar. For such a connection (38kV) into Cashla for the Gannow Wind farm, a Distribution transformer to facilitate a connection with significant deep reinforcements would be deemed necessary, but at great expense to ESB Networks and EirGrid.

The application being sought by Gannow Ltd is technically unviable, as the designated connecting megawatt for a distribution (DSO) connection is circa 40MW-50MW. The Gannow renewable development will not have the option to connect at Cashla unfortunately given these constraints.

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Generally, projects less than 40-50MW in capacity apply to get a distribution connection from ESB Networks (MV or 38kV) and larger projects apply to EirGrid for a 110kV/ 220kV connection. The Commission for the Regulation of Utility (CRU) have the role of deciding the connection policy for the processing of connection applications for generators.

The process for Gannow Ltd to engage with ESBN is set out in Policy, will be determined by the Commission for Regulation of Utilities (CRU). The most recent Policy in this regard is Enduring Connection Policy - Generation & System Services (ECP-GSS) CRU/2024101 which, at a high level, states:

- Projects can only apply for a Grid Connection once they are in the Planning Process for their site.
- Grid Applications can only be made in bi-annual windows with deadlines being in March and September each year.
- For projects connecting to the Distribution System and applying to ESBN a request for a High-Level Technical Assessment (HLTA) for their project must be made a minimum of 4 months prior to the formal grid application.

The first bullet point states that a Grid Connection offer cannot be made unless a renewable generation project has been validated by the respected local authority. This is key as it suggests that a due diligence process to establish a feasible grid connection option for this 38kV development has not been fully appreciated and a feasible grid connection option has been disregarded. At present, there is no Grid Connection Agreement in place from ESB Networks to Gannow Ltd, to facilitate such a connection, nor will a connection offer be made available by ESB Network for an option to connect at Cashla substation.

ESB Networks provide an interactive tool, that provides information on network capacity, available transformer capacity at substations at different voltage levels (LV, MV, HV). This helps customers identify potential connection points with sufficient capacity to streamline the interconnection process for generators.

The project in which TLI Group are directly employed (Cashla Peaker Plant – 220kV Grid Connection) has obtained a connection offer to the electrical grid is subject to approval by EirGrid via an auction process. Bord Gáis Energy was successful in the SEMO T-4 2028/29 auction for a 10-year contract covering Oct 2028 – Sept 2038. This means that Bord Gais Energy were deemed successful to connect to Cashla substation by EirGrid. Bord Gáis Energy have engaged with EirGrid to present proposed grid connection route along public road (22 April 25), in lieu of the approved connection offer to Cashla substation.

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## Cumulative Impact

This section considers the cumulative impacts, on a socio-economic level, and has been prepared to account for the Gannow Wind Farm Grid cable connection as part of the Cashla to Athenry Peaker Plant application.

The Gannow Wind Farm includes a 2.2km section of road that is common to the Gannow Wind Farm and the Cashla Peaker Project.

A summary of interactions of potential effects of Gannow are included in Chapter 16 Cumulative Impacts, Volume 2 of the EIA and makes reference to this technical note.

For the purposes of providing clarity, the Gannow Wind Farm Grid cable will be defined as 38kV Gannow Route Option.

The Cashla to Athenry Peaker Plant Grid route, is described as the proposed 220 kV UGC Grid Connection (as set out in the planning application). These terms will be used throughout this respective technical note, to allow for the reader to follow with more ease.

## Constructability Features and Issues

### Utility Infrastructure

For grid routing purposes, it is assumed that non-critical utility infrastructure (such as watermains, sewers, drainage) can generally be moved/replaced if permission can be obtained from the local authority and the utility provided, in order to create space to accommodate HV cables ducts. During the preliminary route assessment phase, data collection of utility maps and service network identifiers, have been gathered to establish the presence of service arteries or high-pressure utilities.

This process for the proposed 220 kV UGC Grid Connection evaluated the combined effects of the known utilities, past and present. This process now extends to the future identified project (Gannow Wind Farm Grid) and to delineate the impact, both these grid connections would have on the other service, given the presence of existing utilities, the spatial requirements to install the grid infrastructure and the road curtilages, which both projects intend to construct within.

Both projects, proposed 220 kV UGC Grid Connection & 38kV Gannow Route Option converge on the local road L-3103, (Ch.5300m) and intend to use the L-7108, to continue towards the Cashla 220kV /110kV node. The 38kV Gannow Route Option is intended to share 2.2km of the planned route with the proposed 220 kV UGC Grid Connection, until Ch.3100m, where the 38kV Gannow Route Option will deviate to an off-road alignment. The cumulative impact for this local road section will result in 2 Nr. 220kV circuit Joint Bays being encountered. Whilst considering the 38kV Gannow Route Option, no joint bay locations have been identified as part of the planning application, (Reference Nr. 2561412). 38kV Joint Bays are typically placed at 850 to 900m intervals. In lieu of this, it would be expected that at a minimum, 2 Nr. 38kV would be installed within this common section of the L-7108.

Both options, proposed 220 kV UGC Grid Connection & 38kV Gannow Route Option circuits do converse on different grid alignments, to avoid and navigate the Motorway crossings respectively. These circuits will converge again, within the L-7109, approximately 850m south of the Cashla 220kV/110kV substation node.

It is anticipated, that given the potential for mutual heating of cable circuits, the thermal independency would be maintained with adequate horizontal separation will need to be confirmed at detailed design, to mitigate against

overheating and derating of both circuits. This would be a standard request from EirGrid to ensure that the seasonal operating current values are met and continuous.

## 220kV Joint Bays Construction

The review identifies three joint bays where constructability may be constrained, primarily due to limited working space, the proximity of existing infrastructure, and potential implications for traffic management.

Key considerations include;

### Narrow road profiles or single-lane sections

The joint bay locations are constrained by the limited width of local roads, which prevents installation within the non-wheel-bearing strip without impacting traffic flow. In these cases, a temporary road closure would be envisaged for the HIAB vehicle, to install the Joint bays at the desired location, to allow for sufficient working space for cable drums, pulling equipment, and maintenance vehicles. This is typically left with the contractor, in advance of works commencing, to detail the traffic management required to achieve the necessary space during construction.

### Public Roads v's Third party lands

It is the preference of EirGrid to install UGC within the existing public road network where possible. Should third-party land be used eg for storing of materials and equipment, relevant permission, would need to be obtained from the landowner.

The easement is defined as “the use of someone else’s property or land for a stated reason”. A wayleave is defined as “access to property granted by a landowner in return of payment”.

### Passing Bays

- Passing bays to be constructed in the public road and verge to avoid road closure where feasible.
- Passing bay shall consist of minimum 250mm thick layer of compacted CL.804 granular material laid on 6F1/2 granular, material on approved geotextile liner. Exact layer thickness shall be determined by the Contractor at each location based on the Contractor's temporary works design.
- The enabling works area shall be reinstated to match the original ground levels and profiles. Fence lines, drainage and planting shall be reinstated to original condition, or as per the relevant specification.
- The designer shall consider whether the joint bay can be installed within the carriageway during a stop/go system or road closure.
- Temporary Heras Fence to comply with NRA Drawing RCD/300/4.

## Bibliography

[1] G. P. R. -. D1, "Consultancy, MKO Planning," 2025.

[2] ESNB. [Online]. Available: <https://www.esbnetworks.ie/services/get-connected/renewable-connection/network-capacity-heatmap>.