Kildare Dublin Grid Reinforcement

Frequently Asked Questions

May 2026

EirGrid

The Oval, 160 Shelbourne Road, Ballsbridge, Dublin D04 FW28
Telephone: +353 1 677 1700 | www.eirgrid.ie

1. What is the Kildare Dublin Grid Reinforcement Project?

The Kildare Dublin Grid Reinforcement Project is a proposed project to accommodate the continued growth in electricity demand in the region.

The project will include:

- A new 400/220/110 kV substation near the South Dublin/East Kildare border at Steelstown
- A new 220/110 kV substation near Hynestown
- Associated circuits linking the new stations to each other and to existing stations in Maynooth, Inchicore and Carrickmines.

2. Why is this project needed?

Existing infrastructure in this area is at risk of reaching capacity and will not be capable of meeting future energy needs.

To address this need, new infrastructure is required to supply the projected demand growth in this area, which is being driven by several factors, such as residential housing, commercial and industrial development, and the electrification of heat and transportation.

It will also contribute to reaching the Government's Climate Action Plan targets for 80% of our electricity to come from renewable sources.

3. What has happened so far?

In May 2025, EirGrid consulted with local communities and stakeholders on the preferred zones to locate sites for the construction of two new substations; one near Hynestown and one near Steelstown.

The feedback collected during that consultation is being taken into consideration as the appropriate sites are being determined. You can find a report detailing the outcomes of the consultation on our website www.EirGrid.ie/KildareDublin.

EirGrid recently determined that the best performing technology solution for the circuit connecting the two substations to each other, and to the existing substation in Maynooth, is via underground cable. It was determined through the MCA process that overhead lines would not be a suitable solution for either of these circuit routes. You can read more about how this decision was made on the project website.

The next phase of the Kildare Dublin Grid Reinforcement is to determine the best performing technology option to connect the new substation near Steelstown to the existing substation in Carrickmines.

4. What is happening now?

In order to reinforce the grid, circuits are required to connect the two new substations in Steelstown and Hynestown to each other, and to other existing substations.

When we upgrade the grid, we consider various technologies to create suitable options. This includes whether an overhead line or an underground cable is right for a particular project.

EirGrid is now holding a public consultation, seeking feedback on the available technology options for a circuit required to connect the proposed Steelstown substation to the existing substation in Carrickmines.

This circuit, which is a key component of the Kildare Dublin Grid Reinforcement project, will initially be operated at 220kV, but will be built to allow for a 400kV circuit in the future as required to reduce the need for future works or upgrades on this circuit.

While the design team is still working towards identifying viable routes, the feedback received during this consultation will feed into the decision process.

5. What are the benefits of this project?

Security and reliability of supply:
Building a more resilient and reliable electricity grid helps ensure that everyone has power when and where they need it. This upgrade will also enable independence by harnessing greener energy sources.

Meet future needs
These improvements will also help to meet the growing and changing electricity needs of the area. This includes the electrification of transport systems, vehicles and heating, the requirement of large energy users and the development of housing and offices

Sustainability
Upgrades to the electricity grid will enable the region to use and transmit electricity generated from offshore wind energy. This is a vital step to help Ireland transition to a low-carbon electricity future.

Economic
These critical upgrades will help strengthen Ireland's economy, encouraging and supporting future investment

Community
Our community benefit policy will directly support local communities in the areas that host the project infrastructure.

Local
Helping to meet increasing local transport and housing electrification requirements

6. How were these options decided on?

Prior to consulting with the public, EirGrid assesses technology options to determine which options are feasible under five categories:

- Technical aspects – compliance with standards and operational aspects
- Economic factors - implementation costs
- Environmental factors - biodiversity, habitats, archaeology
- Socio-economic factors - such as the local economy and amenities
- Deliverability factors – such as timelines and potential risks

A detailed report on EirGrid's assessment can be read and downloaded on the project website www.EirGrid.ie/KildareDublin

The MCA process has reviewed all three available technology options for the Steelstown to Carrickmines circuit. All three options are currently considered to be deliverable, though there are significant risks that have been identified with all three options.

7. What are the technologies being considered?

Three technology options are being considered for this circuit. These options are:

- New 400kV Underground Cable (UGC) along entire route
- New 400kV Overhead Line (OHL) along entire route
- New 400kV Overhead Line (OHL) with partial undergrounding

Underground cable:

This option would place the circuit below ground using specially designed, heavily insulated cables. We prefer to install underground cables in the road network as far as possible. This allows for easy access if the cable needs repair or maintenance. However, the nature of the road network in this area means that off-road sections would likely be needed.

The cable that would be used is high-voltage XLPE cable with a copper or aluminium core, installed within underground plastic ducts. Joint bays are required to join sections of cable and will be located at intervals of approximately 600-800m along the route.

While underground cables remove the visibility of transmission infrastructure from the landscape, they involve more intensive, longer periods of construction activity, including excavation along the full length of the route. Faultfinding and maintenance can also take longer compared to overhead lines, increasing the impact on local communities. It also causes more disruption to the local road network.

Based on our assessments so far, a UGC presents a potential economic risk due to the high cost of construction. There would also be impacts on the public and the environment , as construction will likely take longer than an Overhead Line circuit.

Overhead line (OHL)

The overhead section would deliver the new circuit using a series of towers that carry conductors above ground. This is the standard approach for long-distance electricity transmission in Ireland, providing a reliable and efficient way to move large volumes of power across the network.

Overhead lines can be inspected and maintained with relative ease over the lifetime of the infrastructure. They allow for effective heat dissipation and are designed to meet stringent safety and engineering standards.

They can be inspected and maintained with relative ease over the lifetime of the infrastructure, can be constructed quickly and are better suited to all terrains, including difficult landscapes. This means less impacts on local communities and the environment.

Based on our assessments, a fully overhead line would present a high risk from a deliverability perspective as there are specific challenges associated with bringing a 400 kV overhead line directly into the Carrickmines substation.

Overhead line (OHL) with partial undergounding

There is also the potential to utilise a hybrid approach for this circuit, combining both Over Head and Underground technologies. Most of the circuit between Carrickmines and Steelstown would use overhead lines, while a shorter underground section would be installed near the Carrickmines substation. This would allow the project to balance performance, construction requirements and overall environmental considerations.

Based on our assessments, an underground cable in the Carrickmines area could provide a feasible way to connect into the station while minimising technical complexity.

8. Why are the circuit routes required?

The transmission system carries large volumes of electricity at high voltages (400kV, 220kV, and 110kV), connecting generation stations (where electricity is produced) to the distribution system via substations near major towns and cities. From these substations, the transmission system connects to the distribution system.

9. Why can’t the circuits just go underground?

EirGrid will only underground projects where it is technically feasible and achievable. In assessing potential technology solutions for this project, EirGrid will consider all practical options.

10. Why is this project needed when other projects are already ongoing in the area?

The existing infrastructure in this area is at risk of reaching capacity and will not be capable of meeting future energy needs. The Kildare Dublin Grid Reinforcement Project, the Kildare Meath Grid Upgrade and Powering Up Dublin are all vital projects that will allow us to meet the growing demand for electricity in the east of the country. This demand is driven by increased economic activity and population growth in recent years in Kildare, Meath and Dublin.

Collectively, these projects will be significant in ensuring a continued supply of energy in the east of the country, as well as helping us meet renewable energy targets.

11. What is the difference between each of these projects?

The Kildare-Meath Grid Upgrade will add a high-capacity 400 kV underground electricity connection between Dunstown substation in Co Kildare and Woodland substation in Co Meath.

The Kildare Dublin Project will involve the construction of one new 220/110kV substation near South Dublin/East Kildare border at Steelstown, along with one new 220/110kV substation near Hynestown, and associated cables to connect the new stations to the grid.

The Powering Up Dublin project will see the installation over 50km of cables across Dublin, as well as upgrades to a number of electricity substations.

12. Why don't you develop a new solution elsewhere?

The solution is necessary in this specific area due to the dramatic increase in energy consumption in the east of the country, which is projected to continue to increase over the coming years.

Demand scenarios and high-level studies highlighted capacity issues in this specific area, as well as the current substations and surrounding network being insufficient to deal with projected demand.

As a rapidly growing area, the Kildare Dublin Project is needed to ensure a continued sustainable supply of power to communities. To cater for local home and businesses, the infrastructure needs to be developed in the region.

The project is also needed to transfer renewable power coming from Offshore wind and solar energy sources.

13. When will this project be completed?

This consultation is one of a number of consultations which will take place on this project. At this point in time, we are focusing on the circuits which will link the new Steelstown substation to the existing Carrickmines substation. This is an essential grid infrastructure project, so EirGrid is working to deliver it as soon as is possible.

EirGrid is bringing this project to the public at this stage to ensure that we develop our plans with the public and our stakeholders in mind. We will keep the community and stakeholders informed as the project progresses.

14. Are there health considerations in relation to electric magnetic fields (EMFs)?

The World Health Organisation states that there is no evidence to suggest that low-level electric and magnetic fields, such as those within our infrastructure, are harmful to human health.

Much like radio and TV signals, EMFs from the electricity grid are non-ionising, meaning they do not have enough energy to cause damage to human or animal cells in the same was ionising elements do.

We operate the transmission grid in accordance with stringent safety recommendations from national and international agencies.

15. How is EirGrid engaging with communities?

Before we develop or upgrade the grid, we work with those that may be affected by our plans.

On each project, we engage with landowners, community representatives, interest groups and local stakeholders, to ensure we find the best possible solution for all.

From April 5th, EirGrid is holding an 8 week-long public consultation to gather crucial local knowledge and feedback on the options we are considering.

Members of the public can submit their feedback through our consultation programme, contact our Community Liaison Officers, or attend one of the following public information events:

Date	Location
Wed 4th June	Ballyboden Wanderers GAA Club, Frank Kelly Park, Mount Venus Rd, Cruagh, Dublin
Thu 5th June	RathCoole Community Centre, Main St, Rathcoole, Co. Dublin
Wed 10th June	Thomas Davis GAA Club, Kiltipper Rd, Tallaght, Dublin, D24 VE22
Thu 11th June	Samuel Beckett Civic Campus, Ballyogan Ct, Ballyogan, Dublin 18, D18 HT72

EirGrid will also continue to engage with other utilities, public service providers and local authorities throughout the process.

16. What will the environmental impact be?

Environmental surveys and assessments will be done to help inform the design of the project, once we approach the design phase. Any potential environmental impact of this substation development project will be carefully considered, and all possible measures will be taken to reduce impacts, in keeping with the approach taken by EirGrid across all its projects.

EirGrid welcomes feedback that might highlight specific environmental issues that any member of the public would like to bring to our attention.

17. Will there be a Community Benefit Fund?

The Community Benefit Fund is a dedicated fund for new grid development, which is made available to provide direct benefits to communities who are closest to new transmission infrastructure.

These funds are proportional to the scale of the project and aim to leave a positive legacy in the communities hosting grid development.

EirGrid will be sharing details of the Community Benefit Fund associated with this project later in the process.

Imports via interconnector will be subject to trades on the day. The outlook for the maximum import capacity from Great Britain to Ireland is shown below.

Table 1 Example Table