EirGrid

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# East Meath-North Dublin Grid Upgrade

Capital Project 1021
Step 4 Update - September 2023
Best Performing Option

# Who are EirGrid and what do we do?

## EirGrid develops, manages, and operates Ireland's electricity grid.

We are leading the secure transition of Ireland's electricity grid to a low carbon, renewable future. We are responsible for the safe, secure, and reliable supply of Ireland's electricity.

The grid brings power from where it is generated to where it is needed throughout Ireland. It supplies power directly to industry and businesses that use large amounts of electricity. The grid also brings power from generators to the domestic network that supplies the electricity you use every day in homes, businesses, schools and hospitals.

This critical infrastructure underpins our societal and economic development. Work carried out now will help create a more sustainable future for the next generation.

# Key findings in this update

This update aims to keep you informed about the East Meath-North Dublin Grid Upgrade. A number of further assessments and developments have taken place since the announcement of the Emerging Best Performing Option -
Option A: The Red Option, in March 2023.

Following ongoing engagement with landowners, community and statutory stakeholders, we are now in a position to confirm a Best Performing Option (BPO) for this project. The Best Performing Option is the refinement of the Emerging Best Performing Option chosen along the project corridor within the study area.

We will continue to engage with landowners, community and statutory stakeholders.
This document provides information on the project to date, including:

- What is the East Meath-North Dublin Grid Upgrade;
- Our six-step approach to developing the electricity grid;
- What has happened with this project so far;
- What is the Best Performing Option;
- What underground cable construction looks like;
- East Meath-North Dublin Community Forum; and
- Next steps and how to keep up to date.

# What is the East Meath-North Dublin Grid Upgrade?

The East Meath-North Dublin Grid Upgrade is a high-capacity 400kV (kilovolt) underground electricity cable connection from Woodland substation, near Batterstown in County Meath, to Belcamp substation, near Clonshaugh, in north Dublin.

This upgrade will strengthen the electricity grid in the east of Meath and the north of Dublin to improve the transfer of power across the existing transmission network.

We need to upgrade and strengthen the grid to:

- address the increased electricity demand in east Meath and north Dublin due to economic development and population growth;
- reduce the use of, and reliance on, fossil fuels for electricity generation;
- facilitate further development of renewable energy generation, onshore and offshore; and
- assist in achieving the target of 80% of electricity coming from renewable sources by 2030.

# Benefits of the East Meath-North Dublin Grid Upgrade

**Competition**
Apply downward pressure on the cost of electricity

**Sustainability**
Help Ireland's transition to a low carbon energy future

**Security of Supply**
Improve security of electricity supply for Irish homes and businesses

**Economic**
Contribute to the regional economy and support increased investment in the area

**Community**
Deliver community benefit in the areas that facilitate the project infrastructure

# EirGrid's Six-Step Approach to Developing the Electricity Grid

Our 'Have Your Say' publication outlines our commitment to engage with, and listen to you, our stakeholders. Our public engagement strategy explains how we engage with stakeholders in developing projects like this. You can read both publications at www.eirgrid.ie.

This project is currently in Step 4. Following consultation on four different route options and the Emerging Best Performing Option (EBPO), we have now identified the Best Performing Option where we propose to build the underground electricity cable circuit.


Figure 1: EirGrid's six-step approach to developing the electricity grid

# What's happened so far?

**Step 1:** In 2017, we confirmed the need for the East Meath-North Dublin Grid Upgrade.

**Step 2:** In 2020, we compiled a shortlist of seven technical options for this upgrade. We assessed these options further, under the multi-criteria assessment categories (see page 7). This resulted in shortlisting four technical options to examine further in Step 3. These were:

- Woodland to Finglas 400 kV overhead line.
- Woodland to Finglas 400 kV underground cable.
- Woodland to Belcamp 400 kV overhead line.
- Woodland to Belcamp 400 kV underground cable.

**Step 3:** In 2021, we reconfirmed the project need and carried out feasibility studies for the four best-performing technology options. The studies found that three of the four technical options involved significant challenges. The remaining option emerged as the best performing option and was progressed with. In April 2021, we identified the 400 kV underground cable option from Woodland to Belcamp as the **Best Performing Technical Option** to progress for this project.

**Step 4:** We identified four potential underground cable route options from Woodland to Belcamp substations and consulted with you, our stakeholders, on these over 12 weeks from 7 September to 30 November 2022. Following this consultation, we confirmed **the Emerging Best Performing Option in March 2023 which was Option A: The Red Option.**

Now, as we come to the end of Step 4, following our multi-criteria assessment, we have identified the **Best Performing Option.**

There were five wider areas identified along the Emerging Best Performing Option that required further assessment and engagement with landowners. Following this engagement, we decided the cable routes in these five areas.

Further details about these key changes are outlined later in the brochure, on page 10.

# Step 4 Studies and Assessment Criteria

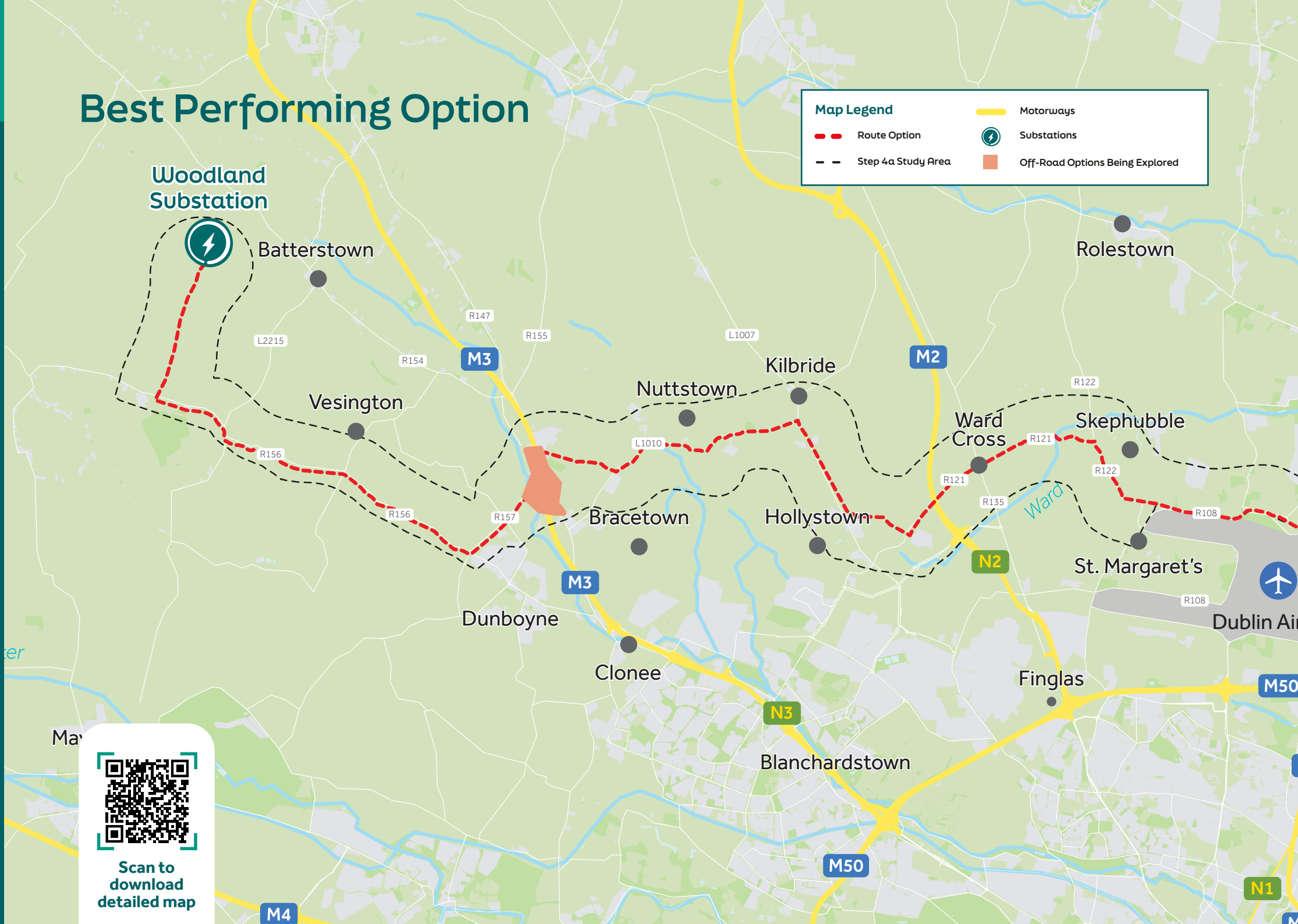
## How do we assess route options?

As part of Step 4, we are continuing with further investigations, building on those we completed in Steps 1, 2 and 3. We are assessing and comparing these investigations under five categories:

- **Technical aspects:** compliance with electricity standards and other operational aspects.
- **Economic factors:** project implementation costs.
- **Environmental factors:** topics including biodiversity, landscape, archaeology, and water quality.
- **Socio-economic factors:** such as the local economy and local amenities.
- **Deliverability factors:** such as timeline and potential risks.


Figure 2: EirGrid assessment criteria

# Best Performing Option




## What is the Best Performing Option?

The Best Performing Option outlined here is a refinement of the Emerging Best Performing Option.

The majority of the route, shown as a red line on these maps, follows existing roads. There are five off-road corridors between these sections. Associated landowners were engaged with and their input helped in deciding the off-road corridors and assessing route options to identify the Best Performing Option.

When planning routes, we follow a set of guidelines called routing principles. Our routing principles for this project, where possible, are to:

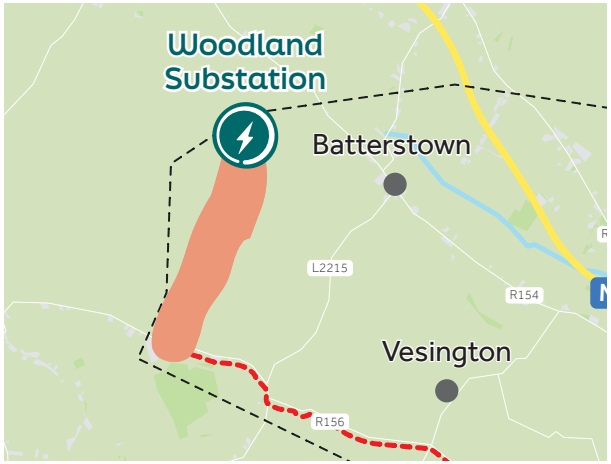
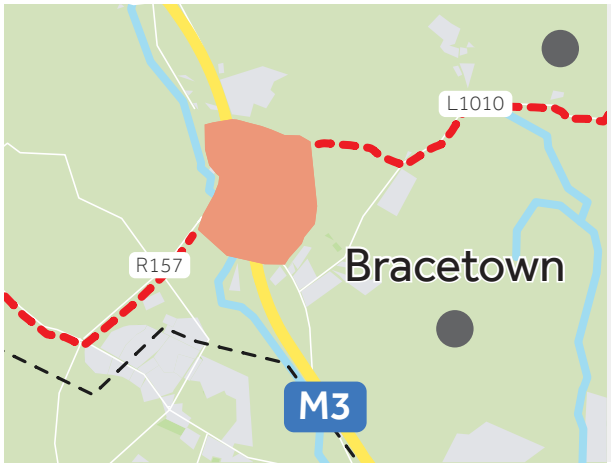
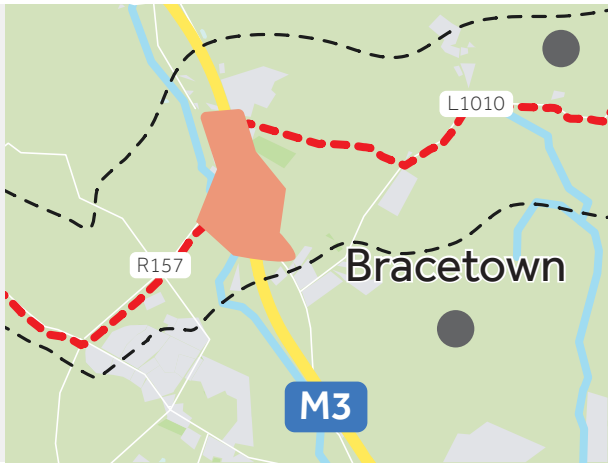
- avoid motorways;
- maximise the use of national, regional and local roads;
- avoid town centres and industrial estates;
- avoid going off-road, through private land and through agricultural land where possible;
- avoid sensitive natural and built heritage locations;
- minimise impact on communities where possible; and
- minimise the overall length of the route.

We also consider constraints. Examples of constraints are:

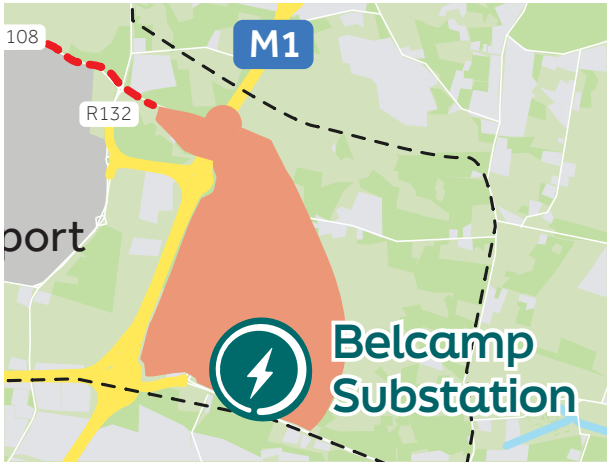
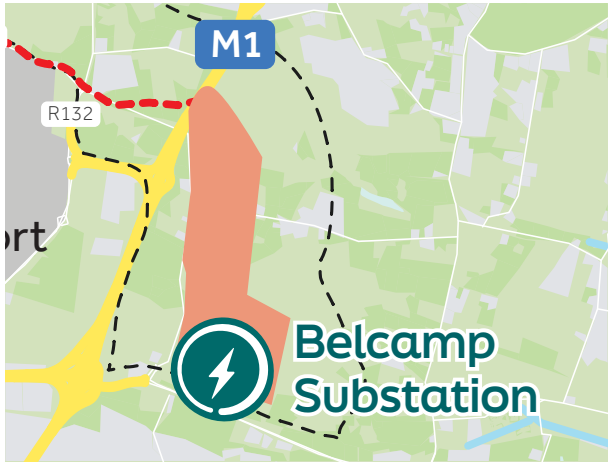
- the width and quality of the road;
- other services in the road such as water, gas and drainage;
- impact on the environment, including European and national protected areas for biodiversity, invasive and protected species and other important biodiversity areas (including undesignated habitats);
- City and County Development Plans and Local Area Plans; and
- areas of high amenity and ongoing works.

# The Key Changes

The following table outlines the defined Best Performing Option routes that will now be taken through the five wider areas initially presented as part of the Emerging Best Performing Option.

| Emerging best performing option | Reason for the change | Best performing option |
|---|---|---|
|  | **Woodland Substation to R156**<br><br>This is now an off-road section around 3km in length through agricultural land. The use of the local road network in this area was not preferred due to two existing masonry arch road bridges on the Red Road that were unsuitable. An off-road corridor would also minimise the risk of disrupting access to the Woodland substation and converter station. |  |
|  | **M3 Crossing**<br><br>This is now an off-road section around 1.1km in length through agricultural land, crossing the railway and M3 motorway. The exact route through the agricultural land is subject to agreement with landowners.<br><br>A route to the to the north of the motorway junction was preferred to minimise disruption to the road network and minimise risk to the railway. |  |

| Emerging best performing option | Reason for the change | Best performing option |
| --- | --- | --- |
|  | **Hollystown**<br>This is now an off-road section around 1.4km in length through agricultural land. The use of the local road through the village of Hollystown was not preferred due to potential disruption during construction and the presence of numerous existing utilities. An off-road corridor will minimise disruption to the local community, businesses and road users. |  |
|  | **St. Margaret's**<br>This is now an off-road section around 0.5km in length through agricultural land. The use of the local road network in the vicinity of St. Margaret's was not preferred due to potential risk of disruption to strategic infrastructure associated with the airport such as the runway landing lights. An off-road corridor will minimise risk. |  |

| Emerging best performing option | Reason for the change | Best performing option |
|---|---|---|
|  | **M1 to Belcamp**<br><br>This is now an off-road section around 3.5km in length through agricultural and industrial land. The use of the local road (Stockhole Lane) was not preferred due to potential disruption during construction and the presence of existing utilities. An off-road corridor will minimise disruption to the local community, businesses and road users. The exact route through the agricultural land is subject to agreement with landowners.<br><br>The potential of the 400kV underground cable forming part of a wider 'transmission cable corridor' has been discussed with affected private landowners on the approach to Belcamp station and continues to be investigated and assessed, for potential development under future projects.<br><br>This approach is in collaboration with other strategic infrastructure providers and in response to stakeholders who have requested a joined up approach to minimise the impact on communities in to the future. |  |

## Key Statistics

| | |
|---|---|
| **Route length** | 38 km |
| **Off-road sections** | 11 km |
| **Number of watercourse crossings** | 15 watercourse crossings, including the Dunboyne Stream and the Tolka, Pinkeen, Ward, Sluice and Mayne rivers. |
| **Other major crossings** | 3 major crossings: 2 motorways and 1 rail/motorway crossing |
| **Construction duration** | 24 to 36 months* |

* This may change depending on further technical assessment.

Further design features will be added to the project at Step 5. These include jointing bays, passing bays, construction areas, access tracks, substation works and other associated works. These works will be within the route area outlined.

These elements will not affect the routing of the cable but they will require additional engagement with landowners and key stakeholders.

## Ongoing Grid Development

Transmission network planning is a priority at EirGrid to make the electricity grid stronger and more flexible as we focus on meeting our climate action targets, as set out by the Government, to have 80% electricity coming from renewable sources by 2030.

As EirGrid continues to develop and strengthen the grid to achieve these targets, we will continue to identify new opportunities to future-proof the electricity grid, to facilitate increased offshore and onshore renewables, and to meet growing demand for electricity in the greater Dublin area due to both economic development and population growth.

In order to work together and achieve better outcomes, any future developments in this region will be consulted upon, to ensure we create a better future for generations to come.

# About the 400kV underground cable

The East Meath-North Dublin Grid Upgrade will use High Voltage Alternating Current (HVAC). This form of electricity transmission is used in electricity grids, internationally and in Ireland. Our studies show a 400kV underground cable between the Woodland and Belcamp substations is the most viable option for this project. The cable will be buried about 1.3 metres below the road surface.

Should planning consent be received during Step 5, the project will move to Step 6; the final stage of the project. During Step 6, the proposed grid upgrade will be constructed and delivered.

During the construction phase disruption to road users, landowners and communities will be minimised through ongoing engagement and consultation.

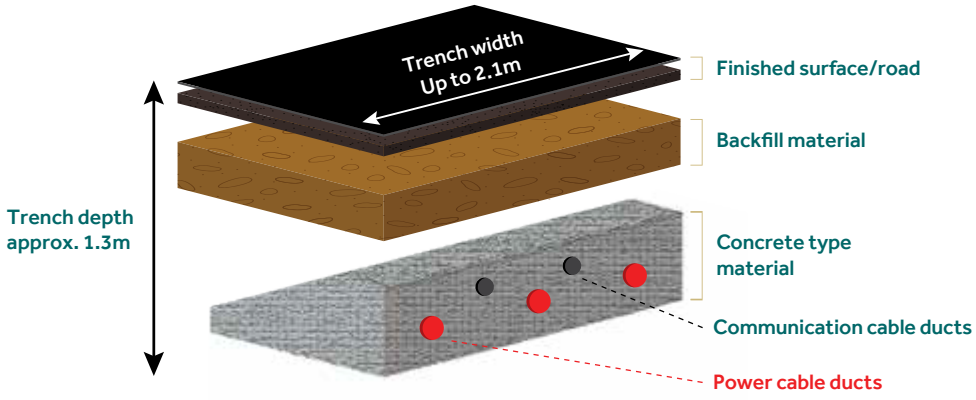



Figure 3: Typical HVAC underground cable duct arrangement

## What does underground cable construction look like?

Figure 4: A typical cable duct installation in the road

Figure 5: A typical jointing bay where cables are connected

Figure 6: Cables being pulled into the ducts and jointing bay

Figure 7: A typical passing bay in operation during cable jointing

# East Meath-North Dublin Community Forum

The East Meath-North Dublin community forum was established by EirGrid. This group aims to make sure that the voices of the local communities, and those impacted most by our infrastructure, are listened to. The forum provides for open dialogue between the project team and stakeholders interested in the project.

The forum engages with us on key project developments such as:

- how we communicate and engage with the public;
- what we need to consider in developing the project; and
- how we can deliver meaningful community benefit to the area where our infrastructure is hosted.

The forum acts as a consultative body and does not replace any other engagement and consultation we carry out.

The forum is Chaired by independent facilitator Dr. Harriett Emerson. The forum was setup in August 2022 and has met six times since. The meetings have been, and will continue to be, a way to inform the group of the latest developments on the project, ensure two-way communication is ongoing, and to raise any new information from the community.

To be kept informed of forum activity throughout this grid development, please visit our website at www.eirgrid/eastmeathnorthdublin

# Community Benefit

We recognise the importance of local communities and businesses who facilitate the upgrading of the electricity transmission network and the community benefit fund reflects this. While the East Meath-North Dublin Grid Upgrade is being built, we will work to support communities as part of our community benefit policy.

A dedicated fund for the East Meath-North Dublin Grid Upgrade area will be made available to provide direct benefits to communities who are closest to the cable. This fund, which is proportional to the scale of the project, supports local good causes and helps communities transform their area. The overall aim is to leave a positive legacy in the communities where the electrical infrastructure is in place.

Work on the community benefit scheme commences when a project receives planning permission.

The first step is the appointment of an independent community benefit fund administrator who will work with the East Meath-North Dublin Community Forum and EirGrid to co-develop a community benefit strategy.

The fund will then be released in 3 phases, which align with the development of the infrastructure:

| Phase | Percentage of funding released |
|---|---|
| 1. Construction | 40% |
| 2. Cable Installation | 30% |
| 3. Energisation | 30% |

Table 2: Phased release of community benefit funding

(Energisation means electricity flowing through the cables and around the transmission and distribution network).

These funds will provide support to local community groups, not-for-profit organisations and social enterprises that operate or service communities near the new infrastructure.

Examples of projects include:

- Heritage projects supporting a historical or archaeological association;
- Community projects such as creating walkways, or support for retrofitting of local community halls;
- Education initiatives such as providing IT equipment to enhance digital learning;
- Environmental initiatives – for example, installing beehives;
- Youth facilities such as a playground;
- Sports facilities such as providing equipment or a playing pitch, or supporting sporting groups to reduce energy consumption and become more sustainable.

# What happens next?

## Step 4 at a glance

**What's happening?**

We have identified the Best Performing Option. This route is around 38km in length with an estimated off-road section of 11km.

We will now progress to Step 5 – The Planning Process.

**How long will this take?**

We expect Step 5 will take us to the end of 2023, depending on the planning application process.

**What will happen next?**

In Step 5, the planning application will include preparation of environmental appraisals and reports. We will carry out surveys and site investigations along the cable route. Engagement will continue throughout the remaining steps of the project.

Once the application has been submitted, the project enters a phase of statutory consultation. This allows members of the public time to make submissions regarding the project to the relevant planning authority.

**How can I get in touch and stay informed?**

You can find further details about the project on our website: www.eirgrid.ie/eastmeathnorthdublin

On our website you will find material we published earlier in the project such as:

- The Step 4B Report-Route Options and Evaluation Report;
- An interactive map;
- outlining the Best Performing Option; and
- Project reports and brochures previously published during the earlier steps.

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# Get in touch

www.eirgrid.ie/eastmeathnorthdublin

EastMeathNorthDublin@eirgrid.com

**Contact your Local Community Liaison Officers:**

**Grainne Duffy -** 085 887 4798
**Eoghan O'Sullivan -** 087 247 7732

Scan Here

We would welcome your feedback on the East Meath-North Dublin Best Performing Option.

# Notes

EirGrid

The Oval, 160 Shelbourne Rd,
Dublin 4, D04 FW28
01 627 1700 | EirGrid.ie

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