

Who are EirGrid and what do we do?

EirGrid is responsible for a safe, secure and reliable supply of electricity – now and in the future. We develop, manage and operate the electricity transmission grid. This grid brings power from where it is generated to where it is needed throughout Ireland. We use the grid to supply power to industry and businesses that use large amounts of electricity. The grid also powers the distribution network and supplies the electricity you use every day in your homes, businesses, schools, hospitals and farms.

About this update

We want to hear what you have to say about the four underground cable route options we are considering for the East Meath-North Dublin Grid Upgrade. This update is for you as stakeholders, communities, landowners and members of the public interested in finding out more about this upgrade project.

This brochure provides information about the project, and we hope it will inform and help you to take part in this consultation. We are in Step 4 of a six-step process (more detail on page 5). This brochure will outline how the project has developed to date and detail how you can give us your feedback during this consultation period.

The consultation is open from 7 September 2022 to 30 November 2022. We are consulting on four underground cable route options (see page 7). We will consider feedback on all four route options before deciding on what the best route option is to take forward to detailed design. This brochure provides detailed information on the project, including:

- what the East Meath-North Dublin Grid Upgrade is,
- how to have your say,
- our six-step approach to developing the electricity grid,
- what has happened on the project so far,
- what the study area and route options are,
- information about underground cables,
- the community forum, and
- Step 4 at a glance.



What is the East Meath-North Dublin Grid Upgrade?

Why is the project needed and what are the benefits?

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

This upgrade will strengthen the electricity network 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 network 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 climate action targets of having up to 80% of electricity coming from renewable sources by 2030.

This project was identified as one of the candidate solutions in the Shaping Our Electricity Future Roadmap which was published in November 2021.

Benefits of the East Meath-North Dublin Grid Upgrade



Competition
Apply downward pressure
on the cost of electricity.



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



Security of Supply Improve electricity supply for Ireland's electricity consumers.



Economic
Contribute to the regional economy and support foreign direct investment.



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

Have your say in this consultation

We are inviting you to give feedback on four route options for the East Meath-North Dublin Grid Upgrade.

The consultation period is **from 7 September to 30 November 2022**. We encourage you to engage with us and have your say as early as possible during this consultation period.

Where can I find out more?

You can find out more in a number of different ways.

All information relating to this project is available on our website: www.eirgrid.ie/EastMeathNorthDublin



Arrange to speak to a team member directly



Sign up to a webinar



Visit our consultation portal



Attend an Open Day

How can I have my say?

There are many ways you can give feedback, including:



Submit your views online at consult.eirgrid.ie



Email your submission to us at EastMeathNorthDublin@eirgrid.com



Write your own submission and freepost it back to us

Our freepost address is: East Meath-North Dublin Grid Upgrade Consultation, EirGrid plc, Freepost FDN 5312, 160 Shelbourne Road, Ballsbridge, Do4 FW28

Who can I contact?

If you would like to find out more information about this project, you can:

Email - EastMeathNorthDublin@eirgrid.com

Contact your local Community Liaison Officer: Eoghan O'Sullivan **087 247 7732** or Gráinne Duffy **085 887 4798**

EirGrid's six-step approach to developing the electricity grid?

Our 'Have Your Say' publication outlines our commitment to engage with, and listen to, stakeholders.

Our Public Engagement Strategy explains how we engage with our stakeholders in the development of projects like this. You can read both publications at **www.eirgrid.ie**



Figure 1: Our six-step approach to developing the electricity grid

Now in Step 4, we will:

- hold a 12-week public consultation about this grid development project,
- examine four different route options to help decide where to put the underground electricity cables, and
- engage widely to further inform our decision on where to put the underground electricity cables.



Figure 2: Our six-step approach for the East Meath-North Dublin Grid Upgrade



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 seven options further under the multi-criteria assessment categories (see page 8). 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. We carried out feasibility studies for the four bestperforming technology options and these were finalised in March 2022.

The studies found that three of the four technical options involved significant challenges with the remaining option emerging as the best performing option to be progressed further.

- Woodland to Finglas options The feasibility studies showed there is not enough physical space at the existing Finglas station to support the equipment required for either a 400 kV overhead line or underground cable without major expansion of the Finglas station or development of another new station nearby. The restricted space on this brownfield (industrial) site impacts development. Also, connecting to Finglas station would require lengthy equipment outages which would be difficult to grant while ensuring security of power supply to the Dublin area.
- Woodland to Belcamp options There were a number of constraints identified in relation to new circuits to connect to this station. From an environmental perspective, an overhead line would have to cross the Malahide Estuary, a special area of conservation and special protection area. The underground cable alternative is able to avoid these constraints.

In April we identified the 400 kV underground cable option from Woodland to Belcamp as the Best Performing Option to progress for this project.

Expected Outcomes for Step 4

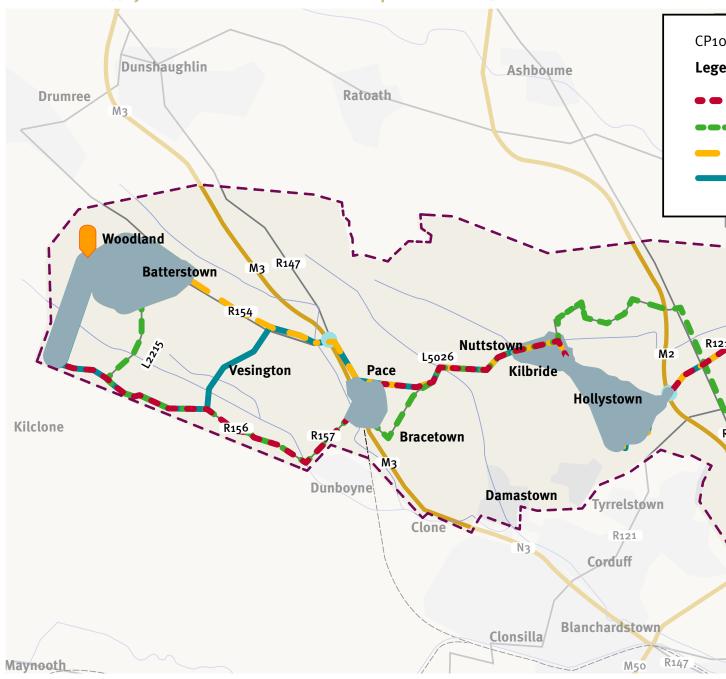
The expected outcomes (results) of Step 4 are to:

- consult with you on the four route options,
- publish a consultation report on the feedback received,
- announce an emerging best performing route option in spring 2023 and to consult locally with stakeholders on this, and
- announce a final option in summer 2023, identifying exactly where the project will be built.

This step will not include applying for planning permission. This will be completed in **Step 5**.



The study area and route options



The study area is the area within which the electricity infrastructure for the East Meath-North Dublin Grid Upgrade is proposed to be built. This study area has been revised since Step 3 to reflect the further studies we have carried out and underground cable route options identified. Electricity infrastructure in this instance means the physical cables and structures that are used to transmit high-voltage electricity from where it is generated to where it is needed.

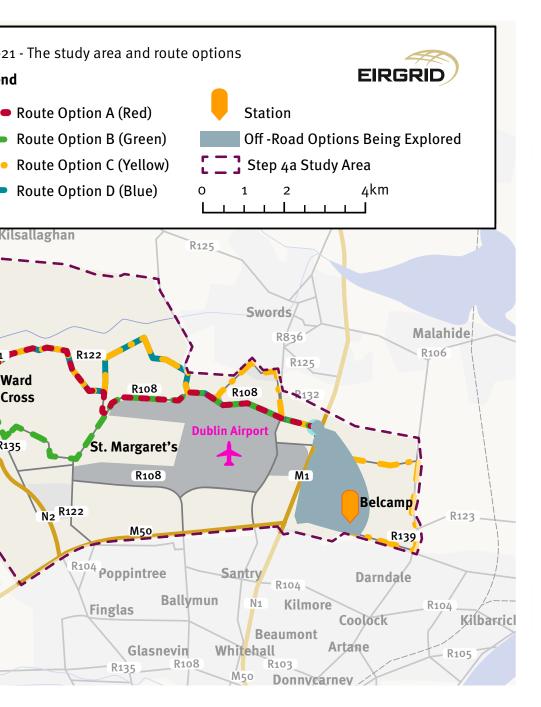
The above map (Figure 3) displays the study area using a **dashed purple line**. Within this, there are four route options: **Red, Green, Yellow** and **Blue**.

How do we plan route options?

We follow a set of guidelines called routing principles when identifying route options.

Our routing principles for this project, where possible, are to:

- avoid motorways;
- avoid sensitive natural and built heritage locations;



- avoid town centres and industrial estates;
- avoid going off-road, through private land and through agricultural land where possible;
- maximise the use of national, regional and local roads;
- 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;
- potential impact on the environment including European and national protected areas for biodiversity, invasive and protected species and other important biodiversity areas (including undesignated habitats); and
- areas of high amenity and ongoing works.

Consideration is given to City and County Development Plans and Local Area Plans and in addition to this, feedback from local communities is at the heart of our process.

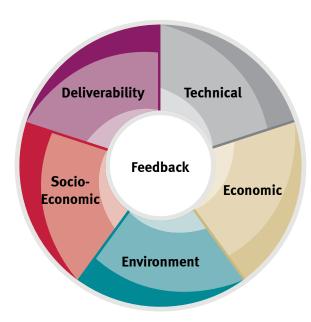


Figure 4: The five multi-criteria assessment categories

How do we assess route options?

We assess and compare options under five categories:

- **1. Technical aspects:** Compliance with electricity standards and other operational aspects.
- **2. Economic factors:** Project implementation costs.
- Environmental factors: Topics including biodiversity, landscape, archaeology, and water quality.
- **4. Socio-economic factors:** Such as the local economy and local amenities.
- **5. Deliverability factors:** Such as timeline and potential risks.

Common to all four route options

All routes start from Woodland substation

Woodland 400kV substation near Batterstown, Co Meath is of national strategic importance within the electricity transmission grid. It already has several major circuits connected with other grid infrastructure developments planned to be connected in the coming years. In order to facilitate future connections, the station requires improvement works within the existing compound to accommodate all of these projects.

We recognise that this substation and the local communities in this area are facilitating a wide range of electricity infrastructure projects. We are committed to working with businesses, local communities, landowners and all key stakeholders to minimise the disruption caused with developing these projects.

Overview of projects currently in development at Woodland substation

There are a number of high voltage infrastructure projects which are planned to connect to the existing Woodland station, such as:

- East Meath-North Dublin Grid Upgrade
- Kildare Meath Grid Upgrade
- North South Interconnector
- Woodland substation improvement works

For this grid development project, Woodland is the common connection point for each of the four proposed route options. Parts of these routes will be off-road where routing challenges are identified.

Before we can determine a more specific route in this area, we need to do more:

- local engagement,
- surveys,
- design studies, and
- assessment

Where possible, we will avoid impacts to communities and businesses. We will avoid impacts to agricultural land as far as possible by minimising off-road sections. Where off-road sections are needed, we will carefully route the cable following discussions with the people affected.

All routes travel to Belcamp substation

Belcamp 220kV substation is an existing substation in the Clonshaugh area of County Dublin around 7km from Dublin city centre. This substation is also of strategic importance in the electricity transmission grid, as it will accommodate further grid development projects in the coming years.

This 220kV substation needs to be extended and a new 400kV substation needs to be built using the land beside the existing building. The works will improve power quality and support future renewable generation, including offshore renewables, and growing electricity demand in the north Dublin area.

Overview of projects currently in development at Belcamp substation

- East Meath-North Dublin Grid Upgrade
- Kildare Meath Grid Upgrade (Associated works)
- Shellybanks to Belcamp 220kV cable
- Finglas to Belcamp 220kV cable
- Belcamp 220kV substation extension

As with Woodland, for this grid development project, Belcamp is the common connection point for each of the four proposed route options.

All routes cross a motorway

All routes will cross the M₃, M₂ and M₁ between Woodland and Belcamp.

It is likely these crossings will use Horizontal Directional Drilling (HDD) to minimise disruption and impacts on existing infrastructure.

Horizontal Directional Drilling (HDD) is a method of drilling that installs underground pipelines and cables without digging trenches. It involves using a directional drilling machine to drill along the chosen path and then install the required pipe.

Please know that we will engage extensively with all relevant bodies, carry out all necessary studies and reduce impacts to communities, landowners, and environment as much as possible before starting these works.

All route options have off-road corridors

The length of the four options ranges from 37km to 43km. Most of the cable route in each option can be laid in the existing road network. However, each option will require some of the cable route to be off-road. These off-road corridors will range from approximately 3km to 9km of the cable route.

Where off-road routing is unavoidable, we do not yet know what the exact route may be. For this reason, we highlight a corridor of space on each of the route maps. The off-road section may pass through any part of this corridor. We will decide this after detailed discussions with the landowners affected. We will avoid agricultural land as far as possible.

Please note that we could consider further route options by combining sections of each of the proposed routes. We may need to make additional adjustments if, during the consultation process, the public identify additional information for consideration.

Overview of the proposed route options

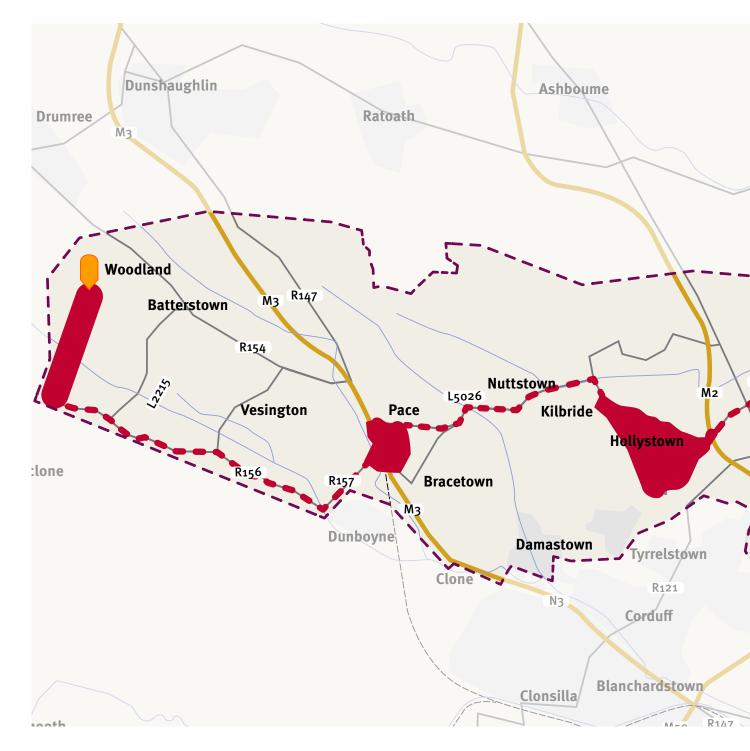
The following table provides an overview of the four underground cable options we are considering for this project.

Please note that the route lengths referenced below are indicative only and will be finalised when a full and detailed route is agreed.

Option	Estimated overall length (km)	Estimated off-road sections (km)	Environmental impact	Social impact and potential disruption during construction	Other points
Option A (Red)	37	9	Low-Moderate	Low-Moderate	Shortest route but affects the most amount of agricultural land of all options.
Option B (Green)	38	7	Low-Moderate	Low-Moderate	Second shortest route and avoids Hollystown.
Option C (Yellow)	43	2	Moderate	Moderate	Longest route. Goes through Batterstown village and southern suburbs of Swords. Least agricultural land.
Option D (Blue)	41	4	Low-Moderate	Low-Moderate	Second longest route length, second lowest amount of agricultural land. Avoids Kilbride village.







Option A - The Red Option

Option A is the shortest of the four cable route options at 37km but has the longest off-road section of approximately 9km. It potentially affects the largest amount of agricultural land of the four route options but has a relatively low impact on regional and local road networks.

From Woodland, Option A will travel south through fields for around 3 km until it joins the R156 at Barstown Industrial Estate. From there, the route will travel east as far as Dunboyne, detouring north with the R157 once it reaches the northwestern outskirts of the town.

It will cross the:

River Tolka,

- M3 Motorway at Junction 5, and potentially the
- Railway at M₃ Parkway.

Work on the motorway itself will be avoided as any crossing here will likely be via Horizontal Directional Drilling (HDD) or via a tunnel. A potential off-road corridor is shown for this crossing of the motorway. The route will then briefly progress north along the R147 before

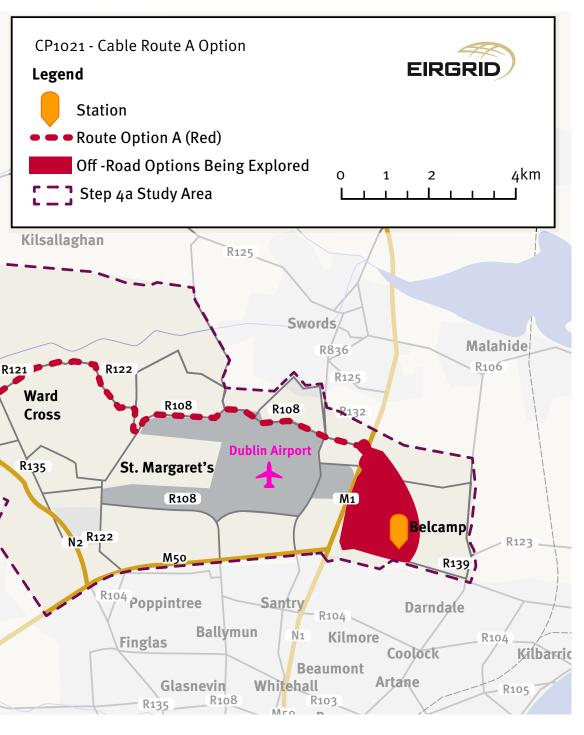


Figure 5: Route of Option A

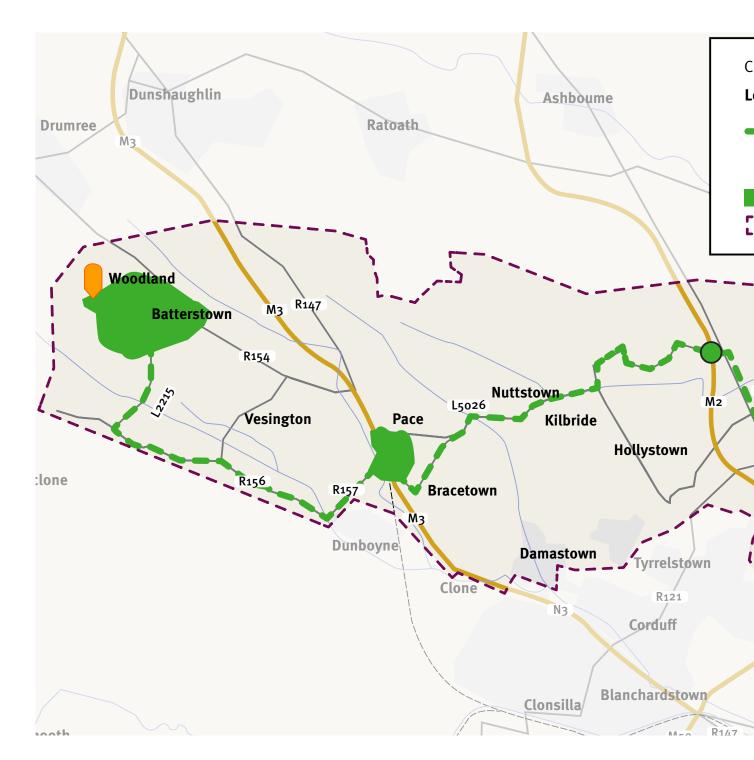
travelling east once more along the L5026 and local roads.

Option A will advance east to Kilbride, with three crossings of the Ward River along the way. Here, the route moves south, passing Kilbride National School, where it crosses the Ward River again.

A potential off-road corridor is shown for the route to the south of Kilbride. The route will pass through this corridor and join the R121 a short distance to the west of the M2. A further off-road corridor is shown for the crossing of the M2 motorway. Following the crossing, the route continues east to the Ward Cross and stays east on this road until the R121 reaches the R122.

Option A will then progress south via Kilreesk Lane and Kilreesk Road to the R108 and Naul Road along the northern boundary of Dublin Airport as far as Cloghran Roundabout, northeast of Dublin Airport.

From there, Option A will briefly use Stockhole Lane travelling east to the M1 motorway. A potential off-road corridor is shown for this motorway crossing. Once across the motorway, Option A remains off-road; a potential off-road corridor is shown for the onward connection south to Belcamp substation.



Option B – The Green Option

Option B is the second shortest of the proposed route options at 38km, with the second longest off-road section of approximately 7km. It shares a common route with Option A in multiple sections between Woodland and Belcamp but follows an alternative path for more than half of the course.

Option B will travel off-road in a southeast direction from Woodland until it reaches the L2215 in the townland of Lismahon. A potential off-road corridor is shown for this. At this local road, the route travels south in the road to the R156. From there, the route option will advance east along the same route as Option A, avoiding Dunboyne.

It will cross the:

- River Tolka,
- M3 Motorway at Junction 5, and potentially the
- Railway at M3 Parkway.

The motorway itself is avoided as any crossing here will most likely be via Horizontal Directional Drilling (HDD) or via a tunnel. A potential off-road

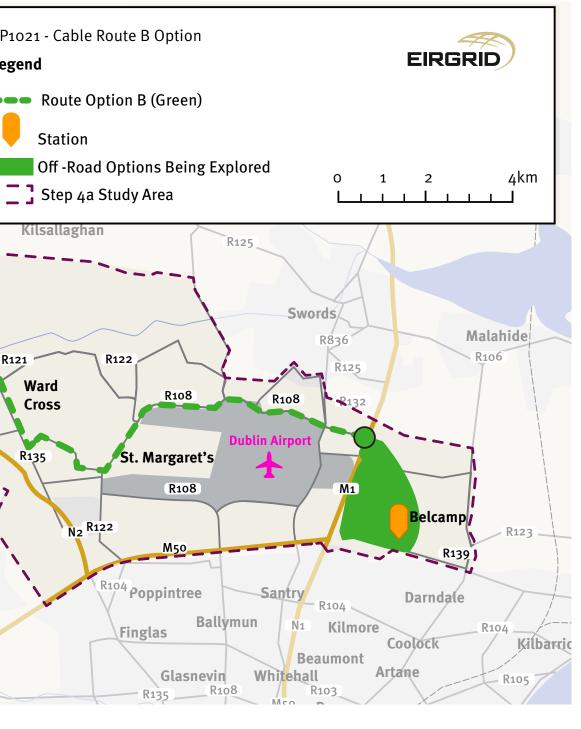


Figure 6: Route of Option B

corridor is shown for this motorway crossing.

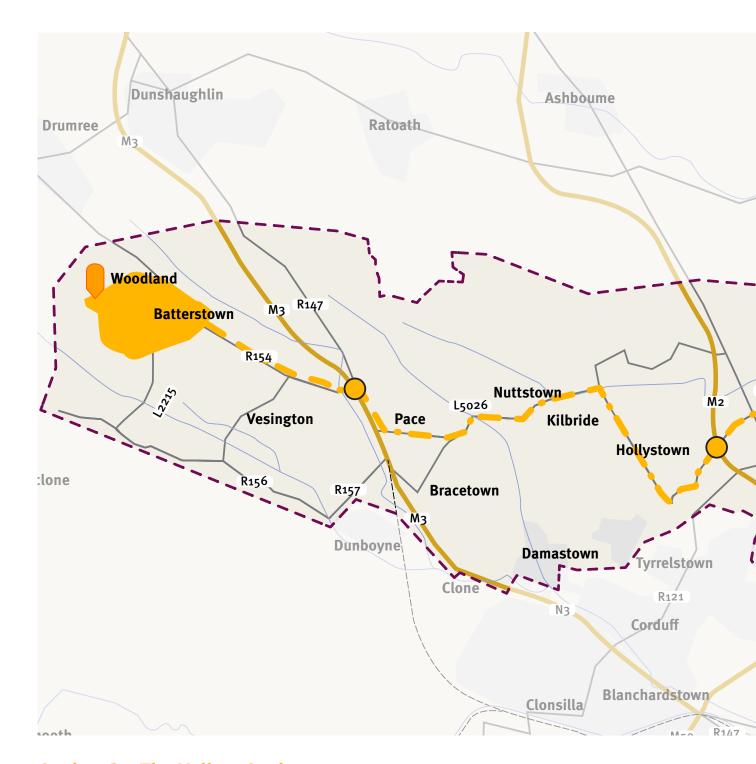
The route will then re-join the R147 and progresses south as far as Bracetown Business Park. It continues northeast along this road until it joins another shared route with Option A for the 4 km leading into Kilbride.

However, in Kilbride, the proposed Option B travels north out of Kilbride and along a narrow road, through the townlands of Baytown, Mabestown and Irishtown.

Option B will cross the M2 Motorway at the flyover to the west of Coolquay, before joining the R135 in the village of Coolquay. A potential off-road corridor is shown for this motorway crossing. It

travels south from there through the Ward Cross to Broughan. The route then travels east once more, joining the R122 via Broughan Lane and Newtown Cottages, rather than continuing as far as Kilshane Cross.

Option B will bypass St Margaret's and join the R108. Like Option A, the route will follow the northern boundary of Dublin Airport. From there, Option B will travel along Stockhole Lane before crossing the M1 motorway. A potential off-road corridor is shown for this motorway crossing. Option B will also remain off-road for its onward connection, Belcamp. A potential off-road corridor is shown for this.



Option C – The Yellow Option

Option C is the longest of the cable route options at 43km but has the shortest off-road section, with 2 km off-road. Option C affects the least amount of agricultural land of the four shortlisted options.

Option C shares the initial 2km route out of Woodland substation with Option B. A potential off-road corridor is shown for this.

Upon joining the L2215, Option C will progress north to Batterstown. Here the route may pass offroad and so a potential off-road corridor is shown. South of Batterstown it will travel along the R154 to the M3 motorway.

Option C will cross the River Tolka, then move offroad to cross the M3 Motorway to the south of the M₃ Southern Toll Plaza, returning to the roadway at the roundabout to join the R147. A potential offroad corridor is shown for this motorway crossing.

The route will then travel south along the R147 until the L5026 Pace, travelling east, with the more direct minor road through the townland of Kinoristown preferred to the minor road further south, through Rowan.

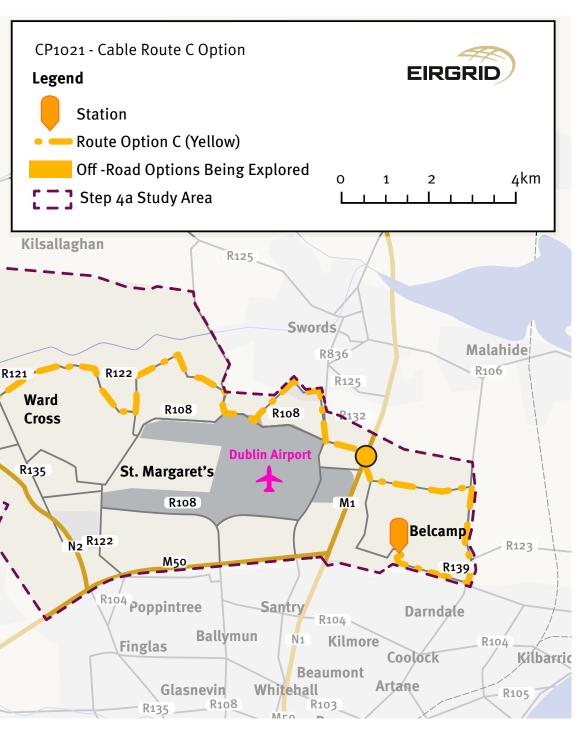


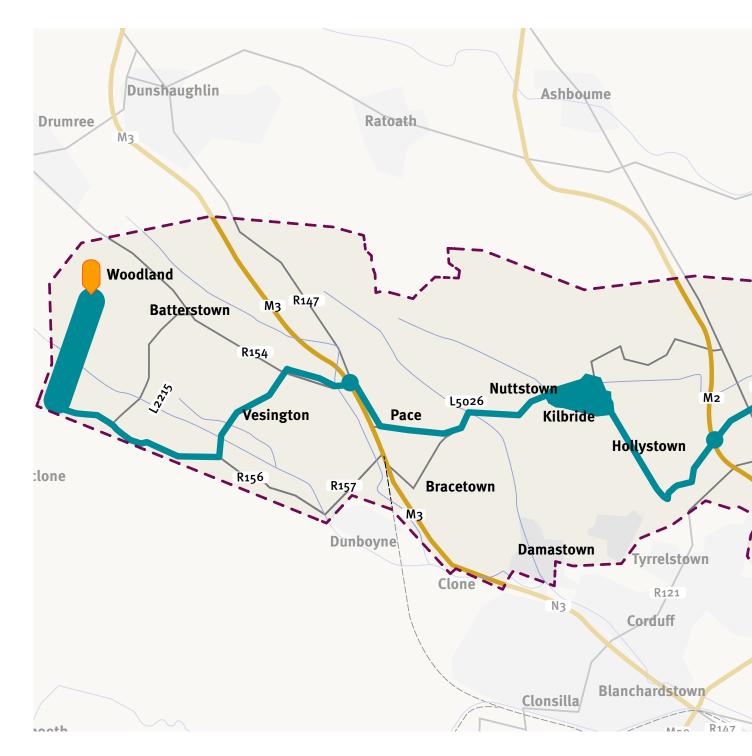
Figure 7: Route of Option C

Option C will continue east through Nuttstown and into Kilbride. In Kilbride, it will pass Kilbride National School and progress south along the Kilbride Road. This route will enter Hollystown, turning northeast to join the R121 before reaching Hollywoodrath.

A potential off-road corridor is shown for the M2 motorway crossing. Following this, the route returns to the R121 and follows it through the Ward will then move south, past Fingal Burial Ground, Cross until it finishes at the R122. Here, Option C will move southeast, using Kilreesk Lane and then following Kilreesk Road, Cooks Road and north into Forest Road. It will run along Forest Road next to Forrest Little Golf Club and into the southern

suburbs of Swords, where the L2300 and R132 are used to return south to Cloghran Roundabout.

Option C will then follow Stockhole Lane, crossing the M₁. A potential off-road corridor is shown for this motorway crossing. The proposed route option will then return to Stockhole Lane and turn east onto Baskin Lane which it will follow to the junction with the Malahide Road in Kinsealy. It returning west along the R139 before turning north along the access road to reach Belcamp substation.



Option D - The Blue Option

Option D is the second longest proposed route at 41km but has the second shortest off-road section of the four options at approximately 4km.

Option D will exit Woodland substation by travelling south on an off-road route to join the R156. A potential off-road corridor is shown for this. It then turns east near Barstown Industrial Estate, sharing the same route as Option A for the first 7km, before turning north at Baytowncross towards Vesington. The route travels along this local road to join the R154 in the townland of Quarryland.

From there, the route will progress east to the R147, crossing the M3 Motorway south of the flyover which is to the south of the M3 Southern Toll Plaza. A potential off-road corridor is shown for this motorway crossing.

Option D will follow the L5026 Pace to the east, continuing along the minor road which passes through Kinoristown, which is then shared by all four route options. Near Kilbride, a potential offroad corridor is shown for this option.

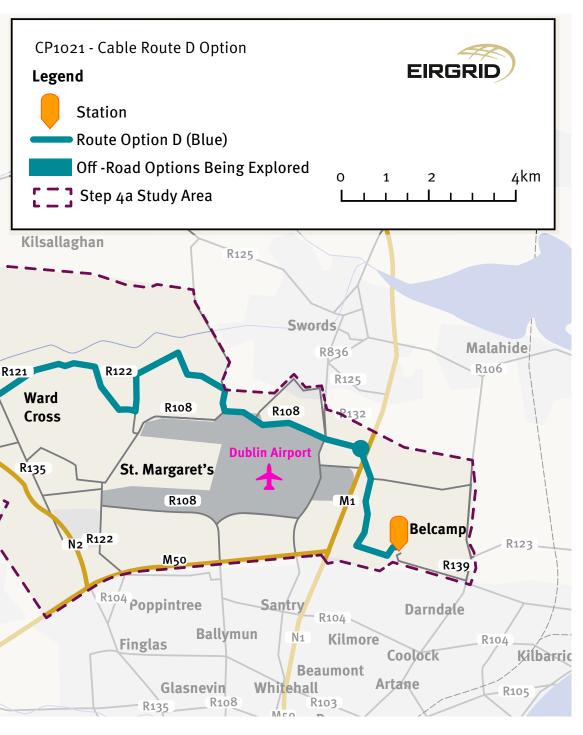


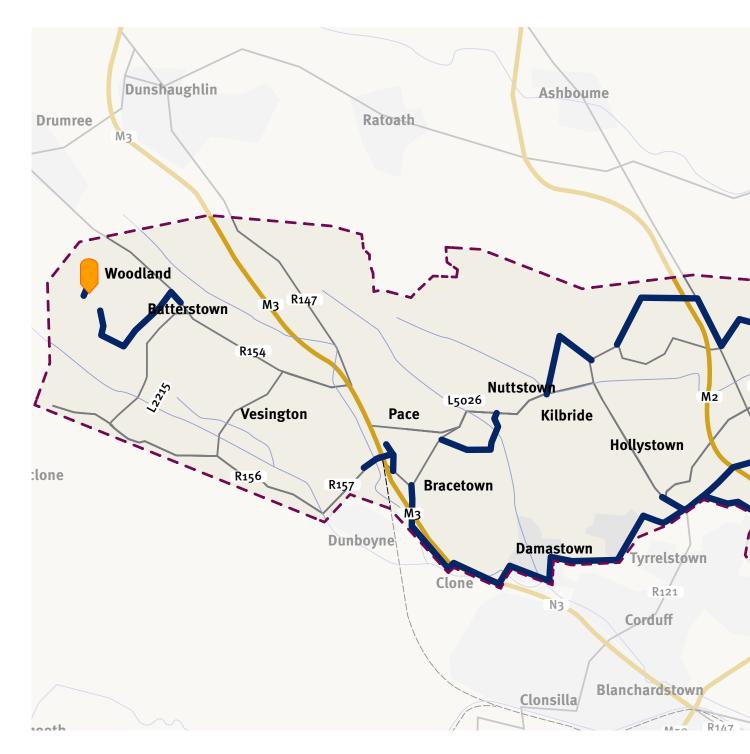
Figure 8: Route of Option D

The route travels south along Kilbride Road through Hollystown to join the R121 and will then cross the M2 Motorway. A potential off-road corridor is shown for this motorway crossing. From here, it travels east until it reaches the R122, passing the Ward Cross along the way.

Like Option C, Option D follows the R122 south, then uses Kilreesk Lane, Kilreesk Road and the Cooks Road. Like Options A and B, Option D uses Naul Road on the northern border of Dublin Airport.

From northeast of the airport, Option D would also briefly use Stockhole Lane before crossing the M1 motorway. A potential off-road corridor is shown for this motorway crossing. From the

crossing of the motorway the route will return to Stockhole Lane travelling south before joining the R139. Here it will travel east and then north into Belcamp substation via the existing access road.

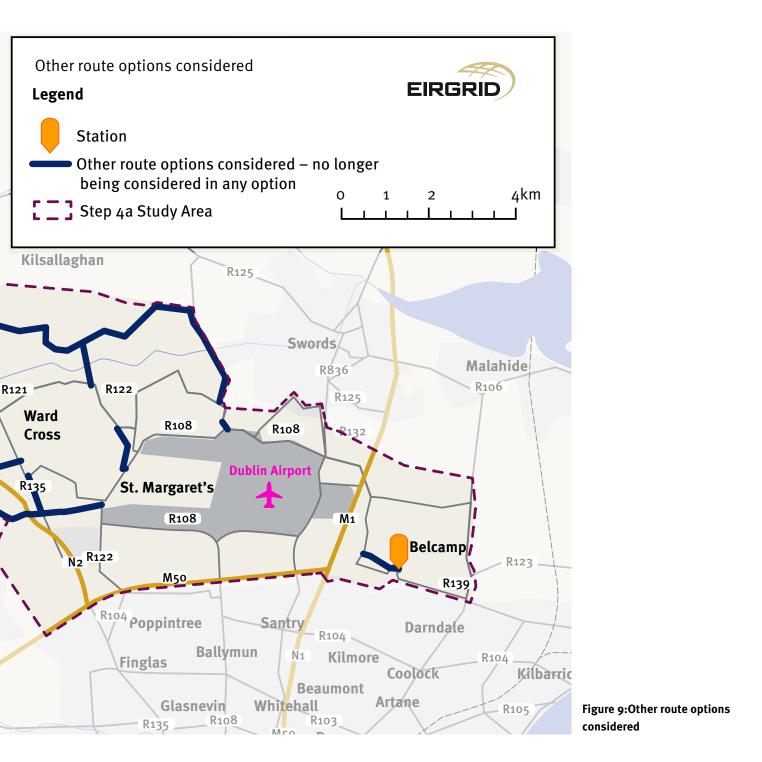


Other route options we considered

There were other route sections that we considered but did not bring forward for public consultation because we believe they would not be appropriate for this project. You can see these below in Figure 9 but these sections are not being developed for further consideration.

These include:

- A route via Rowan between the M3 and Kilbride
- A route travelling north to Priest Town which then travelled south to join Option B between Kilbride and Coolquoy
- A route from Baytown to Coolquoy via Newtown Commons



- A route heading south along the R147 after the crossing of the M3 to Damastown, which then travelled east to Tyrrelstown to Hollywoodrath
- A route from Coolquoy to St Margaret's Golf and Country Club via Corrstown Golf Club
- A route from Corrstown to the R108 via Brackenstown.

Other potential route sections were excluded during the feasibility stage of this project.

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 networks, internationally and in Ireland. Our studies show a 400 kV 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.

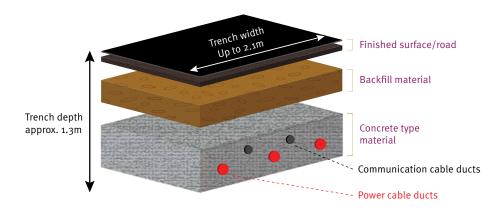


Figure 10: Typical HVAC underground cable duct arrangement

What does underground cable construction look like?

As this project progresses, we will do everything possible to minimise disruption during the construction phase of the project by engaging with local communities, businesses, and landowners.

We will apply to the local authority for permission to install cables. When installing, we will follow our traffic management plan to ensure the least amount of traffic disruption in the area.

The following photos show what construction may look like.



Figure 11: A typical cable duct installation in the road



Figure 13: Cables being pulled into the ducts and jointing bay



Figure 12: A typical jointing bay where cables are connected



Figure 14: A typical passing bay in operation during cable jointing



Figure 11: A typical road reinstatement

East Meath-North Dublin Grid Upgrade **Community Forum**

The forum aims to ensure that stakeholder and community views are understood and properly considered as we deliver the project. It makes 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 with interests in the project.

The East Meath-North Dublin Grid Upgrade Community Forum offers advice to 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.

How the forum was developed

In July 2022, we appointed Dr Harriet Emerson of Adjust as the independent Chair of the East Meath-North Dublin Grid Upgrade Community Forum.

An information evening was held on 14 July about the establishment of the forum and to inform interested stakeholders about the project and the role of the forum.

Community groups were then invited to express an interest in joining the forum. In addition, Fingal County Council and Meath County Council were invited to nominate elected representatives onto the forum. The community forum held its first meeting on 10 August and second meeting on 6 September. New community groups from areas not currently represented within the study area are welcome to express an interest in joining the community forum. The forum will continue to meet regularly to:

- discuss project updates,
- provide feedback, and
- ensure two-way communication is ongoing.

To be kept informed of forum activity, visit our website: www.eirgrid.ie/EastMeathNorthDublin

Step 1 Completed identifying needs of the grid.

Step 2 Determined the technologies that can meet these needs.

Step 3 Considered the best route option and affected study area.

Step 4 Where exactly should we build?

Step 5 Apply for planning permission.

Step 6 Construct, energise (make live), and share benefits.

Step 4 At a glance

What's happening?

We have identified four potential route options to upgrade the electricity grid in east Meath and north Dublin. As part of this we would like your feedback during our consultation period 7 September – 30 November 2022.

How long will this take?

Step 4 will take us into summer 2023. We will continue to engage on an ongoing basis.

What can I influence?

You can influence where we build this project by sharing your input to this consultation.

How can I get involved?

You can get involved in different ways. We are engaging and consulting at local level with members of the public, landowners, and local representatives from the study area. We are also speaking directly to elected representatives, specialist representative groups, environmental and planning agencies.

You can share your views from 7 September to 30 November 2022. Find out more at www.eirgrid.ie/EastMeathNorthDublin.

Who can I contact?

If you would like to find out more information, register to receive update emails or give feedback on this project, you can email **EastMeathNorthDublin@eirgrid.com** or contact your local Community Liaison Officers: Eoghan O'Sullivan 087 247 7732 or Gráinne Duffy 085 887 4798.





The Oval, 160 Shelbourne Road, Ballsbridge, Dublin D04 FW28 · Telephone: 01 677 1700 · www.eirgrid.ie

