



Celtic Interconnector

Project Update
Step 4 Consultation

Winter 2019-20



The current. The future.



Co-financed by the European Union
Connecting Europe Facility

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 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 that supplies the electricity you use every day in your homes, businesses, schools, hospitals and farms.

As part of our role, we need to explore and develop opportunities to connect our transmission grid with grids in other countries.

About this update

This update is for stakeholders, communities, landowners and members of the public who want to find out more about this project.

The purpose of this document is to provide information on the project and to support the Step 4 public consultation process. This takes place during winter 2019 - 20.

This document provides up-to-date information on the project. This includes what has been learned on the project so far, and how you can get involved.

What is the Celtic Interconnector?

The Celtic Interconnector is a proposed link to allow for the movement of electricity between Ireland and France. It will send high voltage electricity as direct current (DC) using an undersea cable. At either end of this cable, the electricity then needs to be converted to alternating current (AC) so it can connect with the national grid.

We have worked with our counterpart in France, Réseau de Transport d'Électricité (RTÉ), to develop an interconnector between our two countries.

If planning permission is granted, we anticipate that the interconnector will go live in 2026.

Project of Common Interest

The European Commission sees interconnection between member states as key projects. This is because they will lead to a more integrated electricity system in Europe. It has designated the Celtic Interconnector as a Project of Common Interest (PCI).

Projects with this status benefit from accelerated procedures and funding. This is so the EU can achieve its energy policy and climate objectives.

In October 2019 the European Commission announced that it would provide €530 million of grant funding to this project. This grant was made under its Connecting Europe Facility (CEF) Energy Programme.

Project Benefits



Competition

Apply downward pressure on the cost of electricity to consumers in Ireland and France



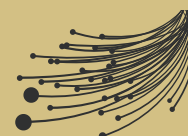
Sustainability

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



Security of Supply

Enhanced security of supply for Irish electricity consumers



Fibre Optics

Provide a direct telecommunications link between Ireland and France (and continental Europe)

Key Facts



575km

length of the interconnection
(500km subsea)



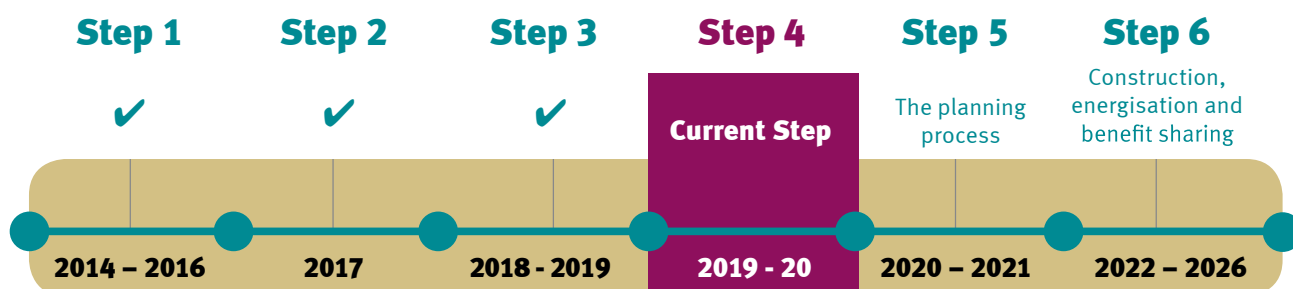
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project promoters
(working in partnership)



700 MW

capacity
(450,000 homes)



Six-step approach

We follow a six-step approach to planning electricity grid projects. This approach guides how we:

- Engage and consult with stakeholders and communities
- Explore options fully
- Make more informed decisions

The Celtic Interconnector project is now in Step 4 of this process.

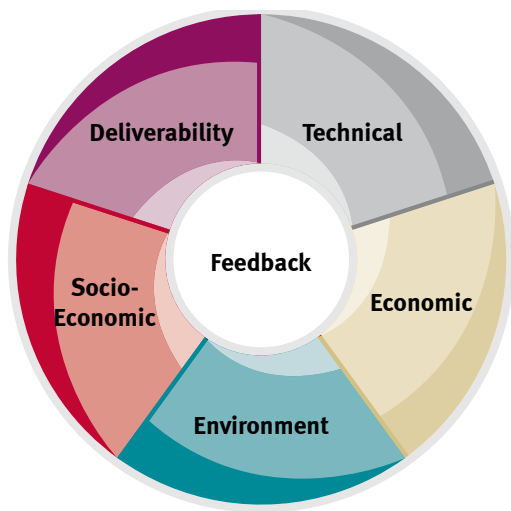
Coming out of Step 3

The Step 3 public consultation ran from April 11th to June 10th 2019.

EirGrid identified three landfall locations and six converter station location zones.

We assessed and compared them under five different categories.

This helped identify a more focused set that are now emerging as the best performing options. They are presented in this document.



Opposite page top:

A reel of undersea high-voltage DC electricity cable, similar to what would be used on this project.

Opposite page bottom:

Rush North beach in Dublin, showing how a landfall site for an undersea cable is reinstated when the project is complete.

Assessment Criteria

We studied the responses to the Step 3 consultation. This was to understand the concerns people raised, and to assess new information about the proposed options.

We carefully considered this information, alongside our analysis. We then decided which options to take forward.

Respondents raised several common themes:

- The potential for noise and visual impacts
- Disruption during construction
- Concern about EMF emissions
- Farming and land use

You can read the detail of our response to these concerns here:

http://bit.ly/Celtic_Step_3_Response

And you can learn more about the safety of EMF emissions here:

<http://www.eirgridgroup.com/about/health-and-safety/>

After a detailed review of the responses, we evaluated the short-listed options for landfall, and for the converter station. This process confirmed they were all still viable.

If you want to know more about Step 3, you can visit the following page on our website. It contains a summary of the feedback and our responses to questions asked during the consultation. It also includes an account of how feedback influenced our decision.

http://bit.ly/Celtic_Documents

Progress since Step 3

We have identified sites within each zone, informed by feedback and by our assessment process.

Step 4: Where exactly should we build?

In this step, you can influence the decision on the final sites and route options by responding to this consultation.

We invite respondents to provide any missing or new information about the sites and routes that relates to our assessment criteria.

Landfall location

Our landfall studies have identified Claycastle Beach is emerging as the best performing option.

Converter station site options

EirGrid is now focussing on 3 converter station sites. These are site 12 in Kilquane, site 9b in Knockraha and site 1 in Ballyadam.

We are now inviting submissions for further review, before deciding which option to take forward at the end of Step 4.

In the following pages, we provide an overview of the results from our assessment process on each of the remaining sites. These can be further summarised as follows.

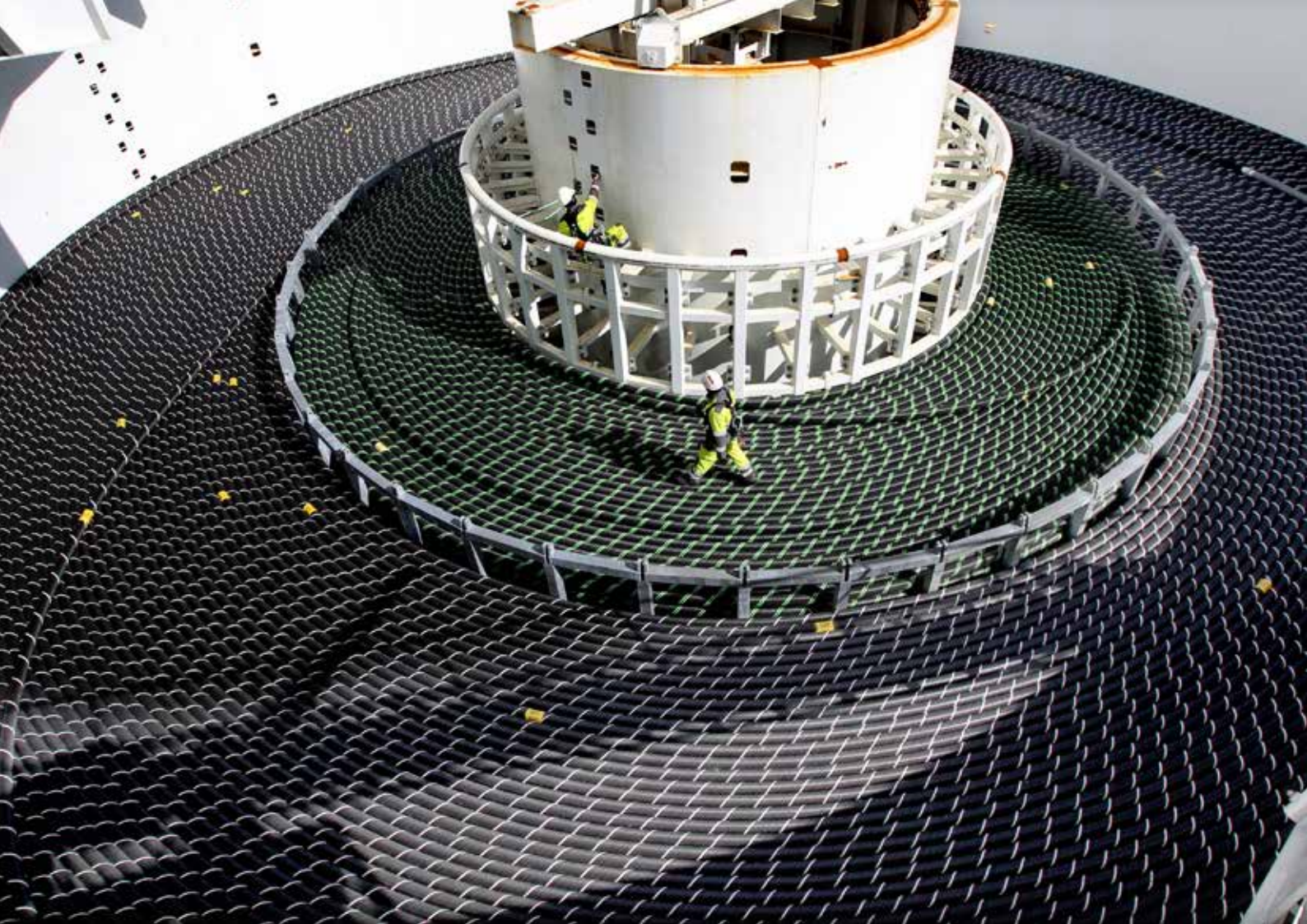
The site in Kilquane performed well in our assessments and is emerging as the best performing option. We believe the site addresses some of the key stakeholder feedback received so far.

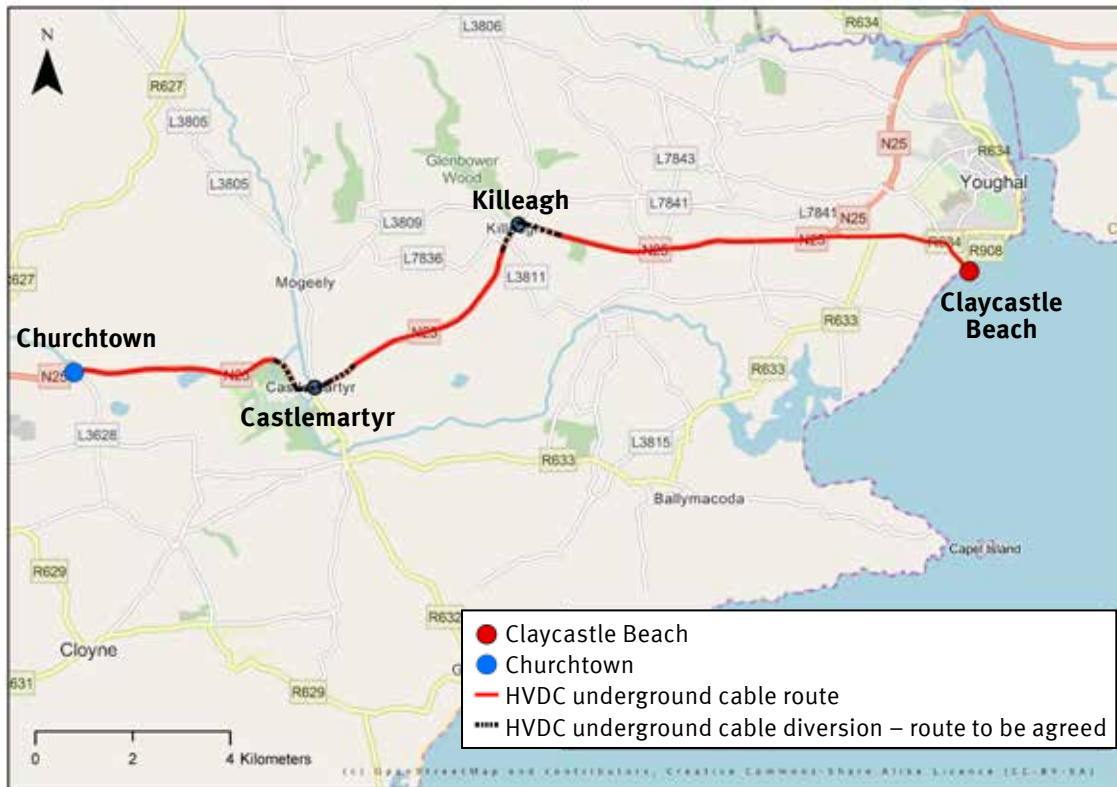
Knockraha performed well in our assessments, and remains a viable alternative.

The site in Ballyadam did not perform well in our assessments. However, we are not yet ruling out further consideration of this as an option.

This is because it is the only site in an area near industrial and commercial activity. Some stakeholders suggested this makes it more suitable, as it addresses concerns about visual impact on the landscape.

We are doing more work to see if there is a location within the IDA Park at Ballyadam that might mitigate some of the identified issues of the current site.





More detailed maps are available. Contact us if you need one.

Claycastle Beach Landfall location and cable route

This site is located on a long sandy beach which stretches south of Youghal, and is emerging as the best performing landfall location for the undersea cable. This is because there is a sedimentary channel on the seabed approaching the shore.

Due to this, there would be no rock-cutting required, compared to other landfall locations we investigated. It also has the lowest off-shore environmental impact.

After the undersea cable reaches land, an underground cable will then carry the high voltage direct current (HVDC) electricity to the converter station. It will then be converted to high voltage alternating current (HVAC) so it can be transmitted throughout the national grid. This requires an AC underground cable to carry electricity from the converter station to a strong point on the national grid.

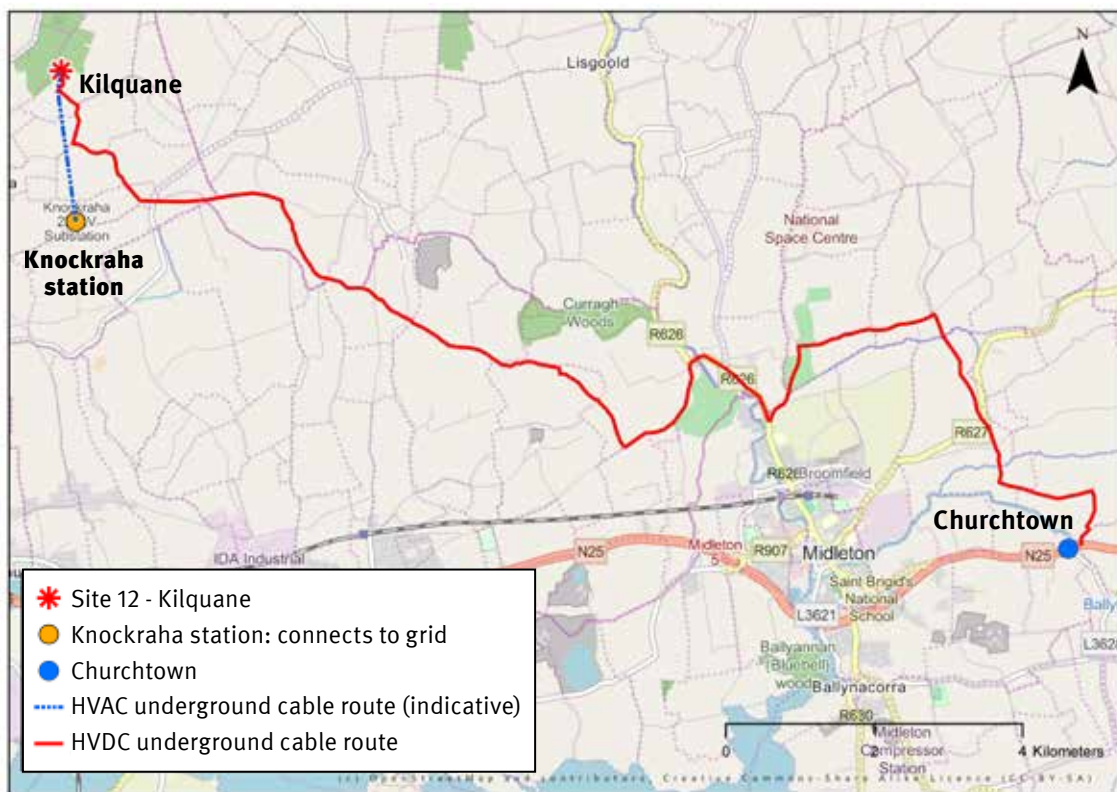
All site options for the converter station must have a route to connect to the existing station in Knockraha. The undersea cable will connect to an underground cable using a transition joint. This will be installed behind the beach where the undersea cable comes ashore.

The appearance of the landfall point will be fully reinstated following completion of these works. There will be no visible structures on the beach once the cable is installed.

With all remaining site options for the converter station, the HVDC cable from Claycastle Beach will mainly follow the same route. It is only when the cable is north of Middleton that the route diverges, depending on the choice of converter station site.

The early stages of the HVDC route from Claycastle Beach cross Ballyvergen marsh, an ecologically delicate area. However, the installation works here can be carried out sensitively to minimise their impact.

The route of the HVDC cable then proceeds to Churchtown, mainly along the N25. We believe this can be achieved using traffic management while maintaining all lanes open in both directions. To avoid congestion in Killeagh and Castlemartyr, we would likely divert the cable around these villages.



More detailed maps are available. Contact us if you need one.

Site 12 - Kilquane

Converter station option and cable route

This site is to the east of a commercial forest, and is approximately 2km straight line distance north of the existing Knockraha station. Kilquane is emerging as the best performing site for the converter station.

The distance between site 12 and the existing Knockraha station is short. As a result, we could use a cross-country route for this cable, and so could avoid much of the disruption of routing this cable along the road. For this project, HVAC will be laid as six separate cables and so requires a wider trench than HVDC which is laid as two cables.

No significant additional equipment would be required at either end of this cable due to its short length.

The site benefits from a high degree of natural screening. This is due to a combination of the mature forest plantation that backs it to the west and north, and elevated terrain a short distance to the east.

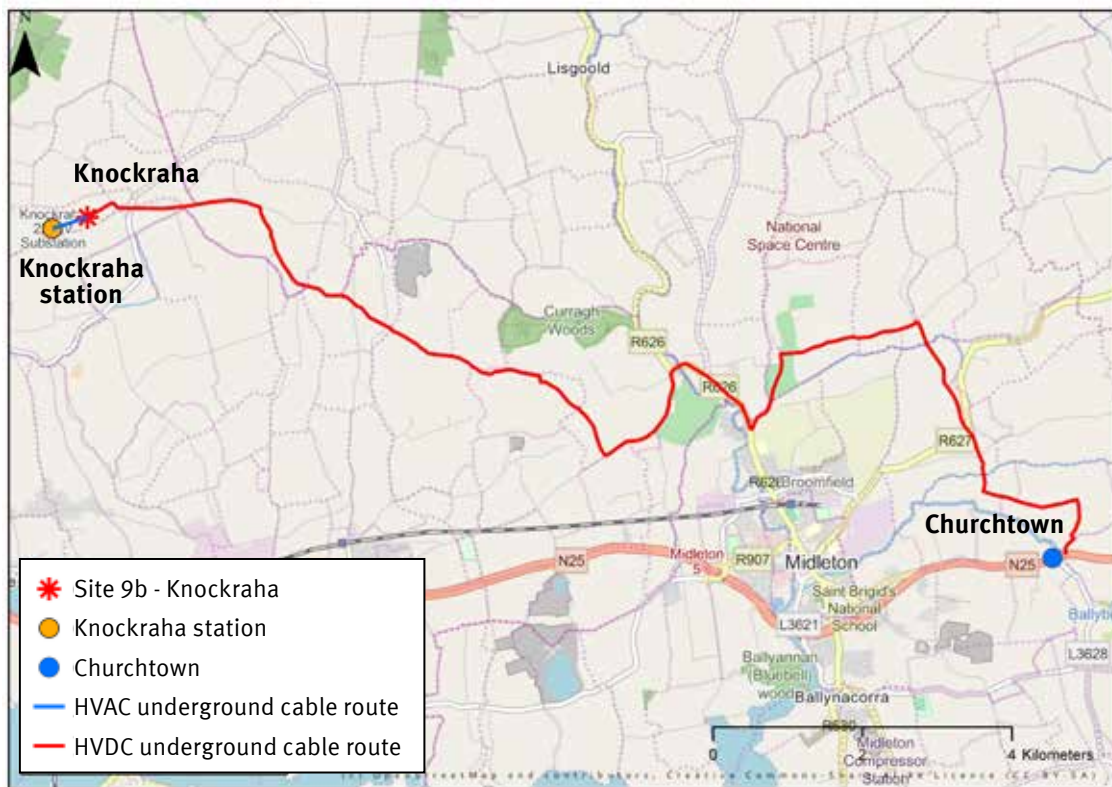
In the earlier step of public consultation, several respondents pointed out that there was an historical site in this area. Known as “The Rea”, it was an execution site and burial ground in the War of Independence. There is also another cultural heritage site approximately 950m from this location.

We were careful to avoid “The Rea” when narrowing our focus for this option, and the particular site we are now looking at avoids this area.

If this site is chosen, we will ensure there is an archaeological watching brief in place for the ground-works in the area.

Construction access to this site can be in two places. It could either be through the forest, or via the local road network from the east, subject to some road upgrades.

This site is the furthest distance from residential properties. There are no properties within 500m of the centre of the site and 9 properties within 1 km. The landscape here will also provide some natural noise reduction.



More detailed maps are available. Contact us if you need one.

Site 9b - Knockraha

Converter station option and cable route

This site is adjacent to and east of the existing Knockraha station.

This means it needs the shortest distance of HVAC cable to connect to the national grid at Knockraha. For this project, HVAC will be laid as six separate cables and so requires a wider trench than HVDC which is laid as two cables.

This would all be cross-country, so no road closures would be necessary for this section.

Also, no significant additional equipment would be needed at either end of the HVAC cable.

This site is in a rural setting, but already hosts an existing electricity station.

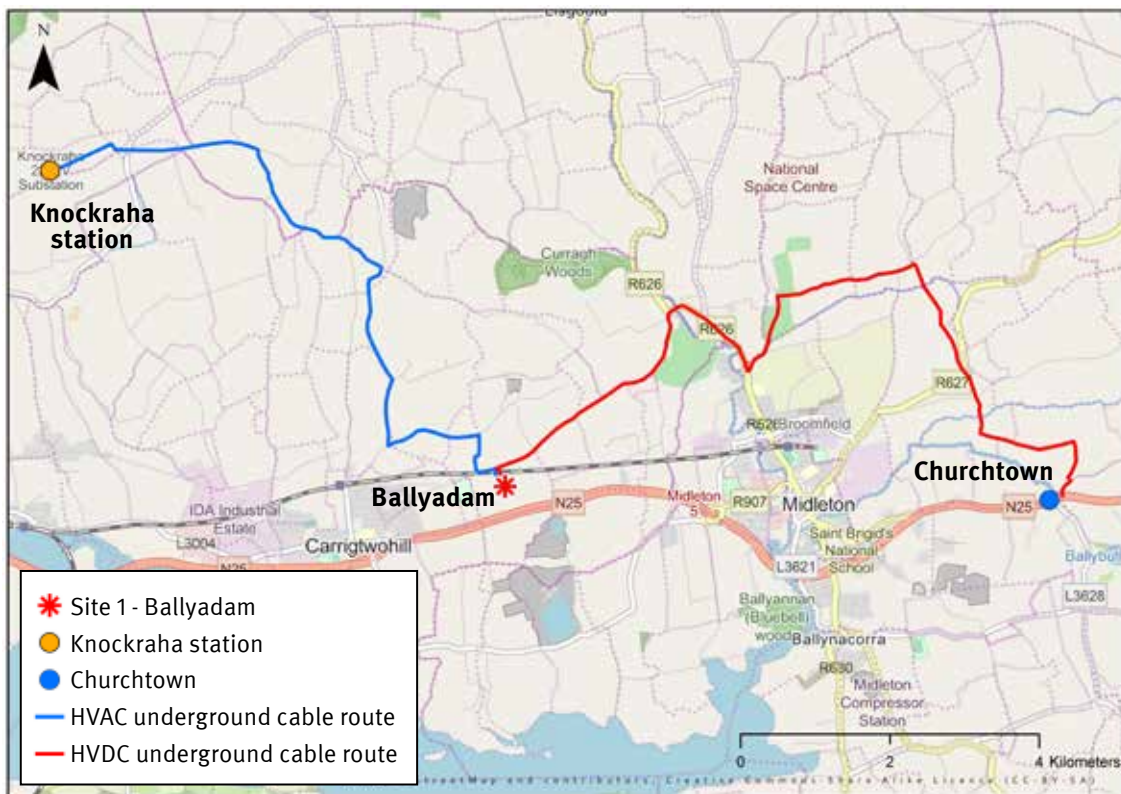
However, this site performs poorly from a visual impact perspective due to its elevated and exposed location.

There are no cultural heritage sites within a 250m radius of the proposed location: the closest one is 670m away.

A 110kV electricity line crosses the site and may need to be diverted.

This is the lowest cost site option for the converter station, and performs best from an environmental perspective.

However, there are 5 residential properties within 500m of the centre of the site and the nearest house is 283 metres north of the site. There are also 31 buildings within 1 km, and most of these are residential.



More detailed maps are available. Contact us if you need one.

Site 1 - Ballyadam

Converter station option and cable route

This option is on property owned by the Industrial Development Authority and is commonly referred to as the former Amgen site. As this is in an area near industrial and commercial activity, there would be less of a visual impact from a converter station. Similarly noise would be considered in the context of existing background noise levels from the N25.

This site lies north of the N25 Cork to Waterford road and south of the Cork / Midleton rail line. It is approximately a 7.4km straight line distance from this site to the existing Knockraha station.

There are 2 residential properties within 500m of the centre of the site and the nearest house is 224 metres north of the site. There are also 60 buildings within 1 km, and most of these are residential.

There are significant uncertainties associated with this site due to flows of groundwater, risk of floods and ground instability.

The ground in this area is dominated by karst, a topography of soluble rock such as limestone, dolomite and gypsum.

Karst regions typically contain un-mapped underground draining systems with sinkholes and caves. Some 30 caves are recorded within approximately 3km from this site. As a result, ground investigations may encounter many unforeseen issues.

This site presents significant design complexity. This is due to the ground conditions, the long route along narrow roads for the HVAC underground cable and also the need to cross a rail line.

We are doing more work to see if we can identify another location in the IDA Park at Ballyadam that would solve some of the known issues with this site.

This site is the farthest from the Knockraha point of connection to the national grid. For this project, HVAC will be laid as six separate cables and so requires a wider trench than HVDC which is laid as two cables.

This would require road closures for roughly 80 weeks. Also, this length of underground HVAC cable would require new equipment, similar to a transformer, at Knockraha station.

All these factors will lead to significantly higher costs and a longer period of traffic disturbance. The costs for selecting this site will be 21% higher compared to the lowest cost site option.

Community gain



We intend to deliver a community fund at the same time as the construction programme. Our policy is to focus on projects for community infrastructure, education and sustainability. We will also consider other areas that are identified by the community.

EirGrid will work with a specialist grant making organisation in order to determine how this fund should be managed and spent.

We believe this to be the fairest possible approach. This will ensure that EirGrid is a participant in the process rather than a decision maker.

It will allow us to work closely and collaboratively with communities while the fund is facilitated by an independent body.

We welcome all and any ideas about how a community fund can best be applied in the affected east Cork communities.

We encourage you to think about how your locality could benefit from the Celtic Interconnector Community Fund. This will help to inform our process of appointing the specialist grant making organisation.

Minister for Communications, Climate Action and Environment, Richard Bruton; Minister for Business, Enterprise and Innovation, Heather Humphreys; Taoiseach Leo Varadkar; Stéphane Crouzat, French Ambassador to Ireland; and Mark Foley, EirGrid Group Chief Executive, pictured at the announcement in October 2019 of €530 million in EU funding for this project.

Step 1 How do we identify the future needs of the electricity grid?

Step 2 What technologies can meet these needs?

Step 3 What's the best option and what area may be affected?

Step 4 Where exactly should we build?

Step 5 The planning process

Step 6 Construction, energisation and benefit sharing

Step 4 At a glance

What's happening?

We are seeking your feedback on the remaining possible locations from our assessment process. These are three possible sites for the converter station, and one for the landfall location. We are also seeking your views on the community gain fund for this project.

How long is this consultation period?

This consultation period will last 12 weeks, starting on November 11th.

What can you influence?

You can influence the final selection of sites and routes. Our assessment process has narrowed the focus on three possible locations for the converter station, and one for landfall. One of the converter station sites - 12b in Kilquane - is emerging from our assessment as the best performing option.

Full consultation on traffic management will take place as the project develops further.

How can I get involved?

All stakeholders and communities are invited to submit their feedback before midnight on Sunday 2nd February 2020.

To do this, you can:

- complete our feedback form online,
- attend public information meetings,
- provide feedback at our consultation website,
- contact us by email, phone or in writing to our freepost address.

For a paper copy of our project materials, or to ask any questions, please contact our Community Liaison Officers. You can find their contact details listed on the back cover.

At the end of this engagement we will publish a full report on our public consultation and how the feedback has or has not influenced our decisions.



Next steps

At the end of Step 4, we will confirm the best performing site for the converter station, and for the point of landfall. We will also confirm the exact routes for the underground HVDC and HVAC cables. This will be subject to further design and appraisal. It will then be brought into the statutory consenting process for the proposed development – Step 5. This will include preparation of environmental and ecological appraisals and reports.

Engagement will continue throughout the remaining steps of the project. This will lead up to and follow a final decision to begin construction.

It is anticipated that in 2021 there will be a final decision made to undertake the project, and the project would then go live in 2026.

The best way to receive regular updates on the project is by email. If you would like to receive email updates please send us your email address to: celticinterconnector@eirgrid.com

Supporting documentation

To learn more about our assessments and the remaining potential sites mentioned in this publication, visit our website at:

www.eirgridgroup.com/the-grid/projects/celtic-interconnector

There you can find reports of the assessments and previous steps of the project.



Tionscadal Éireann
Project Ireland
2040

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