EirGrid

EirGrid.ie

Strategic Framework for Grid Development

In the Eastern & Midland Region



January 2025



Glossary of terms

Regional programme
The planned grid development projects in the Region, as outlined in this document.

New infrastructure project
New overhead lines and underground cables (circuits) or substations.

Innovation project
'Non-wire' technological solutions such as:

- **Dynamic Line Rating (DLR):**
  This is a device placed on an existing overhead line with a range of sensors inside. It enables a more efficient use of the power carrying capacity of an overhead line while enhancing its safe operation.
- **Power Flow Controller (PFC):**
  This is substation infrastructure connected with circuits to provide control of the circuit's power flow.

We bring innovation (such as new materials, technology, software, etc.) to all of our projects. For this document, innovation projects are just the DLR and PFC projects.

Optimisation project
Improvements of existing assets (e.g., works to an existing substation or uprate an existing circuit. The uprate can involve new overhead lines or towers. However, as it is a uprate of an existing circuit, it is not considered to be a new infrastructure project).

Linear circuit project
A new overhead line, underground cable, or marine cable project.

Existing circuit upgrade project
The improvement or enhancement of an existing overhead line or underground cable.

Assets
Any high-voltage electrical equipment (e.g., a substation).

Upvoltage or uprate
The improvement of an existing circuit (overhead line or underground cable) which allows it to carry a greater amount of electricity. This can mean an increase in the electrical flow or the operating temperature of the circuit.



Table of contents

Glossary of terms 3

Part 1: Introduction 6

1.1 About EirGrid 6
1.2 Our role 6
1.3 About this Strategic Framework Document 9
1.4 About the Eastern and Midland Region 11
1.5 EirGrid's approach to grid development 14
1.6 Relevant national, Regional and Local Planning Policy 15
1.7 The Eastern and Midland Region Programme Area 16
1.8 Existing Environment 17

Part 2: Project Delivery 21

2.1 The planned projects 21
2.2 Scope of the Eastern and Midland Regional Programme 22
2.3 New infrastructure projects 34
2.4 Innovation projects 43
2.5 Optimisation projects 44
2.6 Other key infrastructure projects in the plan area 47

Part 3: Our approach 52

3.1 Stakeholder engagement 52
3.2 Approach to project development 56
3.3 Approach to planning and consenting of projects 57
3.4 Our approach to the environment 59
3.5 Appropriate Assessment (AA) 62
3.6 Environmental assessment 64
3.7 Social Impact Assessment (SIA) 73

Part 1: Introduction

1.1 About EirGrid

EirGrid as Transmission System Operator (TSO) develops, manages and operates the transmission grid in Ireland. The grid transports power from where it is generated to where it is needed. EirGrid is also leading the secure transition of the electricity grid to a sustainable low-carbon future.

The grid brings power to industry and businesses that use electricity. It also powers the distribution network, owned and operated by ESB Networks, which supplies the electricity used in homes, businesses, schools, hospitals and farms.

We balance supply and demand every minute of the day, while also planning for Ireland's long-term electricity needs.



1.2 Our role

As the transmission system operator for Ireland, EirGrid has a unique role to play in transforming our power system to meet the needs of today as well as the future. As we continue working towards the government's 2030 renewable energy targets, we are also working towards meeting the national climate objectives in the run up to 2050.

Meeting government decarbonisation targets, while providing a secure electricity supply will be very challenging and means we will need to redefine the way our energy systems work.

In order to meet the energy demands of tomorrow, we will need to identify solutions that are able to account for aspects such as:

- Increasing demand for electricity – decarbonising means we will need to electrify our energy demands changing the way we travel as well as heat our homes and workplaces.
- Powering our economy by an energy system led by renewables such as wind and solar.
- Building a stronger transmission grid, both onshore and offshore, that can support renewables and increasing demand for electricity.
- Improving our energy security by investing in low-carbon domestic generation capacity.
- Putting in place enough energy storage and interconnections with other countries to complement our system.

To prepare for and facilitate this change, EirGrid must make the electricity grid more resilient and increase flexibility. The grid will need to carry more power and most of this power will come from renewable generation – including both onshore and offshore sources. To make this possible, EirGrid will need to upgrade and add to existing grid infrastructure – primarily comprising underground cables and overhead lines (referred to in this document as 'circuits') and substations.

The European Communities (Internal Market in Electricity) Regulations 2000 (SI 445 of 2000) sets out the role and responsibilities of the TSO; Article 8(1) (a) gives EirGrid, as TSO, the exclusive function:

"To operate and ensure the maintenance of and, if necessary, develop a safe, secure, reliable, economical and efficient electricity transmission system, and to explore and develop opportunities for interconnection of its system with other systems, in all cases with a view to ensuring that all reasonable demands for electricity are met having due regard for the environment."

It is in this statutory context that EirGrid is undertaking the planning and development of grid infrastructure in the Eastern and Midland Region (hereafter generally referred to as the EMR).



How are we planning for the future?

In the energy sector, we are exploring how we best meet society's needs for energy security while taking positive action to help decarbonise our power supply. In 2023, EirGrid published an update to Shaping Our Electricity Future (SOEF) which was first published in November 2021.

SOEF is a detailed roadmap that profiles the work which needs to be carried out to transform network infrastructure planning, public and industry engagement, electricity system operation and electricity markets, to support the government's climate targets.

Supplementing that at a national level is the 5-year Grid Implementation Plan, which is subject to Strategic Environmental Assessment (SEA), and the annual Transmission Development Plan (TDP), which is accompanied by an Environmental Appraisal Report (EAR).

The Grid Implementation Plan, the TDP and Shaping Our Electricity Future each provide a different level of scale and detail. You can read all of our latest publications on our website.

This is outlined in further detail in Sections 2.1 and 2.2 of this document and outlined in Figure 1.

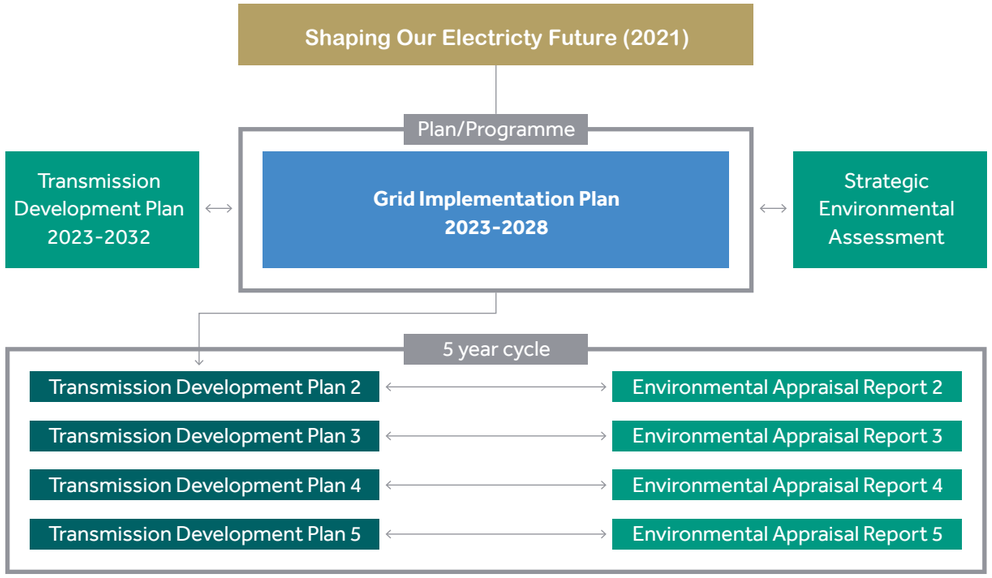


Figure 1: EirGrid Hierarchy of plans and projects

1.3 About this Strategic Framework Document

This Strategic Framework Document allows EirGrid's current programme of grid development projects to be understood in a regional context, showing the interdependencies of the projects, challenges within the region and how grid development is part of the economic development of the region.

It explains how the electricity transmission system in the EMR is anticipated to be developed over the coming years. It focuses on EirGrid's approach to project development and technology, the environment, consultation and engagement, people, communities and society.

It should be noted that in the future, circumstances may change and additional projects may be required. At the time of writing, the listed projects in this document are all the projects in the EMR that EirGrid are investigating or planning.

The EMR is split into three sub-regions:

- **Midland Region:** Longford, Westmeath, Offaly and Laois.
- **Eastern Region:** Louth, Meath, Kildare and Wicklow.
- **Dublin Region:** Fingal, South Dublin and Dún Laoghaire-Rathdown County Councils and Dublin City Council.

A number of grid infrastructure projects are planned in the EMR (see Figure 2) over the next number of years. These comprise both new circuits and substations, as well as upgrades and refurbishments of existing substations and circuits. Collectively, for convenience, this document refers to these various projects as 'The Eastern and Midland Regional Programme' or simply 'the Regional Programme'.

Together, the Regional Programme will contribute to an improved and upgraded network in the EMR for all electricity users in Ireland, responding to increasing demand for electricity and facilitating a transition to a low carbon society based on renewable energy sources.

The Eastern and Midland Regional Programme consists of the following:

- 8 no. linear circuit projects;
- 36 no. existing circuit upgrade projects; and
- 35 no. substation projects.

Powering Up Dublin is a major programme generally located within the M50 in Dublin City. A separate Strategic Framework[1] has been prepared for that programme of works and so it is not repeated in this document. However, given its importance, and having regard to its integration with other grid infrastructure development within the Greater Dublin Area and the Eastern & Midland region in general, an overview is provided in Section 4.6 of this document.

1 https://cms.eirgrid.ie/sites/default/files/publications/Strategic-Framework-for-Planning-and-Environment.pdf

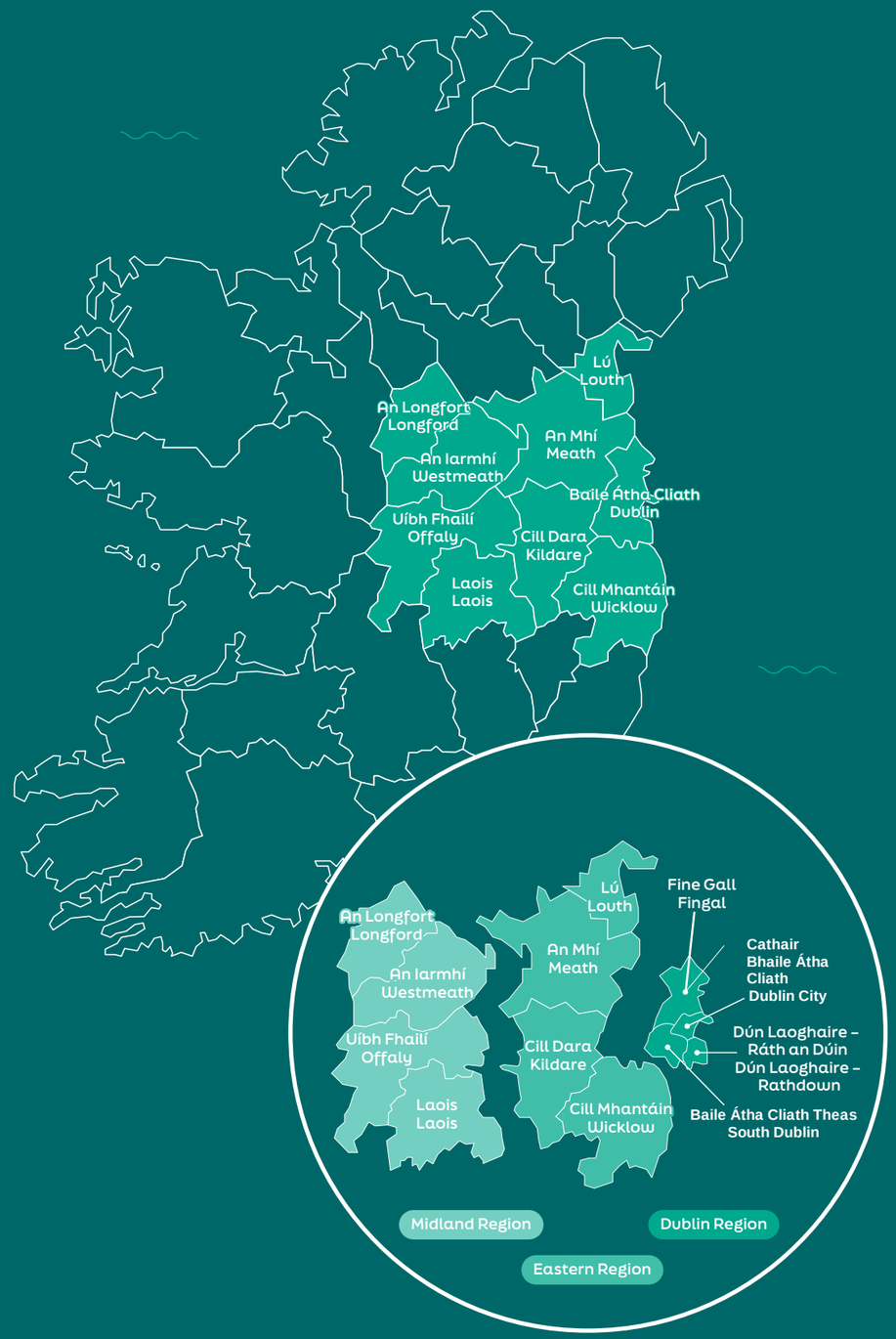


Figure 2: Map of the Eastern and Midland Region. The inset shows the Midland, Eastern and Dublin regions.

1.4 About the Eastern and Midland Region

The transmission system can be seen as comparable to the motorway and national road network. Just as motorways and dual carriageways allow for movement of significant volumes of vehicles, the electricity transmission system allows for bulk power to be transferred most efficiently. Like the road network, the transmission system can be thought of as one fully interlinked network which is composed of individual sections.

At EirGrid, we look at individual sections of the transmission system and also the wider network to assess what is required and where. Our Framework for Grid Development shows the step-by-step way by which we consider and progress our various projects, undertaking consultation and engagement at key points throughout the project development process.

The two 'motorways' of the transmission system are the two 400 kV circuits that cross the country from Moneypoint Power Station on the north side of the Shannon Estuary in Co. Clare. They terminate at substation nodes in the Greater Dublin Area, one in Woodland, near Batterstown, Co. Meath and the other in Dunstown, near Kilcullen, Co. Kildare. These two 400 kV circuits bring electricity from the Western side of the country where it is generated to where it is needed (known as Demand Centres) along their routes, and especially in the Greater Dublin Area.

'Dual carriageways' and 'regional roads' (the 220 kV and 110 kV circuits) across the country to every county and take the electricity into cities and larger town, via substation nodes ('junctions'); from these nodes, other lower voltage circuits ('local roads') on the ESB Networks Distribution System deliver electricity to homes, farms and businesses.

The Region has a wide variety of existing and potential generation sources and system service providers including onshore and offshore wind, solar, hydro, storage (including pumped storage and battery energy storage), synchronous condensers, biomass, waste, diesel, and gas.

The existing transmission network in the EMR includes two existing 400 kV overhead lines (OHLs) extending from Moneypoint Power Station Co. Clare, terminating at substations in Meath and Kildare. The East-West Interconnector (connection to the Great Britain network) and the Tandragee – Louth 275 kV Interconnector (connection to the Northern Ireland network) are also located in the Region. There is also significant 110 kV and 220 kV infrastructure in the Region. More rural parts of the Region contain a lower density of grid infrastructure.

There are three drivers that underpin the need for the Regional Programme, namely:

Increased demand in the region

An increase in electricity demand as part of natural growth is expected. In addition, there is a significant demand increase due to the planned connection of high energy users. This is based on executed connection agreements mostly in the counties Kildare, Meath and Dublin. This demand increase began in circa 2015 and will continue throughout the coming decade. A significant increase in demand for electricity is expected to continue throughout the coming years, in particular driven by planned significant additional housing stock, and plans for electrification of heat and transport.
An expanding population and a growing, modern economy requires a similar expansion of the electricity infrastructure. This becomes even more critical with the ever-increasing reliance of our modern lives on a reliable electricity system.

Integration of generation

There are significant volumes of renewable generation in the south, south-west and west regions of the country. These regions have relatively low levels of electricity demand and as a result the renewable electricity requires transmission to bring it from these regions to the high demand areas in the EMR, particularly in the Dublin City and Greater Dublin Area. Future offshore renewable generation will also require a stronger transmission grid than currently exists to carry the anticipated levels of electricity generated on the national grid.

Age and condition of existing assets

All of the grid is regularly inspected and maintained to ensure its efficient and safe operation. These inspections will identify when it is necessary to replace parts of the grid network due to its age or condition. Part of the Regional Programme includes the replacement or refurbishment of those parts that are approaching the end of their working life.

The Eastern & Midland Regional Assembly Regional Spatial & Economic Strategy 2019-2031 states:

"Developing the grid in the Region will enable the transmission system to safely accommodate more diverse power flows from renewable generation and also to facilitate future growth in electricity demand. These developments will strengthen the grid for all electricity users and, in doing so, will improve the security and quality of supply. This is particularly important if the Region is to attract high technology industries that depend on a reliable, high quality electricity supply."[2]

2 Section 10.3, Page 224. https://www.emra.ie/rses-download/EMRA-RSES.pdf

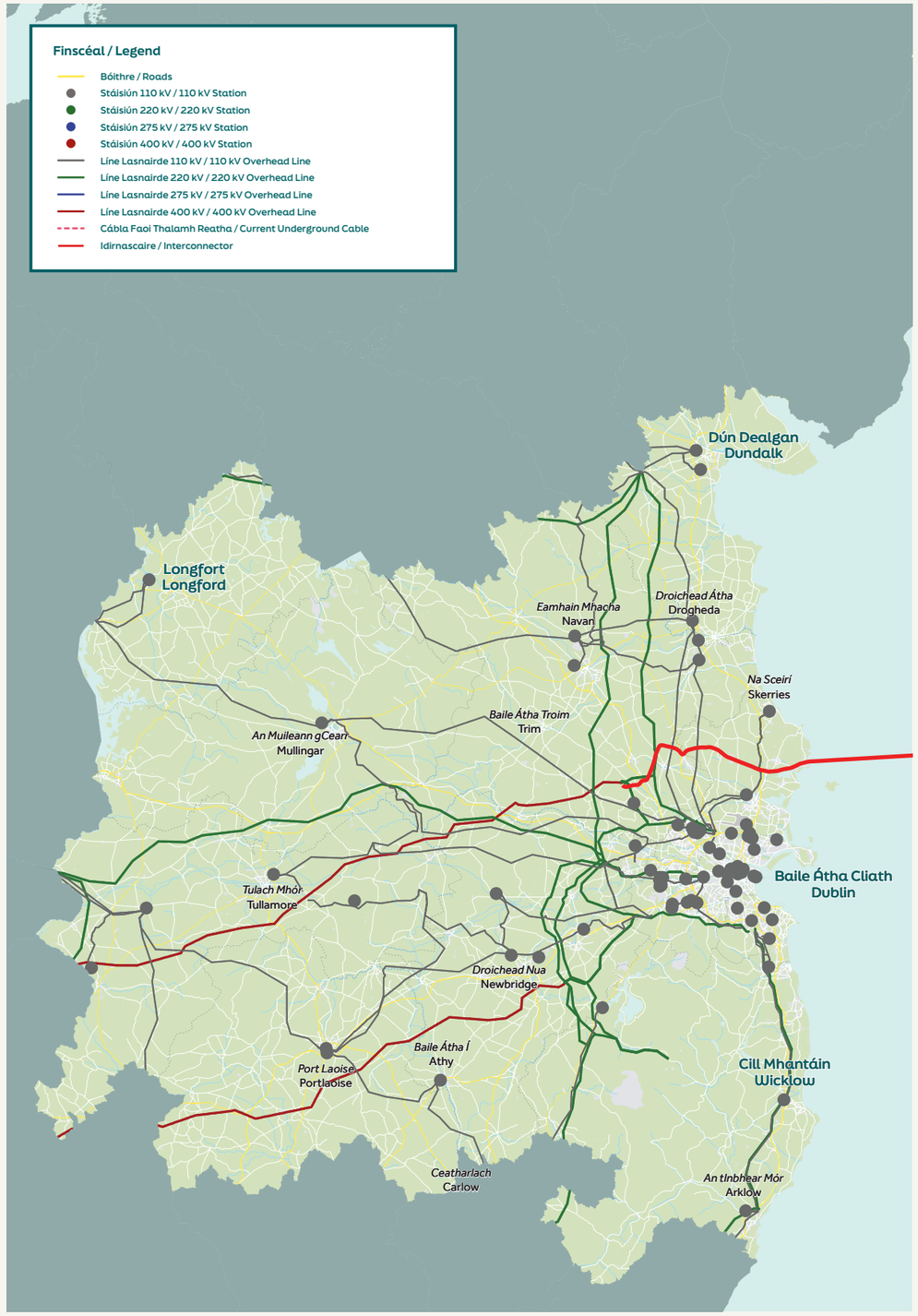


Figure 3: Existing transmission network of the Eastern and Midland Region

1.5 EirGrid's approach to grid development

Electricity infrastructure is long-term, large-scale strategic investment in the future. Each piece of equipment can last for decades. As the grid is an interconnected or 'meshed' network, EirGrid has to consider the wider grid when making changes at a local level.

EirGrid develops the grid to:

- Replace or upgrade existing infrastructure.
- Respond to changes to the demand for electricity.
- Connect with electricity grids in other countries.
- Accommodate new ways to generate electricity.
- Deal with different locations where it can be generated.

As the state-owned independent electricity Transmission System Operator (TSO), EirGrid is legally obligated to offer terms and enter into agreements, where appropriate and in accordance with regulatory direction, with those using and seeking to use the transmission system. Upon acceptance of connection offers by prospective network generators and demand users, EirGrid must develop the electricity transmission network to ensure it is suitable for those connections.

When EirGrid develops the grid, it has due regard for the natural, built, and human environment and follows three principles:

1. Ensure that consultation with local communities is central to project development.
2. Consider all practical technology options for developing the network.
3. Optimise the existing grid to minimise the need for new infrastructure.

Through adherence to these principles, EirGrid has due regard for the sustainable planning, development and delivery of grid infrastructure sustainability.

EirGrid has developed an end-to-end process for all of EirGrid's grid infrastructure development projects, from conception through to the identification of a need to develop the electricity transmission grid and subsequent energisation of the grid infrastructure project to address the need. This is known as EirGrid's Framework for Grid Development.

You can read about this process along with our approach to public engagement in this document here: Have Your Say.



Figure 4: EirGrid's Framework for Grid Development

1.6 Relevant National, Regional and Local Planning Policy

Renewable energy is a national priority and government policy and is emphasised as such in the Government's White Paper on Energy. However, renewable energy is dependent on the ability of the transmission and distribution networks to allow its safe and stable use.

Renewable energy, whilst a principal driver of energy infrastructure development, must therefore be viewed side by side with grid and network system services which facilitate and support them. It is considered that the Regional Programme is in accordance with, and indeed will assist in the delivery of, key strategic energy objectives and land use development policies, set out in national, regional and local statements, policies and plans.



These include:

- The Climate Action Plan 2021 – Securing Our Future (updated 2024).
- Project Ireland 2040 – National Planning Framework.
- Eastern and Midland Regional Assembly Regional Spatial and Economic Strategy 2019–2031.
- Longford County Development Plan 2021–2027.
- Westmeath County Development Plan 2021–2027.
- Offaly County Development Plan 2021–2027.
- Laois County Development Plan 2021–2027.
- Louth County Development Plan 2021–2027.
- Meath County Development Plan 2021–2027.
- Kildare County Development Plan 2023–2029.
- Wicklow County Development Plan 2022–2028.

The above documents are uniformly supportive of grid development, subject to social and environmental considerations. The Regional Programme is considered to be consistent with strategic policies of proper planning and sustainable development.

EirGrid is committed to working in partnership with the Eastern and Midland Regional Assembly, the Local Authorities of the region and other Statutory and non-Statutory stakeholders, to implement policies and objectives relating to sustainable grid development.

1.7 The Eastern and Midland Region programme area

As discussed in more detail in Part 2 of this Strategic Framework document, the Eastern and Midland Region Programme Area is focused upon the provision of both new and upgraded transmission infrastructure in the region.

While the Eastern and Midland Region Programme has a number of clearly defined projects, these cannot be divorced from a wider programme of national grid infrastructure development being undertaken by EirGrid. This is due to the inter-connected or 'meshed' nature of the Irish national grid and interconnection to the grid in Northern Ireland and to Great Britain – and under construction to mainland Europe.

The Regional Programme includes projects right across the EMR and these are at different steps in project development (from deciding where they should go to construction). Some examples include (these are described in further detail in Part 2 of this document):

- **North South 400 kV Interconnection Development**
  A new circuit and associated infrastructure further linking the grid systems of Ireland and Northern Ireland.
- **Kildare-Meath Grid Upgrade**
  A new 400 kV underground cable circuit and associated infrastructure linking Woodland substation, Co. Meath and Dunstown substation, Co. Kildare.
- **East-Meath-North Dublin Grid Upgrade**
  A new 400 kV underground cable circuit and associated infrastructure linking Woodland substation, Co. Meath and Belcamp substation, Co. Dublin.
- **Laois Kilkenny Grid Reinforcement**
  New and upgraded overhead lines and associated infrastructure linking the new 400 kV substation at Coolnabacky, Co. Laois, the new 110 kV substations at Ballyragget, Co. Kilkenny and the existing 110 kV substation in Kilkenny City.
- **Arklow – Ballybeg – Carrickmines 110 kV Capacity Needs**
  An upgrade of an existing overhead line in Co. Dublin and Co. Wicklow and the construction of a new substation in Ballybeg.
- **Arklow 220 kV Station Refurbishment**
  Upgrade of existing substation in Arklow, Co. Wicklow.
- **Fingal – East Meath Grid Reinforcement Project**
  Construction of a new substation and a new 220 kV circuit to connect north Dublin to another new substation (to be contestably developed by private entity) in Co. Meath.
- **Kildare Dublin Grid Reinforcement Project**
  Two new substations and four new circuits (400 kV and 220 kV) to connect south and west Dublin and County Kildare.

The projects of the Powering Up Dublin programme are specific to the area of Dublin generally located inside the M50 corridor. While in the EMR, given that a separate Strategic Framework has been prepared for that programme of works, they are not duplicated in this document.



1.8 Existing environment

This section provides a summary of the natural environmental constraints for the key areas of biodiversity, cultural heritage, surface water, people and communities. As will be detailed in Section 7 (Our Approach to Environment) of this document, environmental considerations will inform the progression of all EirGrid projects forming the EMR Regional Programme.

The EMR is a wide area with numerous natural environmental features, including designated environmental sites, one World Heritage site and one potential site and National Monuments, and many rivers and water bodies. Section 7.3 identifies some of the key features of the Region and sets out information on how a range of environmental topics, including those relating to people and communities, are typically considered.

1.8.1 Biodiversity

The EMR is generally more densely settled than other regions in Ireland and this is reflected in the areas of biodiversity interest. Additionally, the EMR contains high quality, well-drained soils and thus has a strong agriculture presence. The EMR does contain areas of high environmental sensitivity, particularly along the coastline, rivers and waterbodies, Dublin Bay UNESCO Biosphere, Wicklow hills, Slieve Bloom Mountains and the bogs of the Midland region. There are many areas protected by international, European and national designation. Additionally, there are many areas of ecological interest outside of the designated sites. Woodland cover in the Region is on average 10.7% of landcover[3] compared to a national average of 11.2%. The counties within the Region have a large variation: Wicklow has 18.5% (second highest in the nation), while Louth has the lowest nationally at 2.9%.

3 https://www.teagasc.ie/news--events/daily/forestry/irelands-forests---statistics-2023.php

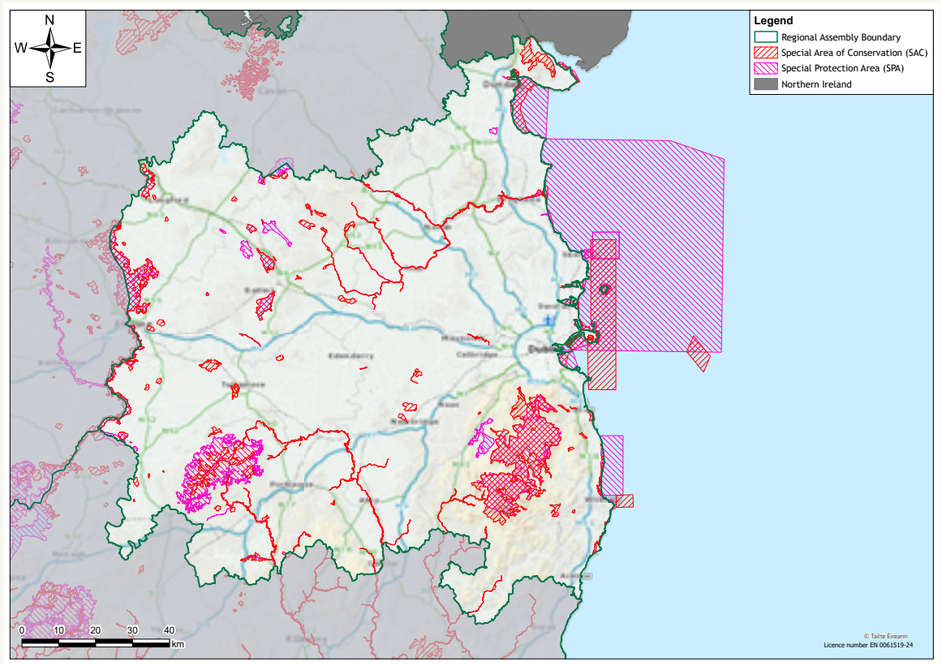


Figure 5: SPAs and SACs within the Eastern and Midland Region

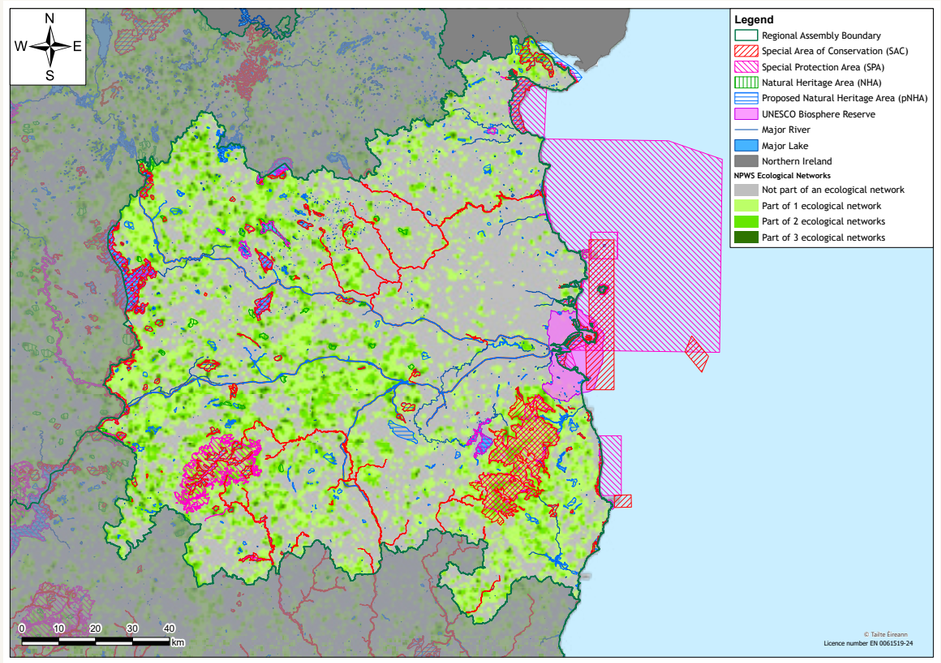


Figure 6: Biodiversity constraints within the Eastern and Midland Region

1.8.2 Cultural heritage

The archaeological, architectural heritage and cultural heritage features of the region are rich, varied and tied intrinsically to the landscape of the region. The region has a rich history of mythology and recorded history from the earliest Irish settlers to the modern industrial heritage.

There are three World Heritage sites on the island of Ireland and a further three are on the tentative list[4]. One site and one tentative group of sites are the region – Brú na Bóinne (County Meath) is a recognised site and the Royal Sites of Ireland (which includes Dún Ailinne, Co. Kildare, Hill of Uisneach, Co. Westmeath and Hill of Tara Co. Meath) is on the tentative list.

Brú na Bóinne is a 780-hectare area and is Europe's largest and most important concentration of prehistoric megalithic art with a long continuity from prehistory to the late medieval period, with UNESCO identifying it as "one of the most significant archaeological sites in Europe"[5]. Dún Ailinne (the Royal Seat of Leinster), Uisneach (Sacred Centre of Ireland) and Tara (seat of the High Kings) are part of the complex of Royal Sites through Ireland.

Nationally, there are over 1,000 individual national monuments at 760 locations in state care[6]. Of these locations, 183 are in the Eastern and Midland Region. The locations range from St. Stephen's Green to some of the oldest archaeological sites on the island.

1.8.3 Surface water

The Water Framework Directive (WFD) provides a framework for establishing a system to improve and/or maintain the quality of water bodies across the European Union (EU). Under the WFD, river basin management planning and monitoring is required to achieve the general protection of the aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources and protection of bathing water. Waterbodies may be assigned a status of Bad, Poor, Moderate, Good or High and the Directive requires all water bodies (river, lakes, groundwater, transitional, coastal) to attain 'Good Water Status' by 2027. An overall 'Good Status' refers to achieving this standard for both ecological and chemical parameters.

The WFD was transposed into Irish law by the (Water Policy) Regulations 2003 (as amended), which outline the water protection and water management measures required to maintain high status of waters where it exists, prevent any deterioration in existing water status and achieve at least 'Good' status for all waters. These regulations require the assessment of permanent impacts of a project on WFD waterbodies. This includes all operational impacts and may also include construction impacts depend on the works required.

4 https://whc.unesco.org/en/statesparties/ie
5 https://whc.unesco.org/en/list/659
6 https://www.archaeology.ie/national-monuments/

The key water bodies in the Region are[7]:

- **Loughs**
  Sheelin, Derrvaragh, Ennel, Blessington, Gowna, Owel and Ree, Lough Tay – Lough Dan on the Cloghoge River;
- **Rivers**
  Avonmore, Aughrim, Avoca, Boyne, Barrow, Blackwater, Brosna, Clodagh, Fane, Dee, Dodder, Dargle, Glyde, Inny, Liffey, Nore, Nanny, Poddle, Slate, Santry, Shannon, Slaney and tributary Derry River Tang, Tolka and Vartry Reservoir;
- **Canals**
  Grand Canal and Royal Canal.

Because of proximity and landform, some of waterbodies of the Region (County Louth) will drain into Northern Ireland and will be affected by drainage from Northern Ireland.

1.84 People and communities (socio-economics)

The EMR is dominated by its proximity to Dublin City. There is a broad mix of communities from the Dublin metropolitan area to large rural area and towns and villages throughout the region. The region forms part of two Fáilte Ireland regions: Hidden Heartlands; and Ancient East[8].
In addition to Dublin city, The EMR has the regional growth centres of Athlone, Drogheda and Dundalk and key towns of Maynooth, Navan, Naas, Wicklow-Rathnew, Longford, Mullingar, Tullamore, Portlaoise and Graiguecullen (Carlow).

In addition, there are many smaller towns, villages, rural settlement and islands throughout the Region. The total population of the Region is 2.5 million, which is 49% of the nation's population (based on the 2022 census[9]).

The CSO stated that population growth tended to be stronger in the east of the country with Meath growing by 13%, followed by Fingal (12%) and Kildare (11%), comparing 2016 to 2022.The Region also is home to two Gaeltacht districts, both in County Meath – Ráth Cairn and Baile Ghib.

Employment in the Region is also dominated by its proximity to Dublin City. Much of the area surrounding Dublin acts as a commuter belt for Dublin with strong road and rail links to the city. The region itself offers strong employment through a mixture of multinationals (e.g., large multinationals headquartered in Dublin city, Intel in Maynooth and many other technology, manufacturing and pharmaceuticals) as well as local employers (e.g., agri-businesses). Agriculture and equestrian/bloodstock businesses are strong throughout the Region with significant stud operations throughout and several racecourses. The Region also supports a strong tourism economy with attractions such Dublin city, the Boyne Valley and Hill of Tara, Glendalough, Clonmacnoise and Monasterboice monasteries, Walled Towns of Trim, Castledermot and Drogheda; Emerald (Tayto) Park; and natural attraction such as Bog of Allen, the Curragh, Wicklow National Park and many beaches along the east coast.

7 https://EMR.ie/dubh/wp-content/uploads/2020/05/EMR_RSES_1.4.5web.pdf Page 165
8 https://www.failteireland.ie/regionalstrategies.aspx
9 https://www.cso.ie/en/statistics/population/censusofpopulation2022/

Part 2: Project Delivery

2.1 The planned projects

There are three categories of projects in the Regional Programme:

- **New infrastructure projects: 10% of the Regional Programme**
  These are newly constructed circuits (overhead lines, underground cables, submarine cables) or substations.
- **Innovation Projects: 5% of the Regional Programme**
  These are 'non-wire' technological solutions to challenges (e.g., Dynamic line rating[10] or Power flow controllers[11]).
- **Optimisation Projects: 85% of the Regional Programme**
  These are improvements of existing assets (e.g., thermal uprate and voltage upgrade of an existing circuit or works to an existing substation).

The Eastern and Midland Regional Programme consists of the following:

- 8 no. linear circuit projects;
- 36 no. existing circuit upgrade projects; and
- 35 no. substation projects.

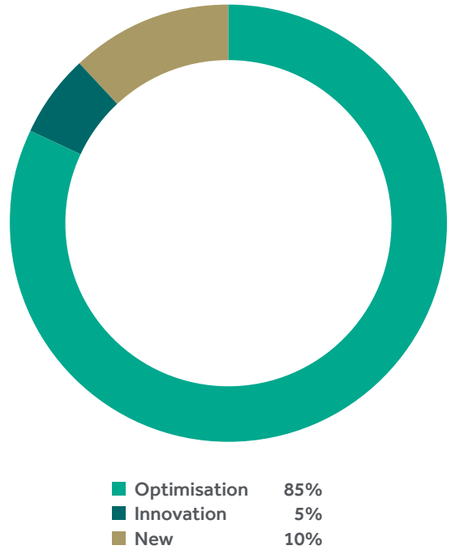


Figure 7: Breakdown of project type of the Eastern and Midland Regional Programme

It should be noted that in the future, circumstances may change and additional projects may be required. At the time of writing, the listed projects in this document are all the projects in the EMR that EirGrid is investigating or planning. Should additional projects arise, these will be consulted on as outlined in Section 5 of this document; they will appear in EirGrid's annual Transmission Development Plans and other relevant documents.

10 Enables a more efficient use of the power carrying capacity of an overhead line while enhancing its safe operation.
11 Substation infrastructure connected with circuits to provide control of the circuit's power flow.

The reinforcement of regional grid infrastructure will require the temporary switching off (known as 'outage') of existing assets. To aid this EirGrid has launched an initiative to review and transform how outages of the transmission system are planned and granted (the Outage Transformation Project). This initiative will include a review of outage requirements and durations during construction, as well as consideration of outages during project initiation and decision making. This process will seek to minimise the requirement for outages during construction where possible. EirGrid and ESB Networks (ESBN) will continue to work closely to deliver the outage programme and in turn implement the grid delivery programme as effectively and efficiently as possible in all areas of the network requiring reinforcement.

2.2 Scope of the Eastern and Midland Regional Programme

It is intended that the Regional Programme will be delivered as an integrated programme of works to transform the EMR's electricity transmission network.

EirGrid is fully committed to the government's 2030 renewable energy target. To achieve this, we are constantly examining the best way of delivering the required grid development projects. Sometimes this will be as one-off projects and other times this will be through a programme of works (such as Powering Up Dublin or Powering Up Wicklow).

This section of the report outlines the individual projects that are required in the EMR with further information on programmes of projects and how projects come together in the wider network.

EirGrid has sought to optimise and innovate as far as possible in order to maximise the use of existing assets and new technologies. The construction of new projects forms roughly 10% of the Regional Programme as seen in Figure 9, with the remaining 90% improving existing assets.

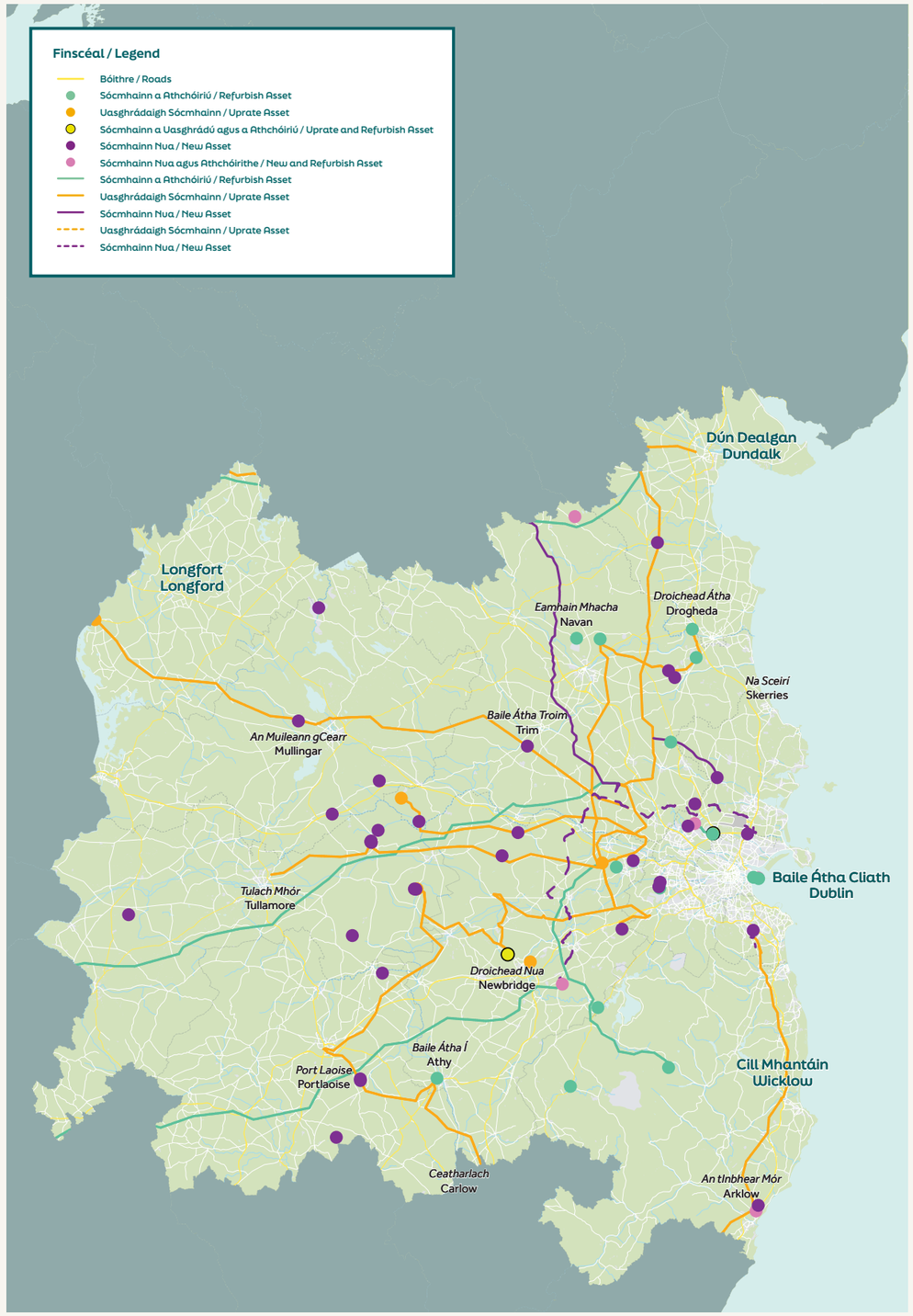


Figure 8: Proposed projects of the Eastern and Midland Regional Programme (source: EirGrid)

Table 1 below provides a summary of the Regional Programme and Figure 8 shows the proposed location of the projects. However, the nature and/or location of certain projects are not yet known as further design, surveys, consultation and assessment are required before the exact project details are identified.

Table 1: Projects making up the Eastern and Midland Regional Programme

New infrastructure projects

Project name		Description	Administrative council*
CP0466	North-South 400 kV Interconnection Development	138 km of overhead line circuit between a new substation (Turleenan) Co. Tyrone and Woodland substation, Co. Meath	In Ireland: Cavan County Council, Monaghan County Council & Meath County Council In Northern Ireland: Armagh City, Banbridge and Craigavon Borough Council, Mid Ulster District Council and Newry, Mourne and Down District Council
CP0585	Laois Kilkenny Grid Reinforcement	New 400 kV substation looped into the existing Dunstown – Moneypoint 400 kV circuit and new and upgraded overhead lines and associated infrastructure linking the new 400 kV substation at Coolnabacky, Co. Laois, the new 110 kV substation at Ballyragget, Co. Kilkenny and the existing 110 kV substation in Kilkenny City	Laois County Council, Kilkenny County Council
CP0966	Kildare-Meath Grid Upgrade	53 km of new 400 kV underground cable between Woodland substation Co. Meath and Dunstown substation, Co. Kildare	Meath County Council, Kildare County Council
CP0984	Belcamp – Shellybanks 220 kV Underground Cable	New 220 kV Underground Cable connecting Belcamp and Shellybanks Substations, Co. Dublin	Dublin City Council, Fingal County Council
CP1021	East Meath-North Dublin Grid Upgrade	38 km of new 400 kV underground cable between Woodland substation Co. Meath and Dunstown substation, Co. Kildare	Meath County Council, Fingal County Council
CP1214	Fingal to East Meath Grid Reinforcement	Two new substations and one new 220 kV circuit to connect Fingal and East Meath. The new substation in Meath will be developed by a private entity	Fingal County Council, Meath County Council
CP1226	Kildare Dublin Grid Reinforcement	Two new substations and four new circuits (400 kV and 220 kV) to connect the south and west Dublin and County Kildare	Dublin City Council, South Dublin County Council, Kildare County Council

Optimisation

Project name		Description	Administrative council*
CP0692	Inchicore – 220 kV GIS Station Upgrade	Substation project	Dublin City Council
CP0693	Baroda 110 kV Station – Two new 110 kV DSO Transformer Bays	Substation project	Kildare County Council
CP0799	Louth 220 kV Station Refurbishment	Substation project	Louth County Council
CP0808	Maynooth 220/110 kV GIS Substation Development	Substation project	Kildare County Council
CP0823	Maynooth – Turlough Hill 220 kV Line Refurbishment	Refurbishment	Kildare County Council, Wicklow County Council
CP0825	Oldstreet – Woodland 400 kV Line Refurbishment	Refurbishment	Kildare County Council, Offaly County Council, Meath County Council
CP0835	Coolnabacky – Portlaoise 110 kV Line Uprate	Line uprate	Kildare County Council, Laois County Council
CP0841	Arva – Carrick on Shannon 110 kV Line Uprate – Refurb	Uprate/Refurbishment	Longford County Council
CP0867	Flagford – Louth 220 kV Line Refurbishment	Refurbishment	Longford County Council, Louth County Council, Meath County Council
CP0869	Maynooth – Woodland 220 kV Line Uprate	Line uprate	Kildare County Council, Meath County Council
CP0873	Dunstown – Moneypoint 400 kV Line Refurbishment	Refurbishment	Kildare County Council, Laois County Council, Offaly County Council
CP0905	Louth – Ratrussan 110 kV No. 1 Line Uprate	Line uprate	Louth County Council
CP0919	Lanesboro 110 kV Station Redevelopment	Substation project	Longford County Council
CP0967	Moneypoint 400 kV Station Series Capacitor[12]	Series compensation	Laois County Council
CP0968	Dunstown 400 kV Series Capacitor	Series compensation	Kildare County Council
CP0969	Oldstreet – Woodland 400 kV Series Capacitor	Series compensation	Galway County Council
CP1000	Lanesboro – Mullingar 110 kV Thermal Uprate	Thermal uprate	Longford County Council, Westmeath County Council
CP1001	Corduff – Finglas 1 & 2 220 kV line refurbishment	Refurbishment	Fingal County Council
CP1002	Cushaling – Newbridge 110 kV Line Uprate	Line uprate	Kildare County Council, Offaly County Council

12 This project originally identified Moneypoint Co. Clare as the development location, but is subsequently proposing a site at Knockkyle, Co. Laois, hence its inclusion in this regional plan.

Optimisation

Project name		Description	Administrative council*
CP1003	Cushaling – Portlaoise 110 kV Line Uprate	Line uprate	Kildare County Council, Offaly County Council, Laois County Council
CP1022	Maynooth - Turlough Hill PLC Replacement	Power-line communication replacement	Kildare County Council, Wicklow County Council
CP1078	Lanesboro – Sliabh Bawn 110 kV Thermal Uprate	Thermal uprate	Longford County Council
CP1086	Dunstown and Woodland Transformer Replacement	Substation project	Kildare County Council, Meath County Council
CP1104	Pollaphuca Refurbishment Project	Substation project	Kildare County Council
CP1108	Dunstown Station 400-220 kV Protection Upgrade	Substation project	Kildare County Council
CP1109	Gorman and Connected Station 220-110 kV Protection Upgrade	Substation project	Meath County Council
CP1110	Woodland Station 400-220 kV Protection Upgrade	Substation project	Meath County Council
CP1113	Corduff 220 kV Station Deep Works	Substation project	Fingal County Council
CP1114	Platin and Connected Stations 220-110 kV Protection Upgrade	Substation project	Meath County Council
CP1115	Drybridge and Connected Stations 220110 kV Protection Upgrade	Substation project	Louth County Council, Meath County Council
CP1121	Arklow Lodgewood Line Uprate	Line Uprate	Wicklow County Council, Wexford County Council
CP1140	Athy, Carlow and Connected 110 kV Stations Protection Upgrade	Substation project	Kildare County Council, Wicklow County Council
CP1144	Kinnegad 110 kV Station, Derryiron 110 kV Bay Conductor Uprate	Substation project	Meath County Council
CP1149	Newbridge – Cushaling 110 kV Line, Stations Bay Conductors and Lead-in Conductor Uprate	Substation project	Offaly County Council
CP1152	Arva and Connected Stations 110 kV Protection Upgrade	Substation project	Cavan County Council
CP1162	Irishtown, Shellybanks and Connected Stations 220 kV Protection Upgrade	Substation project	Dublin City Council
CP1166	Gorman – Platin 110 kV Line Uprate	Line uprate	Meath County Council
CP1167	Drybride – Oldbridge – Platin 110 kV Line Uprate	Line uprate	Louth County Council, Meath County Council
CP1182	Gorman, Woodland, Shannonbridge, Louth Transformer Restoration Projects	Substation project	Meath County Council, Offaly County Council, Louth County Council

Optimisation

Project name		Description	Administrative council*
CP1186	Agannygal, Ennis and Connected Stations 110 kV Protection Upgrade	Substation project	Offaly County Council
CP1194	Woodland 400 kV Station Redevelopment	Substation project	Meath County Council
CP1195	Turlough Hill 220 kV Station Refurbishment	Substation project	Wicklow County Council
CP1196	Arklow – Ballybeg – Carrickmines 110 kV Capacity Needs	Line upgrade**	Dún Laoghaire-Rathdown, Wicklow County Council
CP1199	Derryiron – Thornsberry 110 kV Thermal Uprate	Line uprate	Offaly County Council
CP1209	Brown Boveri Circuit Breaker Replacements	Substation project	Louth County Council
CP1213	Belcamp 220 kV Busbar Extension	Substation project	Fingal County Council
CP1225	Finglas – Corduff 220 kV Protection Upgrade	Substation project	Fingal County Council
CP1228	Shannonbridge and Connected Stations 220 kV & 110 kV Protection Upgrade	Substation project	Offaly County Council
CP1232	Derryiron 110 kV Busbar Uprate	Substation project	Offaly County Council
CP1235	Louth – Woodland 220 kV Uprate	Line uprate	Louth County Council, Meath County Council
CP1238	Arklow 220 kV Station Refurbishment	Substation project	Wicklow County Council
CP1250	Sprecher and Schuh Circuit Breaker Replacement	Substation project	Kildare County Council
CP1277	Intel 110 kV Line Diversion	Line diversion	Kildare County Council
CP1287	Inchicore – Poolbeg Number 2 220 kV CAR Cable Diversion	Cable diversion	Dublin City Council
CP1300	Shannonbridge Climate Change Adaptation Measures	Substation project	Offaly County Council
CP1301	Dundalk Louth 110 kV Line Uprate	Line Uprate	Louth County Council
CP1311	Athlone – Lanesboro 110 kV Line Uprate	Line uprate	Longford County Council
CP1312	Athy - Carlow 110 kV circuit 1	Line Uprate	Kildare County Council, Carlow County Council
CP1319	Blake Maynooth Newbridge Uprate	Line Uprate	Kildare County Council
CP1325	Blundelstown Mullingar Partial Line uprate	Line Uprate	Offaly County Council, Meath County Council
CP1384	Kilteel - Maynooth 110 kV	Line Uprate	Kildare County Council

	Project name		Description	Administrative council*
Optimisation	CP1391	Maynooth – Derryiron – Timahoe 110 kV Line Uprate	Line uprate	Kildare County Council, Offaly County Council
	CP1402	Platin 110kV Station Refurbishment	Substation project	Meath County Council
	CP1403	Rinawade – Dunfirth 110 kV Uprate	Line uprate	Kildare County Council, Offaly County Council, Meath County Council
	CP1454	Gorman - Maynooth 220 kV Circuit Capacity Needs	Line Uprate	Kildare County Council, Meath County Council
	CP1466	Meath Hill 110 kV Station Busbar Thermal Capacity Need	Substation project	Meath County Council
Innovation	CP1314	Baroda Monread 110 kV Circuit DLR	Dynamic Line Rating	Kildare County Council
	CP1315	Baroda Newbridge 110 kV Circuit DLR	Dynamic Line Rating	Kildare County Council
	CP1473	Louth – Meath Hill Dynamic Line Rating	Dynamic Line Rating	Louth County Council Meath County Council
	CP1471	Lisdrum – Louth Dynamic Line Rating	Dynamic Line Rating	Louth County Council Monaghan County Council

* The Council areas are provided to indicate the location of the projects. As identified above, the exact locations of some of the Linear Projects are not fully confirmed and therefore the areas could change. Projects correct as of 30th October 2024 and are subject to change.
** CP1196 Arklow – Ballybeg – Carrickmines 110 kV Capacity Needs project is primarily a line upgrade project but it includes the construction of a new substation in the vicinity of an existing substation.



Regional focus: Integrating Dublin projects and the wider regional network

Within the Dublin and the Greater Dublin Areas, significant upgrading of the transmission grid is required in order to meet the growing demand for energy in the Dublin and Greater Dublin areas, to ensure a secure and reliable electricity supply, and to facilitate the planned ongoing connection of renewable generation.

Such upgrading of the existing grid is planned by EirGrid through the provision of new grid infrastructure – circuits and substations – and the upgrading of existing grid infrastructure. In particular, this will require the extension of the high voltage network in the Greater Dublin Area, and its integration with the existing and planned enhanced network in the Dublin City area, to provide benefits for all electricity users in the region. In this regard, it is important to understand the "meshed" nature of the grid, whereby strategically located substations and circuits function together to result in a strong regional power supply.

The 400 kV network crosses the island of Ireland from Moneypoint Power Station in Co. Clare, and terminates at substation nodes at Woodland, near Batterstown Co. Meath and Dunstown, near Kilcullen Co. Kildare. It is planned to improve both Woodland and Dunstown substations to meet anticipated demand requirements. In addition, the Kildare-Meath 400 kV project primarily comprises a new underground cable which for the first time will directly link these two strategic substations with a high-capacity circuit. Furthermore, Woodland 400 kV substation comprises the southern terminus of the planned North South Interconnection Development, which will provide a direct high-capacity connection with the Northern Irish electricity transmission grid, further strengthening grid infrastructure in the EMR.

The North Dublin area is identified as an area which will have high demand for electricity, with new homes, businesses, and transport projects (in particular Metrolink and the extension of the DART – both of which are both electrified rail systems) to be built, and where new connections to renewable energy are planned to occur. The East Meath – North Dublin grid reinforcement project will expand the 400 kV network from Woodland substation into the North Dublin area, with a connection to the existing Belcamp Station near Dublin Airport at Clonshaugh. In addition, the Fingal-East Meath project will provide a new transmission substation node, north of Dublin Airport and west of Swords, which will connect with the East-Meath-North Dublin project, and with planned circuits providing power to the East Meath area, and connect to existing circuits feeding the rapidly expanding areas of Fingal

In Dublin City, the Powering Up Dublin programme will build a new transmission substation in the Dublin Port/East Wall area, as well as replacement and/or extension of existing substations at Poolbeg and Belcamp. It also includes the replacement of approximately 50 km of underground 220 kV cables which have reached their end of life (further detail on Powering Up Dublin is below).

The West and South-West Dublin area is also identified as having ongoing and future high demand for electricity, with new housing, industrial and high-energy technology development, for example at Grange Castle and its wider environs. The Kildare Dublin grid reinforcement project plans to inject power into this area through the provision of new substations and circuits, and connection to existing (and planned upgraded) high-capacity substations and circuits in Co. Kildare. In addition, this project includes creating a new circuit extending westwards from Carrickmines substation in Dun Laoghaire-Rathdown to new substations in the South-West Dublin area, in order to facilitate the

transmission of electricity generated from offshore renewable development.

In the south of the Greater Dublin area, between Dun Laoghaire-Rathdown and Co. Wicklow, the existing Arklow-Carrickmines 220 kV circuit requires to be upgraded to provide a higher-capacity connection. This will include the provision of a replacement and/or extended substation at key nodes in Arklow, and at Ballybeg near Rathnew Co. Wicklow, to ensure a secure and reliable supply of electricity to Arklow and Wicklow towns and their environs. In addition, a new substation is planned in the North Wicklow area, connecting to the Arklow-Carrickmines 220 kV circuits, to ensure a strong electricity supply to the expanding urban areas of Greystones and Bray and their environs. Other grid infrastructure projects are also planned to upgrade existing substation nodes and circuits in Co. Wicklow, including at the Turlough Hill pumped storage hydro generating station, and its connection to Maynooth 220 kV substation – which is also to be replaced with new substation infrastructure (further detail on Powering Up Wicklow is below).

This Regional Focus demonstrates both the nature and extent of planned grid infrastructure development in the Dublin and Greater Dublin areas, but also the importance of each element of planned development as part of a strong, secure and reliable meshed grid infrastructure.

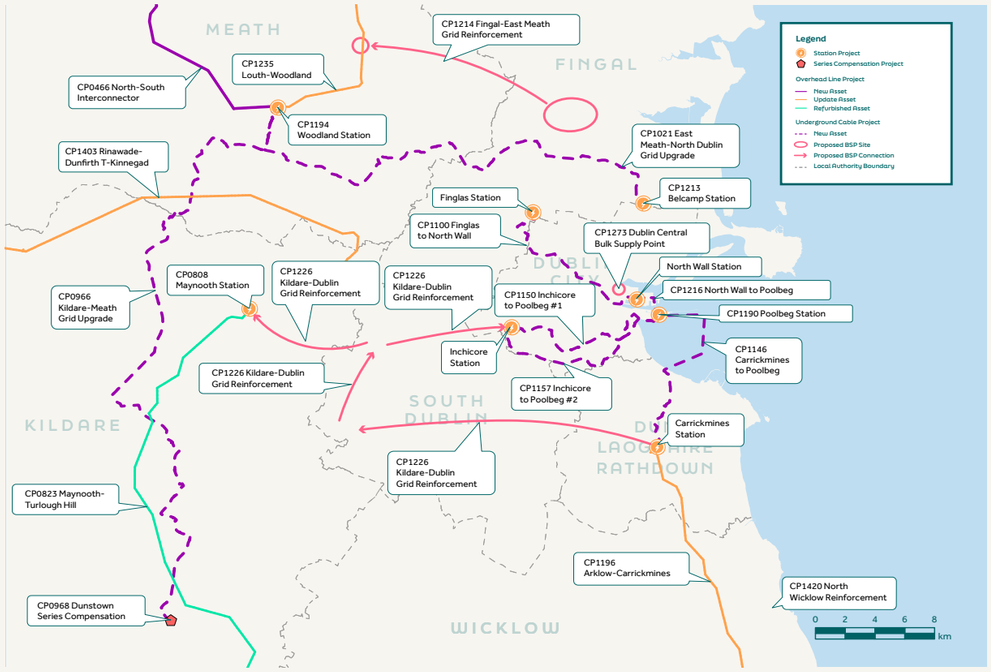


Figure 9: Projects in the Greater Dublin Area

Powering Up Dublin – delivering a programme of projects

The Powering Up Dublin programme is a number of projects in Dublin City to replace older cables and reinforcing the grid, with substation upgrades and the construction of a new electricity transmission substation in central Dublin.

Dublin's electricity infrastructure is ageing and reaching its end of life. Work must be done now to transform and modernise the city's infrastructure so Dublin can continue to develop and thrive, while increasing the power from renewable sources.

In this first phase, with our project partners, we are installing over 50km of cables across Dublin. Upgrades will also take place in a number of electricity substations to support Dublin's electricity grid.

In this first phase, with our project partners, we are installing over 50km of cables across Dublin through the following projects:

- Finglas - North Wall 220kV Cable Replacement
- Carrickmines - Poolbeg 220 kV Cable Replacement
- Inchicore - Poolbeg 2 220 kV Cable Replacement
- Inchicore - Poolbeg 1 220 kV Cable Replacement
- Poolbeg - North Wall 220 kV Cable Replacement

These projects are large in scale and due to operational grid constraint challenges new routes for the replacement circuits have to be identified to allow the existing circuits to be made redundant .Some have a need for offshore elements in order to connect into the replacement Poolbeg 220kV substation that will be named Pigeonhouse. Upgrades will also take place in a number of electricity substations to support Dublin's electricity grid.

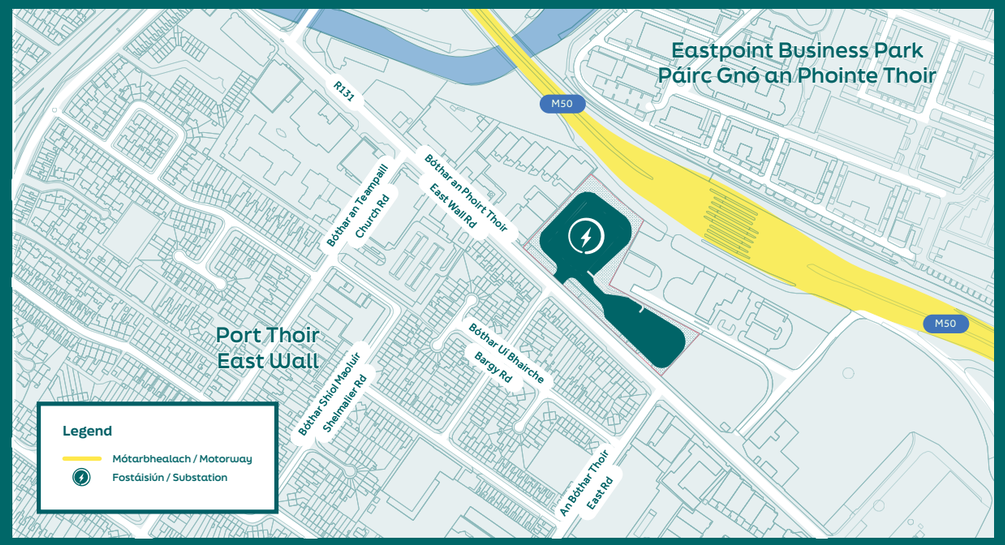
In addition, a new 220 kV/110 kV Gas Insulated Substation (GIS) is proposed to help address the city's growing electricity demand. This substation will be looped into one of the existing 220 kV circuits in the North Inner City. The location is a vacant ESB owned carpark and brownfield site on East Wall Road, which runs along the northern side of the M50.

Because the electrical grid is a large, meshed network, many individual projects are required to make the overall improvements required for demand, security, economic, and environmental reasons. Powering Up Dublin is an example of a programmatic approach to deliver the grid development that is needed. By grouping projects together, we can collaborate with stakeholders in a way that addresses the "bigger picture".

Discussing the projects as a programme will allow stakeholders to work together and accelerate the delivery of the much-needed grid improvements. For example, what will be the impact to traffic in the surrounding area, if there are temporary traffic restrictions to build the projects? What can be done to avoid impacts to commuters, business, residents, other utilities, the quality of the road itself, other proposed infrastructure projects, etc? Can other works be done at the same time to avoid digging up again? By discussing the projects together, issues can be better addressed. To address these challenges EirGrid led on the establishment of the Dublin Infrastructure Forum (DIF) which brought together a comprehensive set of transport and utility operators to consider these aspects in a collaborative and innovative way.

The individual projects of the Powering Up Dublin will still be subject to the approach and principles as outlined in Part C of this document but with improved consultation with stakeholders and the public.





Powering Up Wicklow

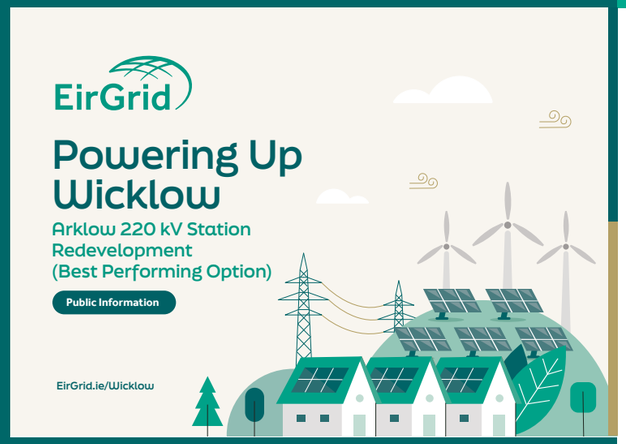
Powering Up Wicklow is a critical programme that will strengthen key electricity infrastructure in Wicklow and the surrounding areas, helping to make Ireland 'renewable ready'. This programme (or group of projects) will help deliver a consistent and reliable supply of electricity for Wicklow.

Powering Up Wicklow comprises the following projects:

- **Arklow 220 kV Station Refurbishment**
  Upgrade of existing substation in Arklow, Co. Wicklow.
- **Arklow – Ballybeg – Carrickmines 110 kV Capacity Needs**
  An upgrade of an existing overhead line in Co. Dublin and Co. Wicklow and the construction of a new substation in Ballybeg.
- **Turlough Hill 220 kV Station Refurbishment**
  Improvements to the existing substation.
- **North Wicklow Project**
  Two new substations and new connections to the existing grid in the North Wicklow area.

The key drivers for the Powering Up Wicklow programme is:

- **Security and reliability of supply**
  Building a more resilient and reliable electricity grid.
- **Meet future needs**
  Meet the growing and changing electricity needs of Wicklow.



- **Sustainability**
  Enable the county to use and transmit electricity generated from offshore wind energy, such as Codling Windfarm off the County Wicklow coast between Greystones and Wicklow town.
- **Economic**
  Strengthen Ireland's economy, encouraging and supporting future investment.
- **Local**
  Helping to meet increasing local transport and housing electrification requirements.

Like Powering Up Dublin, the Powering Up Wicklow programme will accelerate the delivery of the needed grid development projects through greater collaborated working with stakeholders and consultation on the 'wider picture'.

2.3 New infrastructure projects

The following new infrastructure projects seek to both expand and reinforce the grid in the Region and are at various stages of development in the EirGrid grid development framework:

- **North South 400 kV Interconnection Development**
  (Step 6 construction phase).
- **Laois Kilkenny Grid Reinforcement**
  (Step 6 construction phase).
- **Kildare-Meath Grid Upgrade**
  (Step 5 Planning Submission).
- **East-Meath-North Dublin Grid Upgrade**
  (Step 5 Planning Submission).
- **Fingal to East Meath Grid Reinforcement Project**
  (Step 3 Technology Selection).
- **Kildare Dublin Grid Reinforcement Project**
  (Step 3 Technology Selection).
- **Belcamp – Shellybanks 220 kV Underground Cable**
  (Step 6 construction phase).

2.3.1 North South 400 kV interconnection development

The North-South Interconnector is a 400 kV overhead line which will run for approximately 138 kilometres between Meath and Tyrone, through Cavan, Monaghan and Armagh. The interconnector will protect and enhance the supply of electricity across the island of Ireland and enable us to allow more renewables onto the electricity grid. It will transport up to 1,500 MW of electricity and remove a significant bottleneck on the all-island electricity system. At present, there is only one interconnector between Ireland and Northern Ireland, leaving the system vulnerable to widespread power failures if a problem occurs. The project has undergone an extensive planning process and subsequent legal challenges. It now has full planning and legal consent in both Ireland and Northern Ireland. The project is now at Step 6 – construction, energisation and benefit sharing.

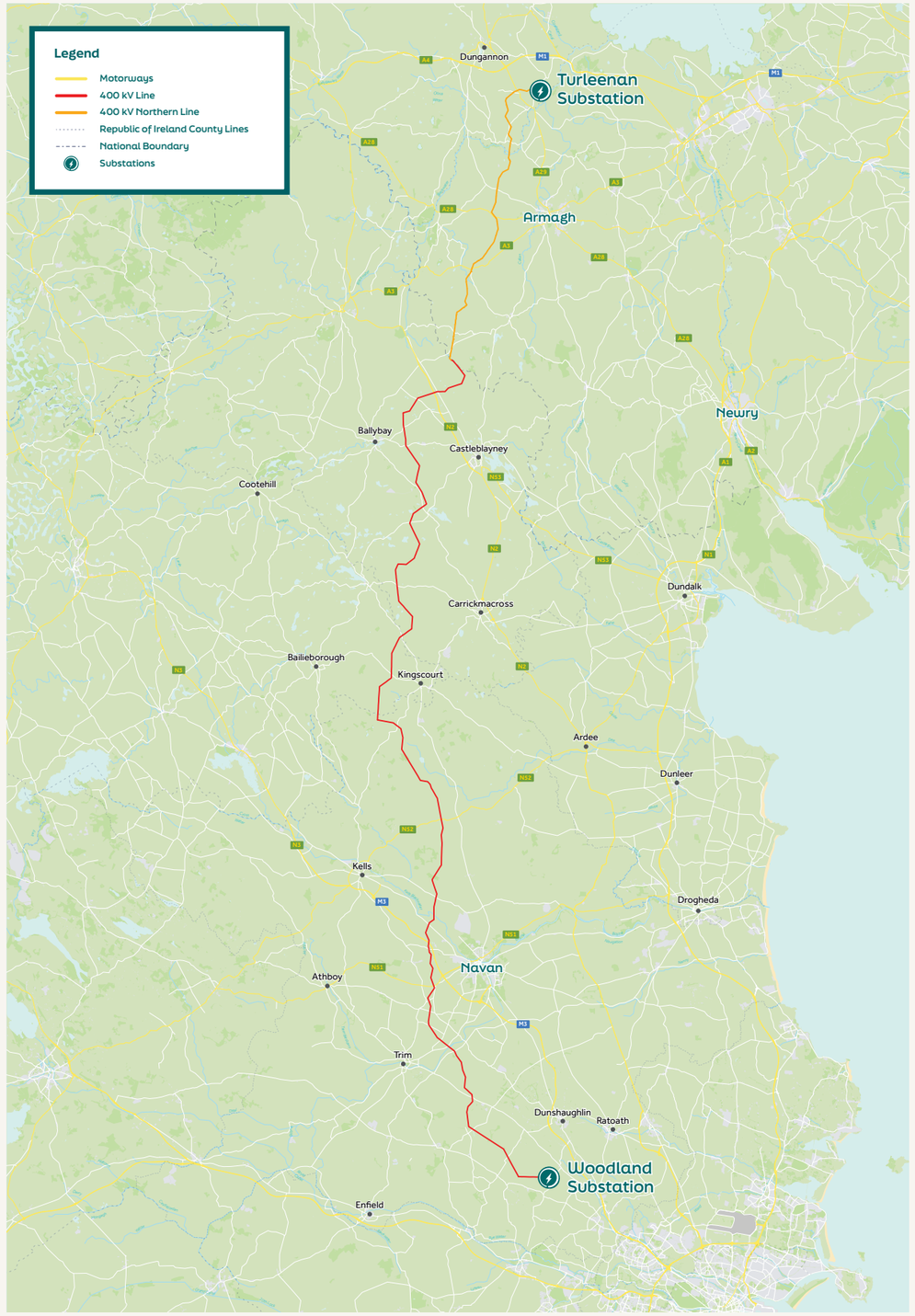


Figure 10: Map of the North-South Interconnector (source: EirGrid)

2.3.2 Laois – Kilkenny grid reinforcement

The grid in Kilkenny and Laois needs to be upgraded to reduce risks to the quality and security of the power supply in the immediate area, as well as in the adjacent counties of Carlow and Kildare.

The upgrade will help meet the increased demand for electricity in the area. Projected growth in electricity demand in the area will cause problems in the future if not addressed.

For the Laois Kilkenny Reinforcement Project, the proposed infrastructure includes:

- A new 400/110 kV substation situated to the south-east of Portlaoise at Coolnabacky. Two existing overhead lines will connect to this new substation: the 400 kV Moneypoint-Dunstown line (by means of additional double circuit overhead line and structures) and the 110 kV Athy-Portlaoise line (which will be diverted into the substation site).
- A new 110/38 kV substation located next to the existing 38 kV electricity substation at Ballyragget, Co Kilkenny.
- A new 110 kV line between these two new stations at Coolnabacky and Ballyragget.
- An upgrade for the existing Ballyragget-Kilkenny overhead line to become a 110 kV line.
- A modification to the existing Athy-Portlaoise 110 kV line and works in the Kilkenny substation.

The project will address the regional concerns on the grid. In particular, it ensures that the power system can meet the grid's technical standards.

This will allow the region to compete for and retain businesses with employment potential.

The project was consented in 2014 and is significantly completed, with works at Ballyragget and Kilkenny substations completed in 2023. Construction of the Coolnabacky substation commenced in early 2024. At the time of writing, that portion of the new Coolnabacky to Ballyragget 110 kV circuit within County Kilkenny is nearing completion, whilst a significant portion of polesets and angle towers have been constructed on that portion of this new circuit in Co. Laois.

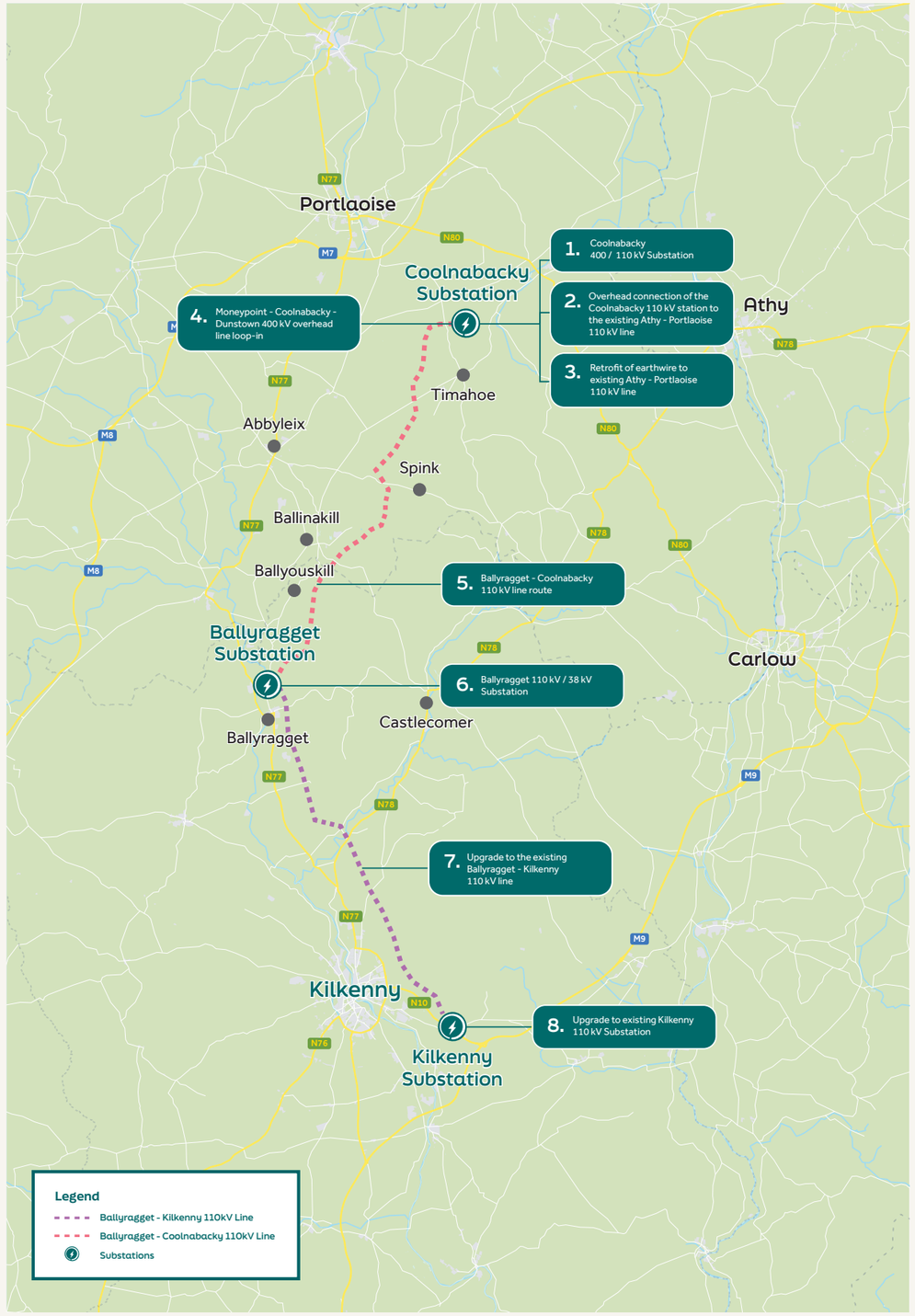


Figure 11: Map of the Laois Kilkenny Grid Reinforcement project (source: EirGrid)

2.3.3 Kildare – Meath grid upgrade project

The project is essential to assist Ireland in achieving our climate action targets. Bringing electricity from onshore and offshore wind sources is critical to this target.

It will also help meet the area's growing demand for electricity. This growth is due to:

- Increased economic development and population growth.
- The planned connection of new large-scale IT industry infrastructure in the region.

Much of our electricity is generated in the south and south-west of the country, where there are wind farms and modern electricity generators. The power they generate needs to be transported to where it is needed.

Power is currently transported across the country on two high-voltage power lines. These run from Moneypoint in Co Clare to the Dunstown substation in Co Kildare and Woodland substation in Co Meath. Transporting more electricity on these lines could cause electricity supply problems throughout Ireland. This is particularly true if one of the lines is lost or out-of-use unexpectedly. This project will help to minimise this risk.

The proposed project is a 53 km long 400 kV underground cable between the two existing 400 kV substations. The majority of the cable is in-road (82%) with remaining 18% as off-road sections used because of key environmental or engineering constraints. The cable bypasses key settlements in the area and will cross under the Royal and Grand Canal, Dublin-Sligo and Dublin-Limerick/Cork railway lines and the M4 and M7 motorways. While hedgerows and trees will be removed as part of the project, EirGrid has committed to planting 130% of the length/number lost.

In 2023, the planning application for the project was submitted to An Bord Pleanála for determination. In 2024, further information was submitted and is awaiting a decision by An Bord Pleanála.



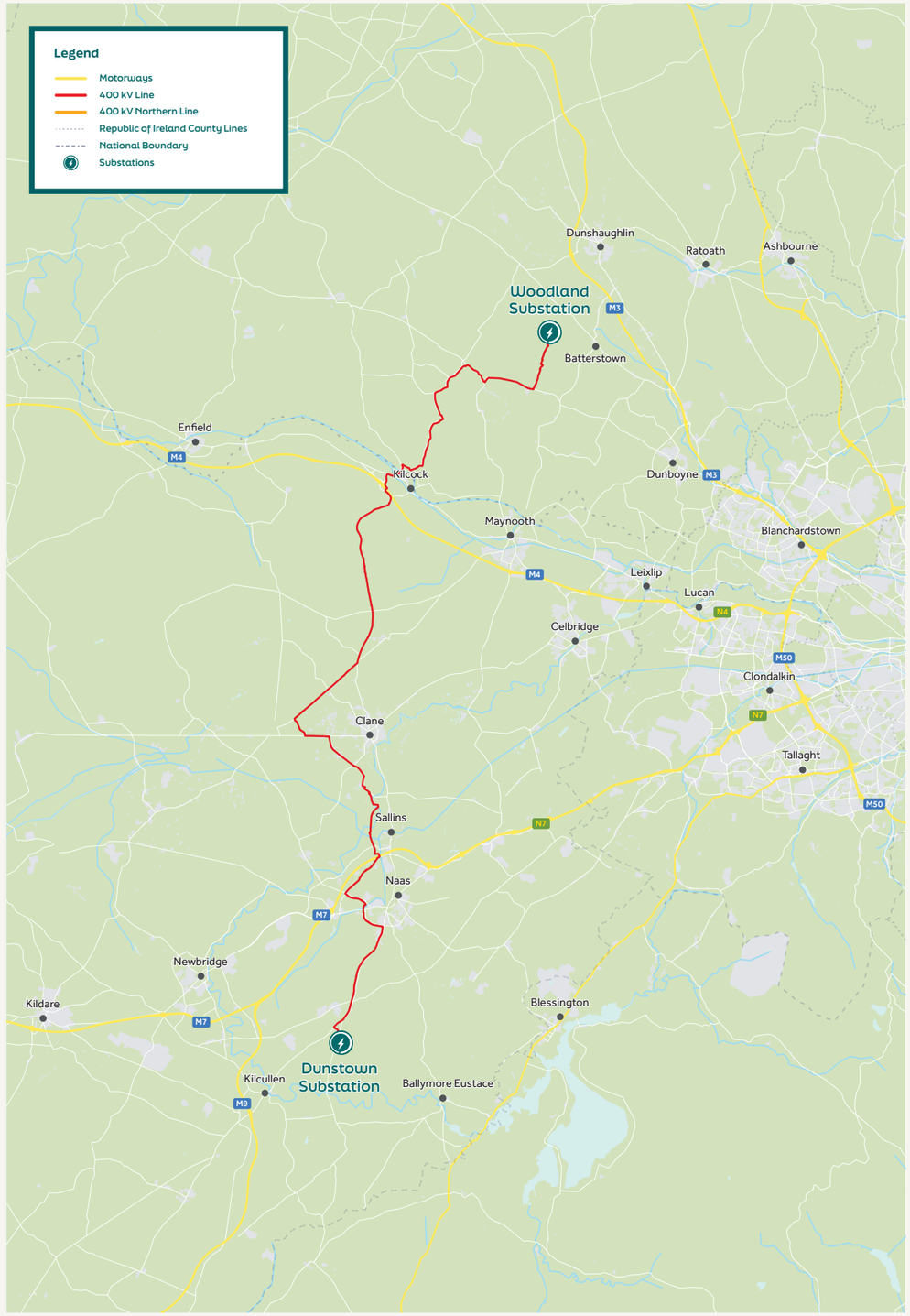


Figure 12: Map of Kildare – Meath Grid Upgrade project (source: EirGrid)

2.3.4 East Meath – North Dublin Grid Upgrade

The East Meath-North Dublin Grid upgrade is a high-capacity 400 kV underground electricity cable proposed between Woodland substation, near Batterstown in Co 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. The project will address the increased electricity demand in east Meath and north Dublin. There is increased electricity demand in these areas due to economic development and population growth.

The upgrade will help make the grid more renewable ready, helping to achieve Ireland's climate action targets.

Further development of renewable energy generation will increase Ireland's energy independence, reducing our reliance on imported fossil fuels for electricity generation.

The proposed project is 37.5 km of new 400 kV underground cable between the existing Woodland Substation and the existing Belcamp Substation. The project will also involve works in the substations to facilitate the connection of the underground cable circuit to the electrical grid, including new 400 kV infrastructure at the existing Belcamp Substation. Approximately 70% of the proposed underground cable route will be located within public roads and approximately 30% will be located in private lands, to avoid location-specific constraints.

In 2024, the planning application for the project was submitted to An Bord Pleanála for determination.

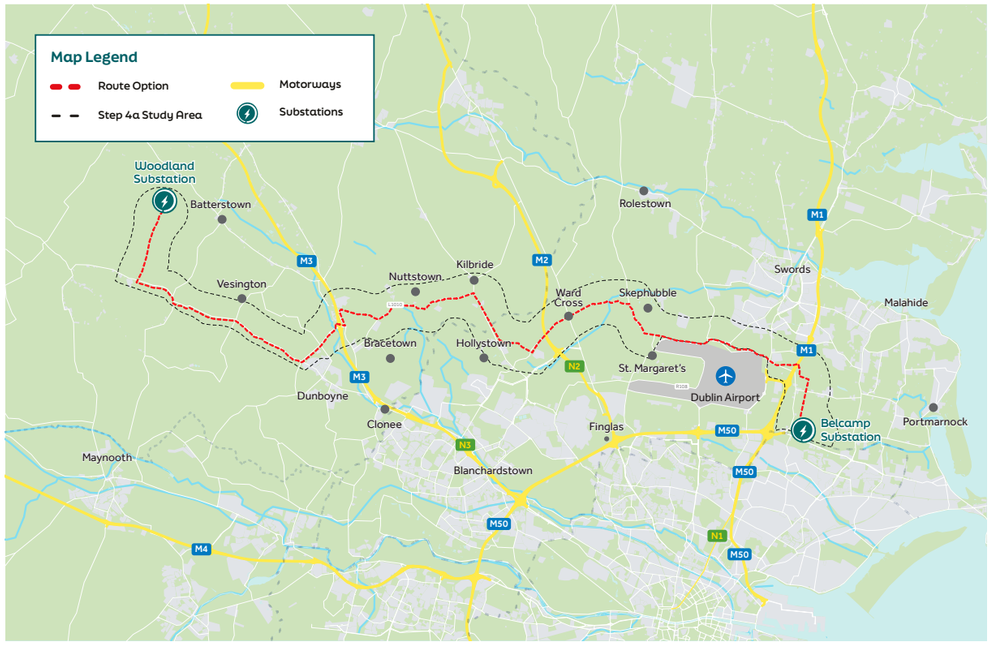


Figure 13: Map of East Meath – North Dublin Grid Upgrade (source: EirGrid)

2.3.5 Fingal – East Meath grid reinforcement and Kildare Dublin grid reinforcement

These two transmission projects are required to facilitate the increasing growth in electricity demand within counties Dublin, Meath and Kildare. These projects require the provision of new transmission substations and associated transmission circuits to connect these new substations to the electricity transmission grid. The growth in electricity demand is driven by several sectors including: residential, commercial, industry and transport (include Dublin Airport and the proposed Dart+ and Metrolink projects).

EirGrid is currently exploring options for the provision of new transmission substations and associated circuits in Dublin, Meath and Kildare.

The following projects have been selected to facilitate the increasing growth in electricity demand:

- **Fingal – East Meath Grid Reinforcement**
  A new substation in north county Dublin looped into the planned East Meath North Dublin 400 kV underground cable and a new 220 kV circuit to connect this new substation in north county Dublin to a new substation in east Meath (to be developed by a private entity).
- **Kildare Dublin Grid Reinforcement**
  Two new substations and four new circuits (400 kV and 220 kV) to connect south and west Dublin and County Kildare.

These projects will closely interface with the projects of Powering Up Dublin to ensure a robust grid network in the Dublin and Greater Dublin Area. Both projects are currently at Step 3 (technology selection).

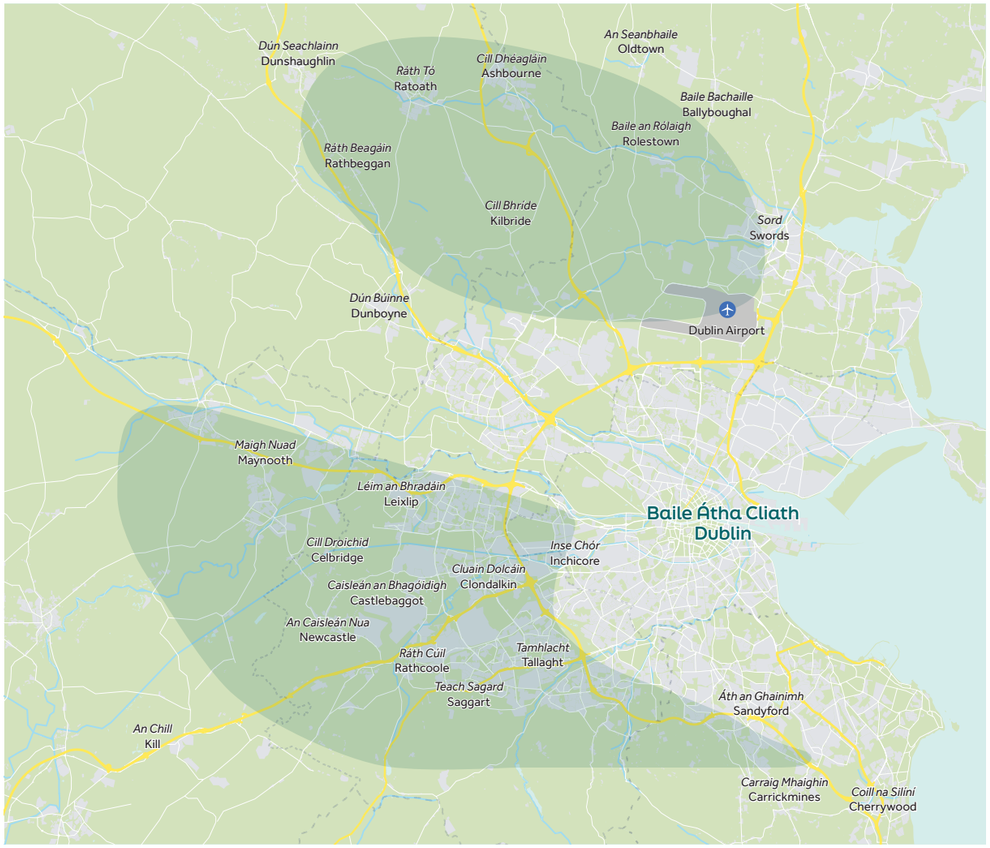


Figure 14: Map of Fingal to East Meath grid reinforcement and Kildare Dublin grid reinforcement (source: EirGrid)



2.3.6 Belcamp – Shellybanks 220 kV underground cable

The Belcamp – Shellybanks 220 kV underground cable project has been included as one of the five linear circuit projects; however at the time of writing, the project has been constructed and is awaiting final checks before energisation.

The project is a new underground cable from Shellybanks substation, adjacent to the Poolbeg power station to the Belcamp substation, located off the R139, close to the M50/M1 junction. The project allows greater supply of energy from Poolbeg to Belcamp in north Dublin, where energy demand is high.

2.4 Innovation projects

Our partnership with ESB Networks allows us, as industry partners, to innovate and develop new ways of delivering projects. This can include new software, technology, survey and assessment methodologies, materials and construction techniques. All of these types of innovations help to improve how grid development projects are delivered. In the context of this document, innovation projects are defined as the installation of 'non-wire' solutions. These can occur through various means that include:

- Dynamic Line Rating involve the use of devices that measure and assess the real-time capacity of existing lines and allows increased power flow in certain scenarios, such as when it is windy; and
- Power Flow Controllers control power flows across transmission lines with varying loading conditions aiming to optimize power flow, enhance grid stability and improve the overall performance of existing transmission lines.

Dynamic Line Rating device (top image) is a ball-shaped apparatus which is connected onto overhead lines (centre image).
Power Flow Controllers are designed and installed to fit in with existing substation equipment (bottom image).







Figure 15: Examples of Innovation Projects

2.5 Optimisation projects

The aim of these projects is to maximise the capacity of existing infrastructure, thus reducing the need for new infrastructure, minimising additional land use and social and environmental impact. There are a number of line uprate and station reconfiguration projects that are listed in Table 1 above. These involve works within the stations and on existing lines themselves and generally do not involve any significant expansion to the existing station footprints, lines or structures.

Line uprate and upgrade projects involve increasing grid capacity using existing lines and corridors. These can occur through various means that include replacing components such as conductors, insulators and structures to uprate or upvoltage overhead lines so they can carry higher loads.

A selection of some of the key optimisation projects in the EMR are presented below. These are:

- **Series Compensation projects** (Step 6 construction phase).
- **Woodland 400 kV Station Redevelopment** (Step 6 construction phase).
- **Maynooth 220/110 kV GIS Substation Development** (Step 6 construction phase).
- **Arklow 220 kV Station Redevelopment** (Step 3 pre-planning stage).
- **Arklow – Ballybeg – Carrickmines 110 kV Capacity Needs** (Step 3 pre-planning stage).
- **Oldstreet – Woodland 400 kV Line Refurbishment and Dunstown – Moneypoint 400 kV Line Refurbishment** (Step 6 construction phase).
- **Lanesboro 110 kV Station Redevelopment Project** (Step 6 construction phase).

2.5.1 Series compensation

Series Compensation is required on the existing 400 kV overhead lines that cross the country from Moneypoint in County Clare to Dunstown in County Kildare and Woodland in County Meath. There is a significant amount of existing, new and contracted conventional and renewable generation connected or seeking to connect in the south and south-west. As a result, the main flow of electricity in the southern half of the Irish network is from the south and south-west towards the demand centres on the east coast. There is a risk to the security of supply. This is largely caused by heavy power flows through the network. Network studies indicate the existing network cannot manage such large power flows. There are also some overloads of transmission circuits. Thus, the network between Munster and Leinster needs to be strengthened.

During times of high wind generation output, it is expected that wind generation will displace conventional generation on the system. As a consequence of this, at times of high wind, large bulk power flows are expected to flow from the south-west towards the large load centre on the east coast. System reinforcements are required to facilitate west to east power flows. These reinforcements can be facilitated using series capacitors, otherwise known as series compensation, to improve the networks power transfer capability. A series capacitor is an apparatus which optimises reactive power on an electrical transmission network. The reactive power must be compensated and kept in balance to prevent unacceptably high voltage fluctuations or power failures.

As a result of series capacitors being installed in series on a transmission line, the equipment must be elevated on a platform at system voltage, fully insulated from the ground. The capacitors are located on this steel platform. The control and protection system for the series capacitors is located on ground level and is housed within a control building. The control and protection system is used to monitor the series capacitors and to switch them in and out of the circuit, as required.

The series compensation devices are planned for:

- Moneypoint 400 kV Station Series Capacitor (now confirmed for Knockkyle, Co. Laois).
- Oldstreet 400 kV Station Series Capacitor.
- Dunstown 400 kV Stations Series Compensation.

2.5.2 Woodland 400 kV station redevelopment

The Woodland 400 kV Redevelopment Project is a proposed upgrade of the existing Woodland Substation which is located in County Meath. It is part of a package of works to accommodate proposed electricity transmission development that will help accommodate renewable generation expansion, and growing demand, in the Meath and Kildare areas and beyond. These works include asset upgrade for increased capacity, asset health upgrades, and new assets for connection of vital circuits.

This project is essential to ensure a reliable and secure transmission system for the Meath, Kildare and Greater Dublin Area; and to provide opportunities for market access to all connecting parties, including both demand and generation customers.

The project will consist of Installation of outdoor Air Insulated Switchgear (AIS) electrical apparatus, including an associated extension to the hardstand compound. Other works includes extension of busbars; new transformer connections; an extension to the existing control building; new lightning masts and other associated works.

2.5.3 Maynooth 220/110 kV GIS substation development

Condition Assessments have identified that large-scale asset replacement works are required on multiple items of 220 kV and 110 kV equipment in Maynooth Substation. The station was first commissioned in the 1960s and much of the equipment in the station has now come to the end of its useful life and requires replacement. The condition assessment highlighted that the existing station equipment has a lower than expected short circuit mechanical rating meaning it potentially would not be capable of accommodating mechanical forces experienced during short-circuits.

The 220 kV and 110 kV busbars are currently operated split. At 220 kV, this is to avoid the widespread system impact of a fault on the 220 kV coupler circuit breaker. At 110 kV, it is to manage short circuit levels within the rating of the circuit breakers. Split operation of the station reduces the overall operational flexibility of the network in the area. The ability to remove the splits will improve operational flexibility and security of supply. The Proposed Development will consist of the construction of a new 220 kV Gas Insulated Switchgear (GIS) and a new 110 kV GIS building; installation of 4 x 220/110 kV Power Transformers and cable sealing ends; and associated works.

2.5.4 Arklow 220 kV station redevelopment

Arklow 220 kV Station is nearing end of life and requires redevelopment. In addition, it requires expansion as it has insufficient capacity for known future connection needs, which include projects that enable offshore wind development. The solution progressed involves a new 16-bay enhanced ring busbar substation (16 bays at 220 kV and 110 kV with four transformers connecting the two voltage levels) on the site adjacent to the existing station. The solution caters for all current and known future transmission needs at Arklow substation, complies with the EirGrid Policy Statement on Busbar Configuration and allows for future expansion. It frees up space within the existing substation site for future development at transmission or distribution voltages. It also protects Arklow substation from being constricted in the event of the land being acquired for other industrial or commercial purposes.

2.5.5 Arklow – Ballybeg – Carrickmines 110 kV capacity needs

The existing double circuit towers between Arklow, Co. Wicklow and Carrickmines, Co. Dublin substations were constructed to accommodate two 220 kV circuits. Currently only one of these circuits (Arklow – Carrickmines) is operated at 220 kV and the other (Arklow – Ballybeg & Ballybeg – Carrickmines) is operated at 110 kV. The project need relates to thermal capacity issues encountered on the Arklow - Ballybeg - Carrickmines transmission corridor, driven by the integration of renewable generation and interconnection in the South East. To achieve the increased thermal capacity, the project will reclaim the existing Arklow-Ballybeg and Ballybeg-Carrickmines 110 kV overhead lines for 220 kV operation (53km), which includes the construction of a new 220/110 kV substation near the existing Ballybeg 110 kV substation.

2.5.6 Oldstreet – Woodland 400 kV line refurbishment and Dunstown – Moneypoint 400 kV line refurbishment

There are two 400 kV circuits that cross Ireland both travel from the Moneypoint power station across the island towards Dublin – one terminates in Woodland substation, Co. Meath and the other in Dunstown substation, Co. Kildare. Both overhead lines allow the flow of electricity from large scale generators in the west to areas of higher demand in the east. Because of the age of the circuits, refurbishment and replacement of parts are required on both lines. The proposed works consist of replacement of steel members, insulators, hardware and earthwire and tower painting. The northern of the two circuits runs from Moneypoint via Oldstreet in Galway to Woodland. The works are proposed on the section between Oldstreet and Woodland (126 km). The southern of the two between Dunstown and Moneypoint requires refurbishment along its full length – 209 km.

2.5.7 Lanesboro 110 kV station redevelopment project

This project involves the construction of a new electricity transmission substation adjacent to the existing substation and to the existing Lough Ree Power Station. Equipment in the substation is nearing the end of its life and is in need of upgrading to ensure a safe and secure supply of electricity for existing customers across Longford and Roscommon and ensure access to secure electricity supplies for new customers. Changes are needed so that the station can accommodate increasing power flows from the west and north-west, largely coming from renewable energy. The proposed works will extend the existing substation with the redevelopment of the existing Air Insulated Substation (AIS) and construction of a new Gas Insulated Substation (GIS).

2.6 Other key infrastructure projects in the plan area

The EMR Regional Programme for grid infrastructure development is an ambitious and challenging, yet a vital, major programme of electricity transmission infrastructure development in the region and for the country as a whole. However, it is important to consider the potential for cumulative impacts, considering other planned major infrastructure development projects, with which the Programme is likely to interact, in terms of project timelines, environmental and other impact and potential construction efficiencies.

There are a wide variety and number of different renewable energy and associated projects in the Region, including wind and solar, battery storage, system service infrastructure that are being progressed by developers. These are not grid reinforcement projects but are known as customer projects.

2.6.1 Interactions with roads

As identified in the 2024 Climate Action Plan:

"To reach 80% of electricity demand from renewable sources by 2030:...
All relevant public bodies will carry out their functions in a manner which supports the achievement of the renewable electricity targets, including, but not limited to, the use of road and rail infrastructure to provide a route for grid infrastructure where this is the optimal solution"
(Section 12.4.1.1 Accelerate Renewable Electricity Generation, page 168.)

To that end, EirGrid has been working with Transport Infrastructure Ireland and Local Councils in the Eastern and Midland Region to explore opportunities for the use of transportation infrastructure and agree an enduring engagement protocol for the development of HV electricity projects through the phases of project progression. All parties are working to prepare a set of principles and protocols to deliver in-line with the Climate Action Plan. This will be identified on a project-by-project basis and will follow extensive routing assessments to establish the optimal solution on the use of the transport infrastructure.

2.6.2 Offshore windfarms (Phase 1)

The expansion of offshore wind energy in Ireland will be major source of renewable energy. The government aims to deliver 37 GW of offshore wind capacity by 2050, providing long-term jobs, economic benefits and low-cost energy for customers. Phase 1 of this expansion includes six offshore windfarms off the coast of Ireland. The five offshore windfarms off the coast of EMR are:

- **North Irish Sea Array**
  Off north Dublin, Meath and Louth, that will be between 30 and 36 turbines, at least 12.5km from the shore. This will deliver 500 MW.
- **Oriel Windfarm**
  Off Louth in Dundalk Bay, that will have up to 25 turbines. Will be located at least 6km from the coast and will deliver 370 MW.
- **Codling Wind Park**
  Located approximately at least 13km from the County Wicklow coast between Greystones and Wicklow town. The project is expected to deliver between 900 MW and 1,500 MW and have up to 140 turbines.

- **Arklow Bank II**
  Located off the coast of Arklow, County Wicklow and is planned to deliver 800 MW. Phase I of the Arklow Bank Wind Park was constructed in 2003/2004 and is 25.2 MW. Arklow Bank II will have up to 62 turbines.
- **Dublin Array**
  Located a minimum of 10 km off the Dublin and Wicklow coast, the project will deliver up to 900 MW of renewable energy. The project will have up to 61 turbines.

2.6.3 Distribution System Operator developments

ESB, in its role as Distribution System Operator (DSO), has requested new 110 kV stations around the country, including in the EMR. These new stations are needed to ensure a safe secure supply to DSO demand. It is too early in the connection process to determine the location and connection method of these 110 kV stations to the transmission system. As we develop these projects with the DSO they will be included in our Transmission Development Plan (TDP) and Network Delivery Portfolio (NDP). The DSO and TSO projects will all be subject to relevant requirements and best practice for planning and statutory consenting.

2.6.4 Renewable hubs

In 2023, EirGrid published an update to Shaping Our Electricity Future (SOEF) which was first published in November 2021 (see Section 1.2 above for further details). A concept called 'renewable hubs' was included in that plan It is a concept to accommodate renewable generation to meet Ireland's climate objectives. The concept is not new in transmission network planning and represents an optimised way to plan generation and the transmission network coherently, especially when the aim is to connect large scale renewable generation projects in the context of, and in combination with, resolving network capacity shortages.

In Ireland's journey to decarbonise the electricity system and wider society, increasing pressure on the transmission network is inevitable, as we aim to accommodate increasing amounts of renewable generation. New transmission network will be required to achieve our decarbonisation targets, as the energy produced needs to be transported to where it is needed. Our renewable hub solutions will provide the opportunity to support meeting this goal. Renewable hubs are effectively substations built in specific locations where multiple energy projects within a specific geographical area can connect. The solution may include new high voltage circuits to resolve network capacity shortages, for example, and therefore improving constraints. Each renewable hub will be individually designed, with a correlation and dependency on the existing network and developers who intend to develop their facilities in these locations.

The Shaping Our Electricity Future plan identified four potential renewable hubs; three were proposed for the Eastern and Midland region, and one was proposed for the Southeast region. System analysis and investigation into possible system designs has been on-going since the publication of the plan in summer 2023. The conclusion of this analysis will provide the best performing solution for the network and as these projects are progressed and developed, they will be included in our Transmission Development Plan (TDP) and Network Delivery Portfolio (NDP). They will also be subject to relevant requirements and best practice for planning and statutory consenting.

2.6.5 Other renewable and demand projects

There are a wide variety and number of different renewable energy and associated projects in the Region, including wind and solar, battery storage, system service infrastructure that are being progressed by developers. These are not grid reinforcement projects but are known as customer projects. These are identified in Table 2 but are outside of the Regional Programme. Additional customer projects are likely to be added in the future.

Table 2: Customer projects in the Eastern and Midland Region

EirGrid project code	Project name	County
CP0644	Bracklone 110 kV Station – DSO	Laois
CP0693	Baroda 110 kV Station – 2 x110 kV Trafo Bays DSO	Kildare
CP0749	Oriel Offshore Windfarm	Louth
CP0872	West Dublin New 220-110 kV Station (Castlebagot 220 kV Station)	Dublin
CP1029	Capital Project 1029	Kildare
CP1041	Timahoe 110 kV Station (Timahoe North Solar Farm)	Laois
CP1049	Bracetown 220 kV Station (Clonee Phase 3)	Meath
CP1056	Ryebrook 110 kV Temporary Connection	Kildare
CP1059	Raghra 220 kV Station (Shannonbridge B)	Offaly
CP1060	Loughteague 110 kV Solar Farm	Laois
CP1120	Cloncreen 110 kV Station	Offaly
CP1136	Deenes 110 kV Station (Gaskinstown Solar Farm)	Meath
CP1143	Derrylahan 110 kV Station (Blackwater Bog Solar)	Offaly
CP1158	Rattin 110 kV Station (Clonfad Solar)	Westmeath
CP1175	Kishoge 110 kV Station (Winthrop Engineering)	Dublin
CP1188	Kilcarbery 110 kV Station (Profile Park Power Co 1 Ltd)	Dublin
CP1201	Bogtown 110 kV Station (Moanvane Windfarm)	Offaly
CP1219	Lickny 110 kV Station (Coole Wind Farm)	Westmeath
CP1220	Garrintaggart 110 kV Station – Pinewoods Wind Farm	Laois
CP1221	Mulgeeth 110 kV Station – Drehid Wind Farm	Kildare
CP1230	Darndale Phase 2 – 3 110 kV Customer Connections in Darndale 110 kV Station	Dublin
CP1231	Knockdrin 110 kV Station (Yellow River Wind Farm)	Offaly

EirGrid project code	Project name	County
CP1234	Laurencetown 110 kV Station (Clonin North Solar)	Offaly
CP1241	Belcamp BSP Transfer	Dublin
CP1243	Blundelstown 110 kV Station – 2 New DSO Transformer Bays	Dublin
CP1244	North Arklow Solar Plus Storage	Wicklow
CP1249	Porterstown Battery	Kildare
CP1252	T-4 Derrygreenagh 220 kV, Rathcobican 400 kV SS – Cushaling Power Ltd	Offaly
CP1255	Castlelost FlexGen	Westmeath
CP1256	Greener Ideas Profile Park	Dublin
CP1257	Kilshane Power Station	Dublin
CP1262	Shanonagh 110 kV Station	Westmeath
CP1263	Rappareehill 110 kV Station (Derryadd Wind Farm)	Longford
CP1264	Rhode ESS	Offaly
CP1265	Corkagh 110 kV Station Phase 2	Dublin
CP1267	Arklow 220 kV – DSO Ballymanus WF	Wicklow
CP1268	Dunfirth 110 kV – DSO Dysart PV	Kildare
CP1274	Temporary 220 kV Cable Diversion of Castlelost Site	Westmeath
CP1281	Batter Lane DSO Station	Dublin
CP1284	Walterstown 110 kV Station DSO	Meath
CP1296	Rinawade 110 kV Station (Liffey Park)	Kildare
CP1329	Stonestown 110 kV Station (Derrinlough Wind Farm)	Offaly
CP1334	Newbarn 110 kV Station (Fieldstown Solar Farm)	Dublin
CP1335	Garballagh 110 kV Station (Garballagh 2 Solar Farm)	Meath
CP1342	Drumcamill 110 kV Station (Monvallet Hybrid Solar and Battery Farm)	Louth
CP1346	Meath Hill 110 kV Station (Ardagh South Energy Storage)	Meath
CP1355	Corbetstown 110 kV Station (Garr Solar and Storage)	Meath
CP1394	Offshore Phase 1 Codling	Wicklow
CP1396	Arklow Bank Wind Park Phase 2 (Offshore)	Wicklow
CP1397	North Irish Sea Array (NISA)	Dublin
CP1398	Dublin Array	Dublin
CP1413	Clonee 220 kV (FDA) Meta	Meath
CP1414	Kilcumber 110 kV Station (Cloncreen Battery Phase 2)	Offaly
CP1427	Platin (Bellewstown)	Meath
CP1442	Fosterstown 110 kV Station Connection DSO	Meath
CP1430	Lanesboro 110 kV Station (Middleton Solar)	Longford
CP1452	Poolbeg OCGT (ESB G&T)	Dublin
CP1456	Clutterland 110 kV Station Phase 2&3 (Amazon Web Services)	Dublin
CP1459	East Kildare 110 kV Station	Kildare
CP1460	Balruntagh 110 kV Station	Meath
CP1476	Rathlockstown Solar	Meath
CP1480	Cruiserath 220 kV Station Phase 3 (Amazon Web Services)	Dublin
CP1492	DSO Connection - Donore Rd 110 kV Station	Meath
CP1506	Signalling Cables for Grid Meter Installation	Offaly and Kerry
CP1510	Peamount 110 kV Station (Bulmer RICE)	Dublin
CP1513	Ricetown 110 kV Station (Mill Farm Solar)	Meath
TBC	Glenart 220 kV Station (Pollahoney Autoproducer)	Wicklow

Known projects as of 30th November 2024.

2.6.6. MaresConnect (Proposed Wales - Ireland Interconnector)

The proposed Mares Connect project is a 190 km subsea cable between Wales and Ireland which will deliver 750 MW of additional electricity capacity. MaresConnect will consist of two converter stations – one located in the Greater Dublin Area (location to be confirmed by the developer) and the other In North Wales – connected by two High Voltage Direct Current (HVDC) cables under the Irish Sea. The Commission for Regulation of Utilities (CRU) is currently undertaking its initial project assessment of MaresConnect, with public consultation on the CRU's findings expected in early 2025. In November 2024, the UK Regulator (Ofgem) gave initial approval (Cap & Floor application) for the project. The project will be progressed by a private developer.

Part 3: Our approach

3.1 Stakeholder engagement

Effective engagement is essential for EirGrid to achieve our purpose — to transform the power system for future generations. We actively engage with policymakers, industry and society at all levels, from local to European, in line with our strategic objectives and government policy.

3.1.1 Public engagement

EirGrid's public engagement strategy aims to develop a cohesive approach that reflects and is framed by the energy transition and the urgent context of climate action. As part of this, EirGrid has made community engagement and participation part of its core competence, developing effective systems to deliver meaningful public engagement.

The six-step approach to project development as outlined earlier in section 1.5 has public engagement and consultation embedded within the process. This ensures that from the earliest stages of our projects we are engaging with those who live in the communities that will be impacted by our projects.

It's important that we gain the support of individual landowners, their neighbours and their wider communities when we are developing projects in an area. We must acknowledge the challenges of what we ask from individuals and communities for the benefit of the entire population ensuring that they are consulted with and listened to from the outset.

A tailored approach is provided for each project with a bespoke engagement plan developed. A key aspect of all our plans is to seek to engage with the community at the earliest stages possible.

- Our Community Liaison Officers and Landowner Liaison Officers are located within the project regions and start developing relationships in the community and engaging with landowners.
- We seek to establish a community forum. The purpose of the forum is to bring together people and organisations in the study area of a project. In doing this it ensures that stakeholders and community views are understood and considered as part of the overall project delivery. It gives a voice to local communities and those impacted most by our infrastructure. The forum provides for open dialogue between the project teams and stakeholders.
- We acknowledge that when we are upgrading or adding new transmission infrastructure in an area, to help make the grid more efficient and sustainable, it will often involve some disruption to the local community. Our Community Benefit Policy recognises the importance of the local communities who support our work and the temporary disruption which may be caused during the construction phase of the project.

Under this initiative, we create a community benefit scheme in proportion to the scale of the project. We work with the Community Forum to ensure that the scheme is designed for the local community, by the local community. A community benefit strategy for each Grid Infrastructure Project is designed in consultation with the affected community. The strategy will guide the process for prioritising, selecting and supporting projects for investment.



Industry	Statutory	Society
Partners	Governments	Agriculture
Generators	Regulators	Academia and schools
Customers	Agencies	Community
Providers	Politicians	Environment
Storage	UK and EU	Lobby groups
Suppliers		NGO
Industry bodies		Public/Consumers

As we work through the steps of the project development we will provide project information and seek to consult at specified steps as the project progresses.

Typically, this would involve us developing project brochures and updates and holding open days in the local area where members of the public can meet the experts and have their queries addressed. We promote these events and raise awareness of them via targeted social media content, advertising in local and national press, letters to landowners and statutory bodies and providing spokespeople for discussions on public radio.

Stakeholders are invited to provide feedback in multiple formats including feedback forms online and at open days, through fora and webinars and by email or letter.

3.1.2 Statutory engagement

EirGrid is uniquely positioned to lead the island's electricity sector on sustainability and decarbonisation and to be a trusted, independent advisor to policy makers in Ireland and Europe through use of our deep expertise, knowledge and data. To support this, we engage in active and ongoing consultation with the government and regulatory authorities on key policies and strategic issues as required by legislation. This is done through formal correspondence, bilateral engagement and participation in working groups, taskforces and meetings. EirGrid is also active across the European Union and beyond in terms of our engagement with key organisations.



3.1.3 Industry engagement

The collaboration of our industry stakeholders is critical to delivery of the government's climate action targets. We respond to a wide range of needs across the wholesale energy sector in Ireland covering electricity generation and supply, interconnection and also the supply of necessary services to operate the system securely, especially at times with high penetration of generation from renewable sources.

In 2023, we worked with industry via a number of specific industry forums that would allow us to engage more meaningfully and effectively. One of these forums is the HV Interface Forum.

Established by EirGrid in late 2022, with an independent Chair, the HV Interface Forum has brought together stakeholders such as DECC, Transport Infrastructure Ireland (TII), ESB Networks and local roads authorities, to address key challenges blocking progress of planning applications and development projects.

Bringing together so many invested and informed parties in open dialogue is invaluable for shaping EirGrid's development plans. By seeking to establish ways of working, we will together be able to support the delivery of the shared objectives within Ireland's Climate Action Plan.

The HV Interface Forum's purpose is to ensure the best possible outcome for all. And through our facilitation of regular cooperative engagement, we are working towards securing our renewable electricity targets, particularly as we address the challenges presented by accommodating electricity transmission infrastructure within the road and rail networks.

Read about EirGrid's approach to Stakeholder Engagement in full (covering public, statutory and industry engagement) on our website. Here you will also find our 2024 Network Stakeholder Engagement Plan which details our approach, activities, events and publications.



3.2 Approach to project development

A focus in the development of all EirGrid projects, including the EMR projects, is on matters of proper planning and sustainable development. This requires a careful balancing of the technical need and solutions for a project with appropriate and adequate opportunities for public participation in the project development process. It must also include significant emphasis and focus on the environmental impact of the project, primarily in reference to the EU Habitats Directive and Environmental Impact Assessment Directive, but also in terms of social impact.

As outlined at Section 1.4 of this document, EirGrid has been proactive in developing clear structured processes for the planning and development of electricity transmission infrastructure.

The six-step Framework for Grid Development ensures the technical development of projects in collaboration with matters of planning, environment, public affairs, administrative, financial and corporate governance.

Cross-functional project teams include experienced experts in the areas of programme and project management, technology and engineering, ecology, public planning, community and landowner engagement. These experts ensure a consistent approach to the sustainable planning and development of all EirGrid projects, which in turn ensures an appropriate balance between the timely and cost-efficient development of our transmission projects, and a clear and transparent structure to facilitate opportunities for public participation in project development (see also Section 5 of this document).

3.3 Approach to planning and consenting of projects

Grid infrastructure development such as the EMR projects occurs within a strategic and statutory planning and environmental context, where the focus is on matters of proper planning and sustainable development. EirGrid's in-house Planning and Environmental team provides strategic advice to project teams regarding matters of planning and consenting of projects.

Under the provisions of Section 182A of the Planning and Development Act 2000 (as amended), electricity transmission infrastructure development generally comprises Strategic Infrastructure Development (SID). This requires an application for Statutory Approval to be made directly to An Bord Pleanála, following formal pre-application consultation with the Board.

However, An Bord Pleanála can also confirm that certain grid infrastructure development is not SID for the purposes of statutory consenting and directs EirGrid to seek Planning Permission from the relevant Planning Authority.

EirGrid also undertakes certain development which comprises exempted development – development which does not require a prior statutory consent. EirGrid has developed an internal process for deciding whether certain development is or is not exempted development. This requires, in part, a comprehensive Screening for Appropriate Assessment (AA) of the proposed development to assess risks to European sites for Nature Conservation, undertaken or managed by EirGrid's Senior Ecologist.





Where EirGrid's ecologist determines that likely significant effects can be excluded in the absence of mitigation measures intended to protect European sites, the AA Screening concludes in the publication of an Appropriate Assessment Screening Determination. This is published on EirGrid's website, as required by Irish legislation transposing the EU Habitats Directive which provides for Appropriate Assessment.

As part of the exempted development process, a statutory Declaration of Exempted Development, in accordance with Section 5 of the Planning and Development Act 2000 (as amended), may be obtained from the relevant Planning Authority.

The Irish planning system is one of the most open and transparent in Europe, and internationally, with considerable opportunity for public participation, facilitated formally by the Competent Decision-Making Authorities (An Bord Pleanála and/or the relevant Planning Authorities), but also informally by EirGrid (see Section 1.4 and Section 5 of this document).

This requires EirGrid's planning applications to be robust, informative, accessible and easy to understand by all parties.

EirGrid acknowledges that there will continue to be interest in the planning and consenting of their projects by those who are directly or indirectly affected by, or have concerns regarding, those project proposals. Planning applications must be prepared in a way which facilitates public understanding and provides accessibility and opportunity for participation in the planning process, while also complying with relevant legislation and guidelines in respect of the planning and consenting of transmission infrastructure development projects.

Project proposals and consent applications, as well as Declaration Requests and decisions, will also have regard to precedent arising from decisions of the Competent Authorities and of the High Court in Judicial Review of decisions, relating to the planning and consenting of transmission infrastructure development projects, including matters of Environmental Impact Assessment (EIA) and Appropriate Assessment (AA).

3.4 Our approach to the environment

EirGrid has a statutory obligation to ensure that the operation, maintenance and development of the national transmission system has due regard for the environment.

EirGrid is a 'competent authority' under the Strategic Environmental Assessment (SEA) Directive 2001/42/EC and national regulations for the purpose of its Programmes and Plans. EirGrid also sits on and contributes to the national SEA Forum chaired by Ireland's SEA Environmental Authorities. The forum assists plan makers such as EirGrid to follow and adopt best practice and understand and comply with emerging policy and legislation.

EirGrid's five-year Grid Implementation Plan 2017-2022 (IP) was adopted in 2018[13] following SEA and AA in accordance with legal requirements and best practice.

EirGrid has undertaken an analysis of SEA monitoring to determine if targets for each Strategic Environmental Objective in the 2017-2022 IP were met and, if not, or in the case of knowledge gaps, what process improvements are required.

EirGrid's SEA monitoring report (2023)[14] on the 2017-2022 IP shaped and influenced the SEA EirGrid's next cycle plan, namely the Draft Grid IP 2023-2028. The Draft Grid IP and SEA has a significant marine focus, in the context of EirGrid's statutory role as Transmission Asset Owner for all future offshore grid required to connect 5 GW of offshore wind by 2030.

13 https://cms.eirgrid.ie/sites/default/files/publications/EirGrid-Grid-Implementation-Plan-2017-2022-Final.pdf
14 https://cms.eirgrid.ie/sites/default/files/publications/210727-EirGrid-SEA-Monitoring-Report_PUBLISHED_FINAL.pdf



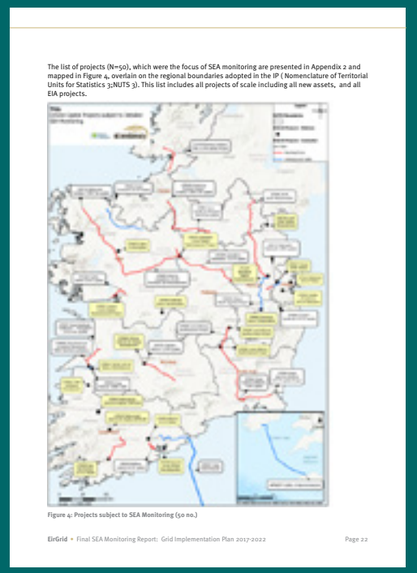

The list of projects (N=50), which were the focus of SEA monitoring are presented in Appendix 2 and mapped in Figure 4, overlain on the regional boundaries adopted in the IP (Nomenclature of Territorial Units for Statistics 3;NUTS 3). This list includes all projects of scale including all new assets, and all EIA projects.

Figure 4: Projects subject to SEA Monitoring (50 no.)

EirGrid • Final SEA Monitoring Report: Grid Implementation Plan 2017-2022 Page 22

Figure 16: EirGrid's SEA Monitoring Report on the 2017-2022 IP





Figure 17: EirGrid's Draft NIS of the Draft Grid IP 2023-2028

The Draft IP was subjected to Scoping for Strategic Environmental Assessment from December 2022 to January 2023[15]. Informed by the scoping responses from statutory and non-statutory consultees, the Draft SEA Environmental Report was prepared and published for consultation for a 10-week period from October to December 2023[16].

The Draft IP also includes a Monitoring framework informed by the recommendations of EirGrid's Monitoring Report on the Grid Implementation Plan 2017-2029. The framework will monitor and manage the potential significant negative effects and any unforeseen effects of the Grid IP, with reporting on indicators annually starting in 2024, to be published in EirGrid's Annual Report or annual Sustainability Report.



15 https://cms.eirgrid.ie/sites/default/files/publications/EirGrid-SEA-Scoping-2022_Final_revised-for-consultation_CLEAN.pdf
16 https://consult.eirgrid.ie/en/consultation/draft-grid-implementation-plan-2023-2028



The Implementation Plan is being finalised and will be formally adopted and published in due course in 2024.

This regional Strategic Framework forms part of a suite of Strategic Frameworks which derive from the National Grid Implementation Plan and associated SEA.

EirGrid ensures best practice in the effective application of SEA, by explicitly transferring environmental policy in the Draft IP on all lower-level plans, programmes and projects as per Objective Env015 in the Draft Grid IP:

"To integrate Grid IP policies into lower-tier plans and programmes, and projects (so-called 'tiering' or transfer of mitigation from higher to lower levels), and monitor, report and continually improve on the degree of effective implementation via the SEA monitoring process."

In the context of the EMR Regional Programme, implementation of Draft Grid IP Objective Env015 is evidenced by the integration of all IP policies into the programme.

The IP, the TDP and the SOEF Roadmap each provide a different level of scale and detail – from the long-term vision statements contained in the SOEF, to the objectives and policies to implement the strategy set out in this IP, to the specific projects outlined in the TDP.

The programmatic approach in the EMR Regional Programme exemplifies implementation of Draft IP policy EnvP3 which is:

"To apply a strategic/programmatic approach to onshore and offshore grid development to optimise environmental assessment and public engagement at a regional/landscape scale. Through programmatic approaches, reduce timescales and resources and increase project delivery rate to achieve the 2030 target of 80% electricity from renewable sources."



3.5 Appropriate Assessment (AA)

EirGrid undertook screening for Appropriate Assessment (AA) of the Draft Grid Implementation Plan (2023-2028), to determine if that plan is likely to have significant effects on European sites for nature conservation, either alone or in combination with other plans or projects.

In accordance with Article 6 (3) of the EU Habitats Directive, a Draft Natura Impact Statement (NIS) was prepared in respect of the Implementation Plan, as likely significant effects from the plan alone or in combination wither other plans or projects, could not be excluded in the absence of mitigation. The Draft NIS was issued for public consultation along with the Draft SEA Environmental Report and Draft IP in October 2023.

The Draft NIS determined what mitigation measures were required to avoid the Grid Implementation Plan (2023-2028) having adverse effects on European sites. Mitigation measures include inserting or amending policies, or actions into organisational policies and practices which ensure prioritisation of nature protection or identifying research to fill knowledge gaps.

Screening for AA of each proposed development is an integral function of EirGrid's Environmental team and is fundamental in determining the planning status of projects that normally fall under the category of exempted development (see Section 6 of this document). In addition, during the pre-application process, EirGrid's planning and ecology specialists liaise closely with statutory and non-statutory planning and environmental agencies to discuss and address any issues regarding the planning and environmental aspects of a proposed development.

Where EirGrid's ecologist determines that likely significant effects can be excluded in the absence of mitigation measures intended to protect European sites, the Screening for AA concludes with the publication of a Screening Determination. This is published on EirGrid's website, as required by Irish legislation transposing the EU Habitats Directive which provides for Appropriate Assessment. If potential for likely significant effects is confirmed, further assessment will be undertaken, culminating in the preparation of a NIS.

Read EirGrid's Strategic Environmental Assessment (SEA) Scoping Report in full here, where you can find more information that also includes information on Screening for Appropriate Assessment (AA) (page 3).


FEHILY TIMONEY

CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

GRID IMPLEMENTATION PLAN 2023 - 2028

STRATEGIC ENVIRONMENTAL ASSESSMENT – ENVIRONMENTAL REPORT

Prepared for: EirGrid

Date: September 2023

Core House, Pouladuff Road, Cork, T12 D773, Ireland

T: +353 21 496 4133 | E: info@ftco.ie

CORK | DUBLIN | CARLOW

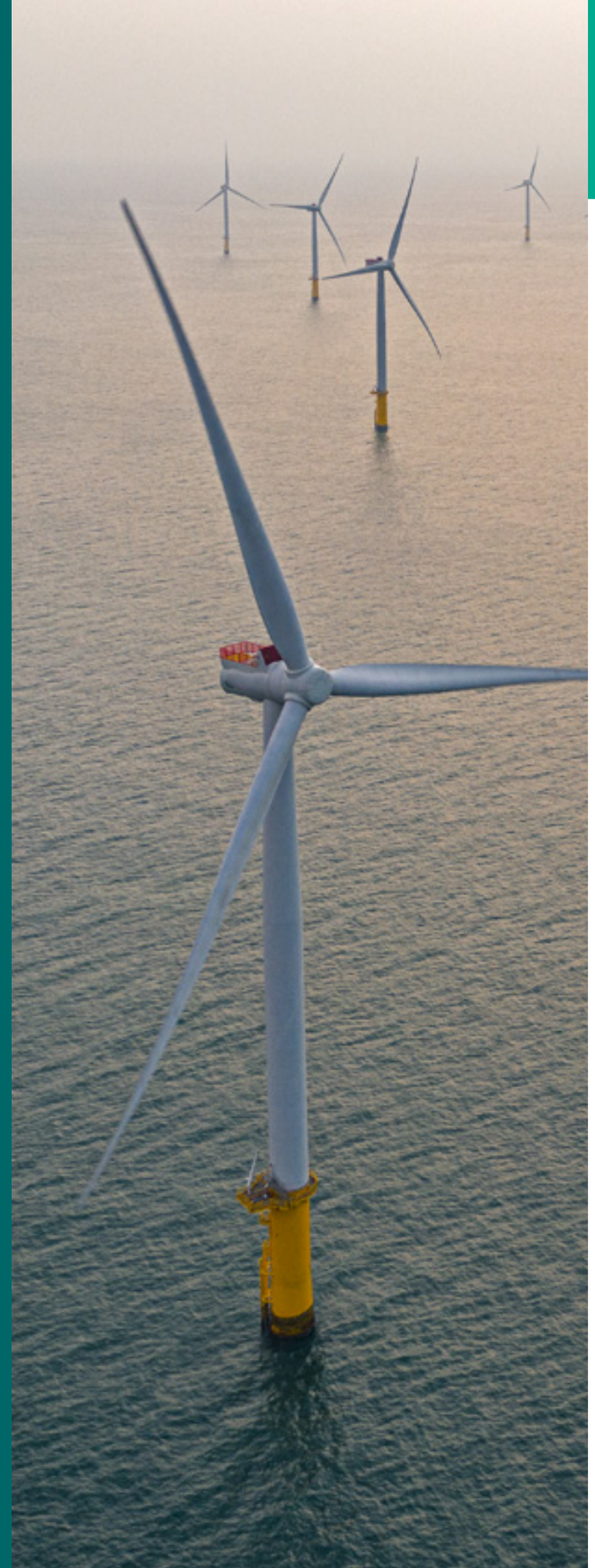
www.fehilytimoney.ie


CLIENT: EirGrid
PROJECT NAME: Grid Implementation Plan 2023 - 2028
SECTION: Strategic Environmental Assessment – Environmental Report

Figure 6-4 Archaeological heritage sites

P22-224 www.fehilytimoney.ie Page 70 of 215

Figure 18: Draft SEA Environmental Report for EirGrid's Draft Grid Implementation Plan 2023 - 2028



3.6 Environmental assessment

EirGrid's Planning and Environmental team is embedded into the Cross Functional Team decision-making on every grid development project, in order to ensure that environmental issues are at the forefront of decision-making. Early involvement of the team in projects allows potential environmental issues to be identified and avoided or managed in the course of project development.

EirGrid is committed to ensuring continued compliance with governing law and best practice particularly in relation to protected sites and habitats, mitigating against climate change and avoiding and mitigating against adverse environmental impacts to biodiversity, cultural heritage, water, landscape, soils and noise. In the context of the twinned climate and biodiversity emergency, EirGrid has committed at the highest management level, to go beyond protection nature, to aim for restoration on every project (see Section 7.3.1).

EirGrid has also prepared Evidence-Based Environmental Studies, which examine the environmental impact of the construction and existence of transmission infrastructure in Ireland. These studies have been prepared by environmental experts with peer review from industry experts and contributions from a steering group made up of various industry stakeholders and environmental organisations. The studies are published on the EirGrid website will continue to be updated to take account of new information and/or developments in understanding arising from practice and research.

This section provides a brief environmental overview, focussing on EirGrid's key environmental policies and objectives (especially those in the Draft Grid IP) which ensure appropriate protection of the environment in grid development.



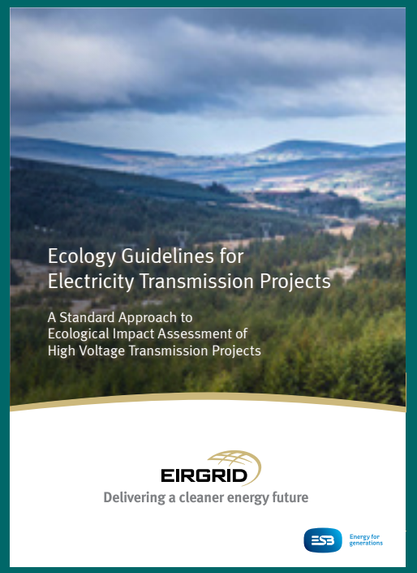
3.6.1 Biodiversity and nature inclusive design

At EirGrid, protecting and restoring nature is integral to the work to decarbonise the electricity grid. Since the Irish government declared the biodiversity and climate emergency in 2019, EirGrid has accelerated their action for nature. The stated mission of our executive leadership is to go beyond simply protecting nature, to restoring it.

EirGrid's approach to nature protection and restoration is achieved in line with EirGrid's published Ecology Guidelines for Electricity Transmission Projects (2020)[17] and their Nature Inclusive Design commitments (2022)[18].

EirGrid's Ecology Guidelines, authored in collaboration with ESB, sets out the standards of ecological surveys likely to be required for different types of transmission projects to identify the range of sensitive ecological features requiring protection.

The Guidelines also assist project teams in understanding how to mitigate the impact of different construction practices and electrical infrastructure on species and habitats (examples include pollution protection when drilling cables under watercourse crossings, use of ground matting to protect vegetation from tracking of machinery and silt control measures).



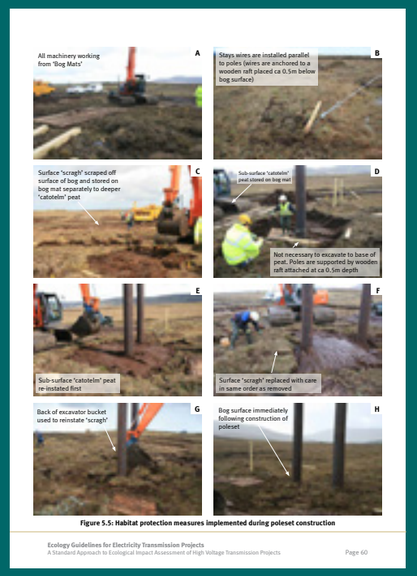


Figure 19: EirGrid's Ecology Guidelines

17 https://cms.eirgrid.ie/sites/default/files/publications/Ecology-Guidelines-for-Electricity-Transmission-Projects.pdf
18 https://cms.eirgrid.ie/sites/default/files/publications/211603-EirGrid-Nature-Inclusive-Design-Pilots_Published_Final.pdf





Figure 20: EirGrid's Nature Inclusive Design Pilots document

Adherence to EirGrid's Guidelines will ensure the following biodiversity objectives are achieved:

- Ecological sensitivities and opportunities for biodiversity restoration influence route optioneering and design of the Programme.
- Best Practice Standards of Ecological Survey, Impact Assessment and Mitigation.
- Local knowledge on ecological sensitivities is harnessed through consultation with the National Parks & Wildlife Service and Inland Fisheries Ireland staff.
- Protection of sensitive watercourses, including those crossed by Horizontal Directional Drilling.
- Adherence to good biosecurity practices and invasive species control in water and on land.
- Coastal and inland ('ex-situ') habitats for wetland birds are protected, for instance through routing, seasonal works, or use of visual or sound-reducing hoarding.
- Environmental monitoring of construction works builds in additional protection by informing adaptive mitigation (e.g., following unforeseen weather or species behaviour).
- Biodiversity restoration opportunities are considered at the start of projects and at key decision points including land acquisition.
- Time and resource are assigned to integrate biodiversity into the design of other project elements, serving multiple functions also as climate adaptation and visual screening.

Integration of Nature Inclusive Design has been required by EirGrid's consultants on all major grid projects since 2022. A summary of Nature Inclusive Design pilots was published in 2022.

The various projects in the EMR may, to greater or lesser extents, be in close proximity to areas of high biodiversity value, including the interconnected complex of internationally designated Special Areas of Conservation (SAC) and Special Protection Areas (SPAs) and nationally designated Natural Heritage Areas (NHA).

The routing, mitigation design and any monitoring requirements of the various projects within the Eastern and Midland Region will consider the designated features of all these protected sites, with reference to the latest Conservation Objectives published by the National Parks & Wildlife Service in the case of SACs and SPAs.

As reported in EirGrid's own Evidence-based Studies on birds[19], a major scientific review of the effectiveness of 'bird flight diverters' globally found bird deaths were reduced by 78% overall on lines fit with such devices.

As of mid-2024, in collaboration with our partners ESB, we have helped bird conservation by retrofitting 25 km of existing overhead lines with 'Bird Flight Diverters'. If laid out, these would complete 55 laps of an athletics track.

19 https://cms.eirgrid.ie/sites/default/files/publications/EirGrid-Evidence-Based-Environmental-Study-5-Birds.pdf



EirGrid is an active member of the Offshore Coalition for Energy and Nature (OCEaN), committed to implement OCEAN recommendations to achieve European climate, energy and biodiversity targets. In support of this, in 2023, EirGrid's Chief Infrastructure Office approved the policy pillars in EirGrid's draft Marine Biodiversity Policy Statement, which will:

- Support Marine Protected Areas and Fisheries, including implementation of the Seafood Offshore Renewable Energy Working Group's recommendations.
- Make high quality Environmental Data Publicly Available to benefit academic research and optimise the evidence base for sustainable offshore development.
- Integrate design features into EirGrid's marine cables and substations to provide refuge habitat for fish and promote 'artificial reef' establishment.

In 2023, in our Draft Grid Implementation Plan 2023-2028, we articulated our ongoing commitment to meet no net loss of biodiversity on our projects (wherever possible, unless constrained by external factors) and net biodiversity gain. The plan, which has been subject to SEA and will be subject to SEA monitoring through the plan cycle, will be adopted in 2024.

Our Draft Grid IP also commits to risk assess if we can revise the current restriction on planting shrubs over buried cables. Our approach combines international engagement and technical innovation, to demonstrate our commitment to restore Ireland's biodiversity.

Policies included in the Draft Grid IP include:

- **BIODP6:** To integrate into offshore grid projects risk-assessed Nature Inclusive Design measures with proven ecological performance. The performance of such measures will be monitored to inform adaptive management and the results of this monitoring and details of any corrective actions will be openly shared to advance the common understanding of marine NID.
- **BIODP8:** To develop and implement marine biodiversity policy as EirGrid develops offshore grid projects, to include considerations for Marine Protected Areas, Marine Nature Inclusive Design, monitoring of mitigation effectiveness and providing open access to high quality environmental data, in line with European and national legislation and policy.

All of the above biodiversity actions initiatives will be implemented on projects within the EMR where relevant.

The various projects in the EMR may, to greater or lesser extents, be in close proximity to areas of high biodiversity value, including the interconnected complex of internationally designated Special Areas of Conservation (SAC) and Special Protection Areas (SPAs) and nationally designated Natural Heritage Areas (NHA).

The routing, mitigation design and any monitoring requirements of the various projects within the Eastern and Midland Region will consider the designated features of all these protected sites, with reference to the latest Conservation Objectives published by the National Parks & Wildlife Service in the case of SACs and SPAs.

Finally, in accordance with the concept of 'tiering' (transfer of policy and mitigation from high level plans through lower tier plans down to project level), EirGrid will ensure all relevant biodiversity policy in the Draft IP is implemented on the Regional Programme and the projects therein once developed.



3.6.2 Cultural heritage

In accordance with EirGrid's published Cultural Heritage Guidelines for Electricity Transmission Projects (2015)[20], it is EirGrid's policy to ensure that the special interest of protected structures, including their curtilages and settings, are avoided where possible/protected to the greatest extent possible when considering site or route options for transmission infrastructure development. It is also policy to protect known and unknown (potential) archaeological material in transmission infrastructure development, by avoidance or by best practice mitigation measures.

The projects in the EMR have the potential to affect Cultural Heritage assets including Protected Structures, Architectural Conservation Areas and National Inventory of Architectural Heritage and proposed Natural Heritage Areas (NHA).

The routing, mitigation design and any monitoring requirements of the various projects within the Eastern and Midland Region will consider the protected sites – both in terms of direct effects and impacts to setting. Preconstruction archaeological investigations would be undertaken following consultation with Local Councils and the Department of Housing, Local Government and Heritage.

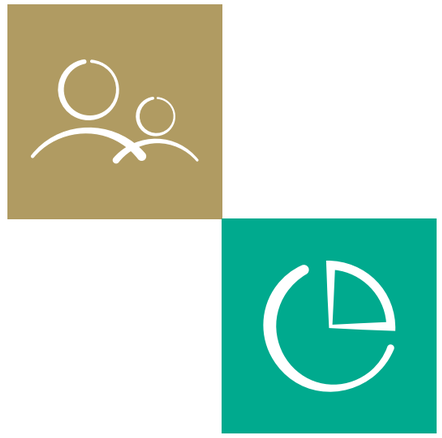
EirGrid will ensure all relevant cultural heritage policy in the Draft IP is implemented on the Regional Programme and the projects therein once developed.

3.6.3 Population and social impact

The projects in the EMR could affect resident, working and visiting populations. EirGrid, in developing the various projects under the Programme, will seek to minimise any population and social impact. EirGrid's aim is to develop a cohesive approach that reflects and is framed by the secure transition to a low carbon electricity system – and by the urgent context of climate action.

As part of this, EirGrid will continue to consider and address social impact and the impact on human beings in the development of transmission infrastructure projects in accordance with EirGrid's established methodology for Social Impact Assessment. Grid development projects are screened for the requirement for a Social Impact Assessment and, where required, such assessment will accompany an application for statutory consent.

EirGrid will ensure all relevant population and social impact policy in the Draft IP is implemented on the Regional Programme and the projects therein once developed.



20 https://cms.eirgrid.ie/sites/default/files/publications/Cultural-Heritage-Guidance-for-Electricity-Transmission-Projects.pdf

3.6.4 Land use

The projects in the EMR will have the potential to affect land use. In this regard, EirGrid will have regard to any future National Landscape and/or Seascape Character Assessment in the development of its transmission projects, in addition to the imperative to restore biodiversity in response to the national biodiversity emergency. EirGrid will continue to protect and enhance landscapes and will seek to avoid and reduce visual impact on residential receptors through the sustainable planning and design of transmission infrastructure development.

EirGrid will continue to engage with landowners through its Land Management Unit. It will also engage with State landowners – in particular the relevant Planning Authorities, the Office of Public Works (OPW) and ESB Networks – in order to explore options for the siting of the various projects which avoid or reduce potential impact on their receiving environments.

EirGrid will ensure all relevant land use policy in the Draft IP is implemented on the Regional Programme and the projects therein once developed.

3.6.5 Traffic

The projects in the EMR will generally result in very low traffic generation during operation, with traffic movements being limited to a small workforce and/or periodic maintenance visits.

However, there will be potential for traffic disruption, as a result of construction traffic and where there are in-road works. EirGrid will give significant focus to avoiding or reducing construction disruption by effective design and careful management.

Environmental assessment and input to aspects such as site access and traffic routeing is considered from outset – through route and site selection, to detailed design and construction.

A Traffic Management Plan (TMP) is normally developed for each project to manage and reduce any potential temporary construction traffic impacts, informed by engagement with the local Roads Authorities to agree the scope of the TMP and the measures required. Measures included in the TMP will address the need for traffic management and avoidance of undue delays for road users, safe access to and from the site, timing of vehicle trips (such as site operatives and the delivery of equipment and materials), protection and maintenance of provision for other transport modes such as walking or cycling and the suitability of the wider road network for any abnormal loads.

EirGrid will ensure all relevant traffic policy in the Draft IP is implemented on the Regional Programme and the projects therein once developed.

3.6.6 Material assets, utilities and safety

In terms of material assets, projects of the type planned in the EMR generally do not generate significant waste during operation, typically being limited to materials generated through cleaning and maintenance. The construction phase has a higher potential to generate waste and the appointed contractor(s) will therefore be required to prepare a detailed Construction Environment Management Plan (CEMP) prior to the commencement of construction.

The CEMP will contain a Construction Waste Management Plan (CWMP) to minimise waste and ensure correct handling and disposal of construction waste streams. The key principles underlying the plan will be to minimise waste generation, to segregate waste at source to optimise reuse and recycling and to direct correct disposal of waste to licensed/permitted disposal facilities where it cannot be reused or recycled.



The implementation of Method Statements will also be required for key construction activities. Their production includes a review of the environmental/health and safety risks and commitments, so that appropriate control measures are developed and included within the construction process. Method Statements will be reviewed by the Contractor's Project Manager with input from environmental specialists where appropriate and may also be submitted to the relevant regulatory authorities. Method Statements will cover aspects such as the location and duration of the activity, activities and methods of construction; plant and materials to be used, labour and supervision requirements; health, safety and environmental considerations (including relevant control measures); and permit or consent requirements.

Consultation will also take place with utilities service providers (e.g., water, telecommunications, gas or electricity) to inform appropriate site location, design and layout, including opportunities for coordinating works to minimise duplication of construction programmes. Specific risk assessments will be completed as appropriate and any protective provisions agreed in advance with the service providers to ensure a safe working environment.

EirGrid will ensure all relevant policy in the Draft IP is implemented on the Regional Programme and the projects therein once developed.

3.7 Social Impact Assessment (SIA)

EirGrid has made a commitment to demonstrate how social impact is considered as grid infrastructure projects are developed.

Social Impact Assessment (SIA) is the tool used to address a range of tangible (measurable) considerations, but also intangible issues such as local knowledge, perceptions, vulnerabilities, language and beliefs for those individuals, community or network of communities that are most likely to be impacted by a project.

SIA is conducted within a defined boundary or 'social area of influence' which largely consists of the people potentially impacted by the project; these may be both local 'communities of place' and broader 'communities of interest'.

The social area of influence may therefore be significantly different to the zone of impact typically applied in the context of Environmental Impact Assessment (EIA). Stakeholder analysis and mapping is required to understand where these boundaries lie.

EirGrid has developed a methodology framework for SIA to provide a consistent format in assessing the potential social impacts of grid development projects. This SIA methodology, which has had regard to the six-step approach to development projects, will facilitate the early identification of social concerns and issues. This will thereby inform the identification, avoidance or minimisation of potential adverse impacts of transmission infrastructure on receiving communities.



Part 4: Next steps

This Strategic Framework for Planning and Environment for the Eastern and Midland Region provides a high-level overview of the nature and extent of planned grid infrastructure development in the region, as well as how EirGrid plans and develops its projects.

The Strategic Framework document demonstrates how EirGrid uses a consistent project planning process to explore options and make decisions on every project. The decision-making tools used, and the type and level of engagement at each step, depends on the scale and complexity of each project. Each project will therefore have its own development strategy, although projects could be combined in whole or in part for planning, engineering and communications purposes.

Initial screening and scoping of project requirements will be undertaken to confirm the appropriate approach to matters of project development, planning and consenting and consultation and engagement.

There will be ongoing and extensive engagement with key stakeholders focussed on the sustainable development of grid infrastructure in the region. This includes the Eastern and Midland Regional Assembly, relevant Planning Authorities, An Bord Pleanála, prescribed bodies, other Statutory and non-Statutory agencies and authorities, the general public and communities and landowners – including utility and infrastructure-related developers and operators.

The overall vision of this approach is that the proposed projects in the Eastern and Midland Region will be realised as a key enabler of National Policy for climate action, regional and National economic and social growth and proper planning and sustainable development.



EirGrid

The Oval, 160 Shelbourne Road,
Ballsbridge, Dublin 4, D04 FW28, Ireland
+353 (0) 1 627 1700 | eirgrid.ie

WORLD LAND TRUST™
www.carbonbalancedpaper.com
CBP002856