

# The Grid Link Project

User's Guide to the

# Constraints Report





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# 1 CONTEXT

The publication of the Constraints Report (27 August 2012) is a significant milestone in the development of the Grid Link Project.

EirGrid is inviting members of the public and other stakeholders to review the report and provide feedback on its content as part of Consultation 2 (27 August 2012 – 22 October 2012).

This document provides a description of the Constraints Report and a guide to accessing the constraints maps.

## 1.1 WHAT IS A CONSTRAINT?

**'Constraints'** mean any physical, technical, legal, environmental, topographical or other consideration that may potentially affect, limit, restrict or confine the location or other aspect of the project, within the study area.

Simply put, they are features that can influence the location of the project.

Examples of constraints include elevated topography such as mountains; bodies of water such as rivers and lakes; designated or protected areas such as Special Areas of Conservation (SACs); existing infrastructure such as roads and railways; archaeological and heritage sites such as national monuments and many more.

## 1.2 WHY MAP CONSTRAINTS?

Constraints are identified to ensure a comprehensive understanding of the Grid Link Project study area.

The constraints maps are a spatial representation of the features identified and a vital tool used in the process of identifying corridors. Corridors are geographical areas in which the Grid Link Project could be accommodated.

## 1.3 WHERE HAS THE CONSTRAINTS INFORMATION COME FROM?

To identify constraints the project team undertook a desk based study of the regions and acquired data from various relevant authorities. As an example, data was obtained from the National Parks & Wildlife Service (NPWS), local authorities within the study area and the National Monuments Service. In addition to this data, consultation feedback from the public and other key stakeholders played a large part in informing the report.

## **2 THE CONSTRAINTS REPORT**

### **2.1 WHAT IS IN THE CONSTRAINTS REPORT?**

#### **Chapter 1 - Executive Summary**

This provides an overview of the Grid Link Project constraints report.

#### **Chapter 2 – Introduction, Background and Context**

This chapter deals with the purpose of the report, the terms of reference for the project and EirGrid's approach to planning high voltage overhead power lines. It also introduces the specialist consultants involved in the preparation of this study.

#### **Chapter 3 - Approach to Identification of Constraints**

This chapter confirms the study area and sets out the principal categories of constraints investigated for the report. It deals with the approach to the mapping of constraints and preparation of the Report. It also identifies the key sources of information used.

The study area includes all of counties Carlow, Waterford, Wexford and Wicklow, most of Kilkenny, and to a lesser extent Cork, Kildare, Laois and Tipperary. Small portions of county Limerick and south Dublin are also included.

#### **Chapter 4 – Work to Date**

This chapter sets out the work completed to date on the Grid Link project and also, includes reference to the Grid25 Implementation Programme Strategic Environmental Assessment.

#### **Chapter 5 – Public Consultation and Key Issues Raised**

This chapter deals with feedback received as part of the first consultation that has helped inform the constraints report. It also sets out a list of key environmental stakeholders who were proactively engaged with as part of the constraints identification process.

#### **Chapter 6 – Planning, Procedural and Legal Considerations**

This chapter deals with the regulatory framework within which the Grid Link Project will be developed. It sets out all relevant environmental legislation that the project must have regard to as well as the strategic policy context.

#### **Chapter 7 – Technical Considerations**

This chapter sets out the technical considerations that will be taken into account during the identification of corridors. It details the technical limitations which are associated with the construction and operation of an overhead line, including structure design and conductor options. It also refers to existing and proposed infrastructure and the impact that this may have on the technical aspects of the project. It also sets out topographical and land feature constraints.

## **Chapter 8 – Environmental Considerations**

The chapter details each of the constraint categories and sets out how each of these categories will be considered by the project team. These key categories are as follows:

### ***Population and Settlement***

This section of the report identifies the key population and settlement patterns that exist in the study area. Major settlements (e.g. cities, towns, villages, suburban and residential areas) represent a significant constraint relevant to the identification of corridors. Outside major settlements, there are also high levels of one-off and clustered rural housing and these will be an important consideration at detailed route alignment stage.

### ***Archaeology and Cultural Heritage***

The desktop study for cultural heritage has shown that there is a large above ground and below ground archaeological resource within the study area and a substantial amount of architectural heritage sites.

### ***Land Use***

This section reviews the main land use activities and characteristics of the study area.

### ***Infrastructure and Utilities***

Existing and proposed infrastructure and utilities have the potential to influence the identification and evaluation of route corridor options and are therefore important constraints. Those of particular relevance at this stage are those which require essential or statutory operating clearance requirements (i.e. requiring avoidance or buffering, e.g. Waterford Airport).

### ***Soils and Geology***

This section of the report identifies considerations such as areas of peat instability, compressible soils, karst features, areas of erodible soils and geological heritage sites.

### ***Biodiversity***

A desktop study was undertaken to identify areas of significant ecological importance in the study area which will be used to inform the corridor identification later in the process. These include 43 Special Areas of Conservation (SAC), 20 Special Protection Areas (SPA), and a range of other designations and sensitive habitats.

### ***Water***

This section sets out the results of a desktop study that was undertaken to identify the main water features within the study area, including water quality status and ecological significance.

## ***Landscape and visual***

This section details High Amenity Areas within the study area.

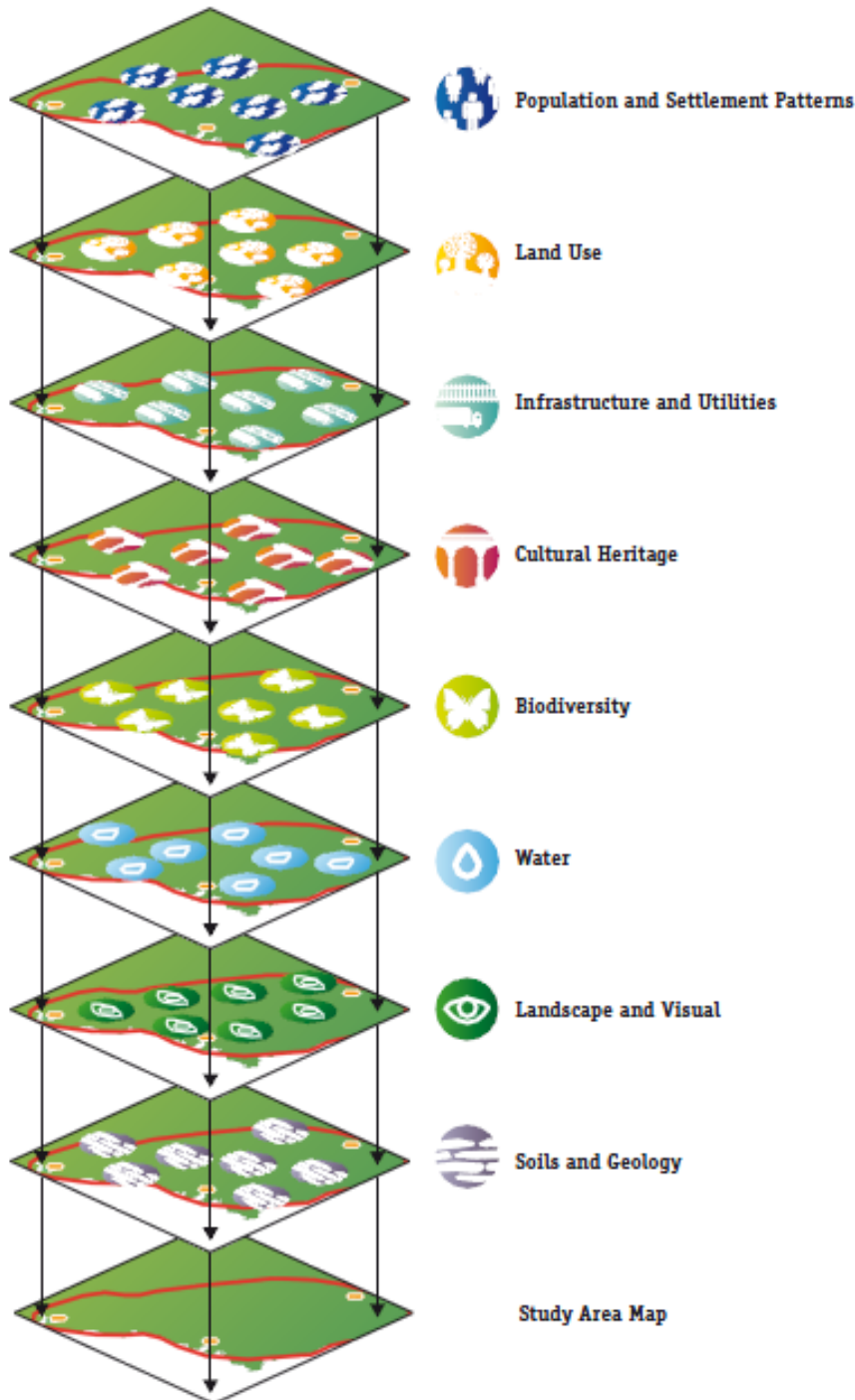
### **Chapter 9 – Next Steps**

This chapter sets out the next stages of the development of the project. It also outlines the consultation opportunities.

## **2.2 Approach to Constraints Mapping**

A key part of the report is the maps that have been generated to spatially represent constraints. These maps display the identified constraints using a Geographic Information System (GIS).

The information on each type of constraint has been compiled into a 'mapping layer' in the GIS programme. These layers are overlaid onto a map of the study area (background layer). The GIS programme allows for these layers to be viewed separately or as a combination to ensure the project team has a comprehensive understanding of the study area, the constraints and how they interact with each other. See Figure 2.1 Illustration of mapping process.



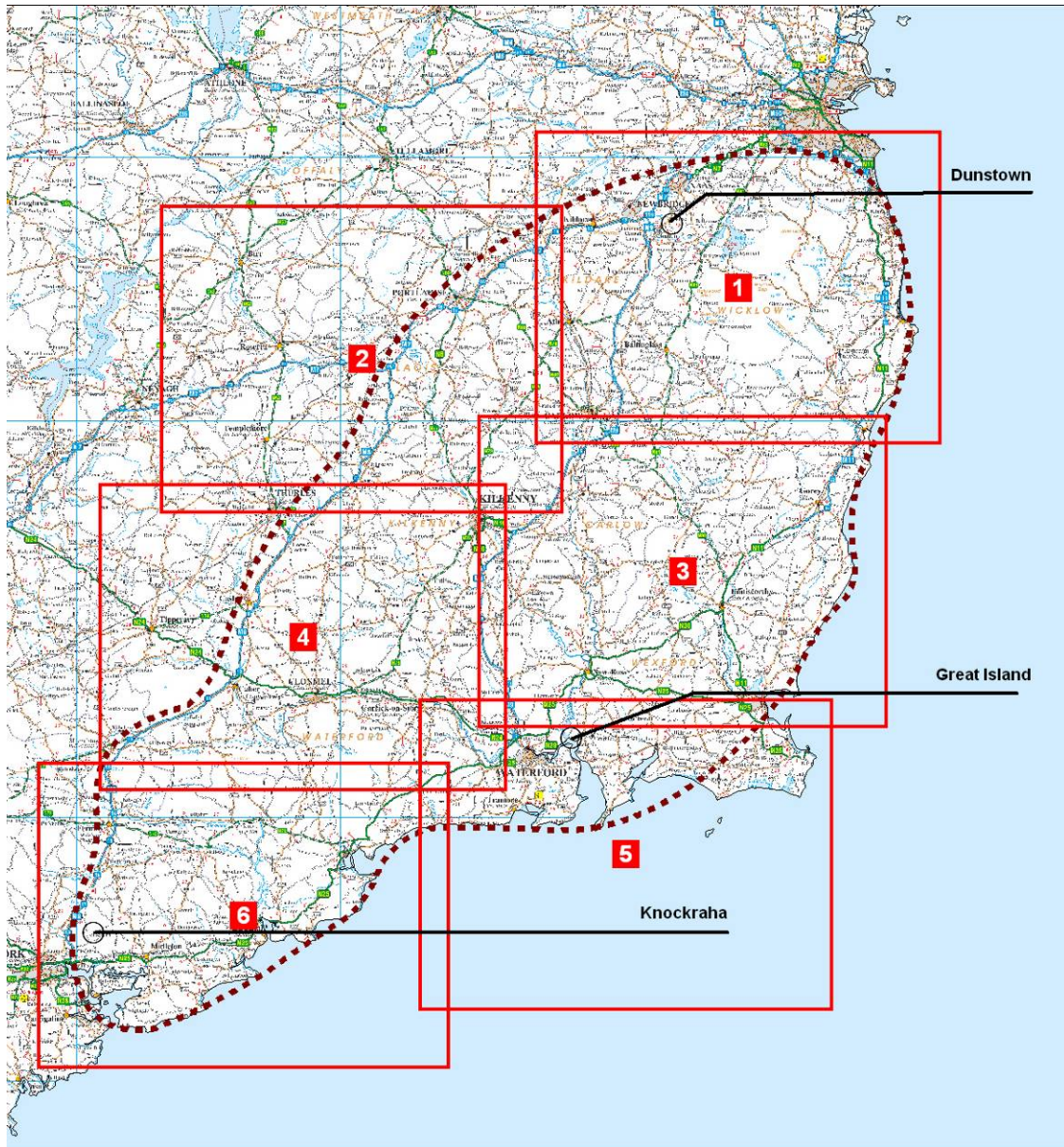
**Figure 2.1 Illustration of mapping process.**

### **How can a member of the public access these maps?**

The GIS system is a specialised piece of software that it is not widely available. To facilitate access to the maps a series of PDFs have been developed for members of the public and other interested stakeholders. These PDF files are generated using the GIS programme and are compatible with Adobe Reader 9 (which is available free of charge from <http://get.adobe.com/reader/>).

In the production of these maps the study area is divided into six sections (or tiles) as shown in Figure 2.2.





**Figure 2.2 Division of Study Area**

The eight constraint types (detailed in Chapter 8 of the report and listed above) have been grouped and a PDF layer produced for each group as per the Appendices.

**1. Appendix A: Infrastructure, Utilities, Cultural Heritage and Biodiversity;**

The types of constraints mapped on this PDF include:

<p><b>Cultural Heritage</b></p> <ul style="list-style-type: none"> <li>• World Heritage Sites (Tentative)</li> <li>• National Monuments</li> <li>• Preservation Orders</li> <li>• Register of Historic Monuments</li> <li>• NIAH Historic Gardens</li> <li>• NIAH Sites</li> <li>• Record of Protected Structures</li> <li>• Record of Monuments and Places</li> </ul>	<p><b>Biodiversity</b></p> <ul style="list-style-type: none"> <li>• Important Bird Areas</li> <li>• Nutrient Sensitive River</li> <li>• Salmonid Rivers</li> <li>• Freshwater Pearl Mussels</li> <li>• Proposed Natural Heritage Areas</li> <li>• Annex1 Habitats</li> <li>• Ramsar Sites</li> <li>• Special Protection Area (SPA)</li> <li>• Special Area of Conservation (SAC)</li> </ul>
<p><b>Infrastructure and Utilities</b></p> <ul style="list-style-type: none"> <li>• Commercial Ports</li> <li>• Walking Cycling Trails</li> <li>• Ferries Routes</li> <li>• National Roads</li> <li>• High Pressure Gas Pipelines</li> <li>• High Voltage Network</li> <li>• Sub Stations</li> <li>• Generators</li> <li>• Generators (Wind)</li> <li>• Artificial Water Bodies (Water Framework Directive)</li> <li>• Reservoirs and Modified Water Bodies</li> <li>• Rivers for drinking water (Water Framework Directive)</li> </ul>	

**2. Appendix B: Population Settlements and Land Use;**

The types of constraints mapped on this PDF include:

<p><b>Population Settlements</b></p> <ul style="list-style-type: none"> <li>• Major Cities</li> <li>• Settlements</li> </ul>	<p><b>Land Use</b></p> <ul style="list-style-type: none"> <li>• Recreational Beaches (WFD Data)</li> <li>• Landfill</li> <li>• Quarry (Active)</li> <li>• Mines</li> <li>• Tourist Attractions</li> <li>• Rivers for Drinking Water (WFD Data)</li> <li>• Coillte Forest Properties</li> <li>• CORINE 2006</li> </ul>
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### 3. Appendix C: Water, Soils and Geology;

The types of constraints mapped on this PDF include:

<b>Soils &amp; Geology</b>	<b>Water</b>
<ul style="list-style-type: none"> <li>• Karst Features</li> <li>• Geological Heritage Sites</li> <li>• Landslides (GSI Database)</li> <li>• Landfills</li> <li>• Waste Facilities</li> <li>• Quarry</li> <li>• Peat landslide susceptibility</li> </ul>	<ul style="list-style-type: none"> <li>• River Basin Districts (WFD)</li> <li>• Estuarine &amp; Coastal</li> <li>• River Water Quality Status</li> <li>• Ecological Status</li> <li>• Chemical Status</li> <li>• High Status Sites</li> <li>• Abstraction</li> <li>• Wastewater Treatment Plant</li> <li>• Water Treatment Plant</li> <li>• Aquaculture Sites</li> <li>• Marinas</li> <li>• Aquaculture Locations</li> <li>• Blue Flag Beaches</li> <li>• Commercial Ports</li> <li>• Designated Bathing Areas</li> <li>• Lighthouses</li> <li>• Lifeboat Stations</li> <li>• Whale &amp; Dolphin Sightings</li> </ul>

Therefore, for each of the six sections (or tiles) there are three separate PDF layers.

This means that if, for example, you wish to use the website to view the water features that have been mapped in Co. Cork you would view map 3 and tile 6.

Figure 3.1, illustrates an example of how these maps appear when downloaded from the project website. Layers in each map can be turned on/off using the layer control option displayed on the left hand side as shown in Figure 3.1 below.

These PDFs are available in Appendix A, B and C and on the constraints mapping page of the website ([www.eirgridprojects.com/projects/gridlink/constraintmaps](http://www.eirgridprojects.com/projects/gridlink/constraintmaps)).

Hard copy versions of these interactive files are also available for viewing at our Information Centres and our open day events.



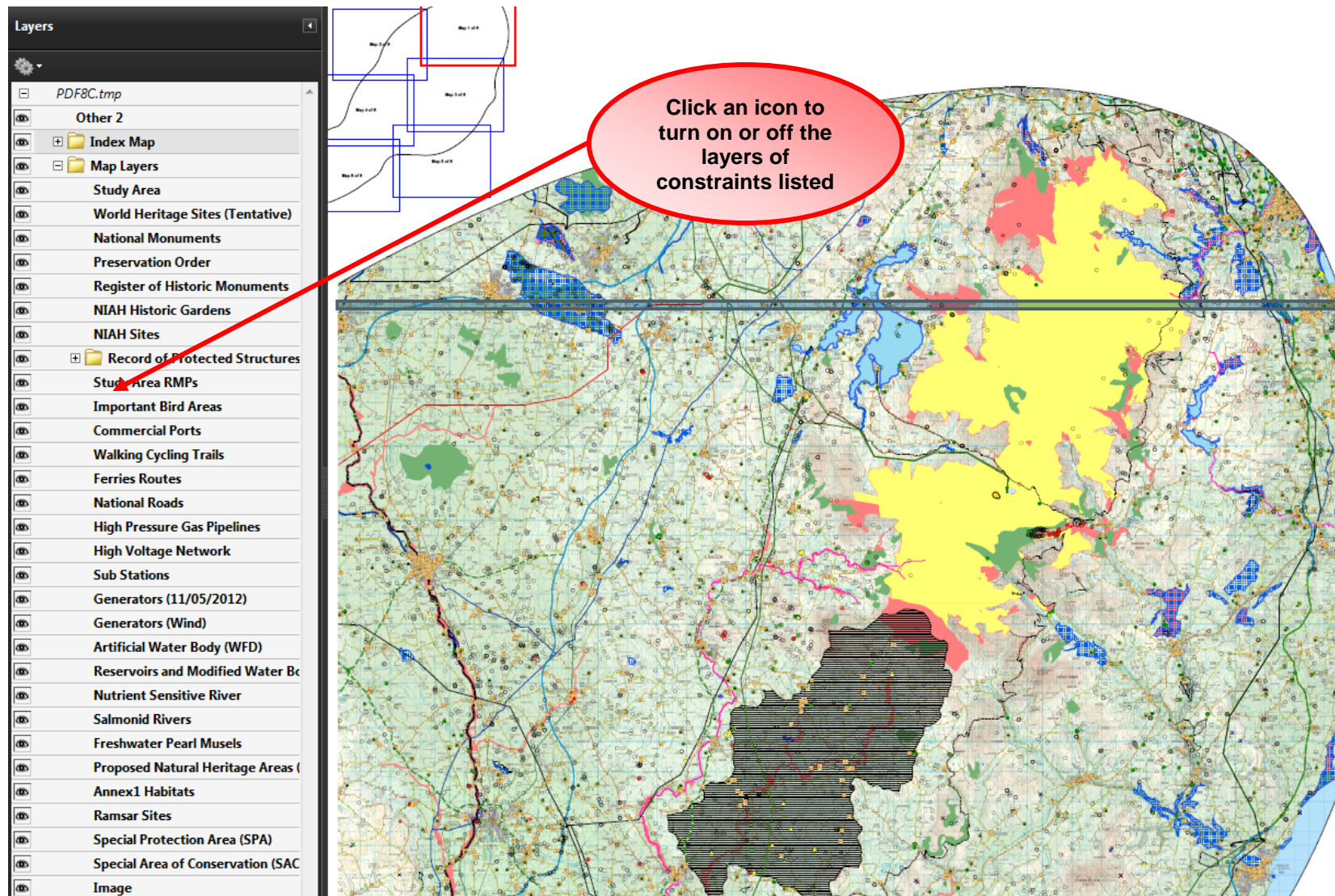


Figure 3.1 Sample PDF



# About EirGrid

EirGrid, a state-owned company, is the national operator of the electricity grid.

The national grid is an interconnected network of high voltage power lines and cables, comparable to the motorways, dual carriage ways and main roads of the national road network. It is operated at three voltage levels, 400 kV, 220 kV and 110 kV, and is approximately 6,400km in overall length.

The grid is the backbone of Ireland's power system and is vital to ensuring that all customers, including industrial, commercial and residential, from both rural and urban areas, have a safe, secure, reliable, economic and efficient electricity supply.

## Contact Details

EirGrid is committed to ensuring that all members of the public are fully aware of the project and encourage you to participate in public consultation.

**Write:** The Grid Link Project Manager, EirGrid,  
PO Box 12213, Glenageary, Co. Dublin, Ireland

**Telephone:** Lo-call 1890 422 122

**Email:** [gridlink@eirgrid.com](mailto:gridlink@eirgrid.com)

**See:** [www.eirgridprojects.com/projects/gridlink](http://www.eirgridprojects.com/projects/gridlink)

**Visit:** The Grid Link Project Information Centres:

<b>Midleton</b>	Oikoseen House, Castleredmond, Midleton, Co. Cork	Every Monday from 12 noon to 6pm
<b>Carrick-on-Suir</b>	Carrick Community Business Centre at the Nano Nagle Centre, Carrick-on-Suir, Co. Tipperary	Every Tuesday from 12 noon to 6pm
<b>New Ross</b>	The Coach House, Marsh Lane, New Ross, Co. Wexford	Every Wednesday from 12 noon to 6pm
<b>Carlow</b>	Enterprise House, O'Brien Road, Carlow, Co. Carlow	Every Thursday from 12 noon to 6pm

Note: Project Information Centres are closed on Bank Holidays

### What is Grid25?

Grid25 is a major initiative to put in place a safe, secure and affordable electricity supply throughout Ireland, supporting economic growth and utilising our renewable energy resource to its maximum potential.

Development of the grid is essential to provide a platform for renewed economic growth and regional development, and is vital if we are to effectively tap into our abundant renewable energy resources.

Grid25 will involve upgrading the high voltage system and an overall investment of approximately €3.2 billion in the period up to 2025. This new infrastructure is every bit as essential to the future growth of the country as any investment in road, rail and broadband.

The Grid Link Project is a major part of Grid25.

**GRID25**  
DELIVERING IRELAND'S ELECTRICITY FUTURE

[www.eirgridprojects.com](http://www.eirgridprojects.com)

