



# Laois-Kilkenny Reinforcement Project FAQ

This document outlines answers to frequently asked questions (FAQ) received by EirGrid in relation to the Laois-Kilkenny Reinforcement Project.

15<sup>th</sup> September 2011, Final

EirGrid receives a large number of queries and questions regarding our transmission projects. Below is a list of some of the typical questions we have received to date regarding the Laois-Kilkenny Reinforcement Project. The questions and answers have been grouped into appropriate sections.

## Overview

### 1. What is being proposed?

- A new 400/110 kV substation, to be located near Portlaoise, Co. Laois. The existing 400 kV and 110 kV overhead lines that cross over each other in the area will connect into this new station.
- A 110 kV extension to the existing 38 kV substation in Ballyragget, Co. Kilkenny
- A new 110 kV overhead line between these two substations
- A change in the operational voltage of the existing Ballyragget-Kilkenny overhead line from 38 kV to 110 kV.

### 2. Who is proposing this development?

EirGrid, Ireland's independent Transmission System Operator of the high voltage national electricity grid is proposing this project.

EirGrid has the exclusive statutory function to operate and ensure the maintenance of and, if necessary, develop a safe, secure, reliable, economical and efficient electricity transmission system with due regard for the environment in Ireland.

### 3. What is the National 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.

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

### 4. Why is this project needed?

As outlined above, EirGrid has the exclusive statutory function to operate and ensure the maintenance of and, if necessary, develop a safe, secure, reliable, economical and efficient electricity transmission system with due regard for the environment in Ireland.

Over the coming years it is anticipated that the demands placed on the system will become increasingly more onerous. This project will ensure that the local network continues to operate in accordance with the appropriate technical standards, to which the national power grid must comply (these standards are known as the Transmission Planning Criteria).

### 5. Where is this project located?

The proposed project will span counties Laois and Kilkenny, from a location to the south east of Portlaoise, to Kilkenny via Ballyragget.

### 6. When will a planning application be made?

It is expected that a planning application will be lodged in Q1 2012.

## **7. Who will a planning application be made to?**

It is anticipated that the planning application will be submitted to the Strategic Infrastructure Division of An Bord Pleanála under the Planning and Development (Strategic Infrastructure) Act 2006. This act was introduced to provide a means for applying directly to An Bord Pleanála when projects are deemed to be of strategic importance to the State.

## **8. How much will this project cost and how is it funded?**

This project represents an investment of approximately €80m in the region. It is funded, as normal, by consumers by way of their electricity bill.

### **More on EirGrid**

## **9. What is the relationship between EirGrid and the ESB?**

EirGrid is the operator of the transmission system (Transmission System Operator) while ESB is the owner of the transmission system (Transmission Asset Owner).

Their respective roles, in this regard, are defined in Statutory Instrument 445 of 2000 as follows:

Regulation 8(1)(a) of S.I No.445/2000 states that the role of the Transmission System Operator (EirGrid) is 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 and having due regard for the environment.

Regulation 19(a) of S.I No.445/2000 states that the Transmission Asset Owner (ESB) shall as asset owner, maintain the transmission system and carry out construction work in accordance with the transmission system operator's (EirGrid) development plan.

## **10. Do EirGrid sell electricity or produce power?**

No EirGrid do not sell electricity or produce power. EirGrid are the independent state owned Transmission System Operator in Ireland and the Market Operator of the wholesale electricity trading system in Ireland.

## **11. What is EirGrid's role in relation to wind farms?**

EirGrid as the Transmission System Operator (TSO), in conjunction with ESB Networks Ltd, the Distribution System Operator (DSO), administer the issuance of connection offers to all generators, including wind farms. EirGrid is responsible for issuing offers to generators generally greater than 40 MW.

Applications, made by generators/producers to connect to the grid are processed in a group system known as a 'Gate'. Gate 3 is the latest process of connecting 3900 MW of renewable generation and 500 MW of conventional generation to the electricity system which will allow the government reach its target of generating 40% of electricity from renewable sources by 2020.

The deadline for applicants wishing to be considered for inclusion in 'Gate 3' was 16<sup>th</sup> November 2007.

Should an application be deemed suitable by the System Operator then they are granted what is known as a 'Connection Offer'.

All Gate 3 applications have now been processed with the last offer being issued in June 2011.

The developer must however also obtain planning permission for the development. This is an entirely separate process managed by the relevant planning authority (either An Bord Pleanála or the local authority).

## Process & Consultation/Information

### 12. What stage is the project at now?

The process for submitting a planning application has been divided into 4 key stages known as the 'Project Development & Consultation Road Map', (Figure 1, overleaf).

Stage 1: Information Gathering, Complete. Stage 1 Report published end May 2011.  
Stage 2: Evaluation of Options, Ongoing. Stage 2 Report pending.  
Stage 3: Confirm Design, Estimated Q4 2011  
Stage 4: Submit Planning Application, Estimated Q1 2012.

As part of Stage 1, EirGrid's Lead Consultant's, ESBI, in conjunction with their Environmental Consultants AOS Planning Ltd. have published a 'Stage 1' Report. This report identifies the emerging preferred corridors for the proposed overhead lines as well as the emerging preferred location for the substation. This report can be viewed here: <http://www.eirgridprojects.com/projects/laoskilkenny/phaseonereports/>

Stage 2 will conclude with the publication of a Stage 2 Report which will identify the current preferred corridor, the current preferred substation site and the indicative line route within that corridor. Surveying of lands will be carried out in this stage.

In Stage 3, more detailed design work will be carried out. This will include the detailed siting of pole sets and structures along the identified alignment. During this stage, the preparation of a more detailed Environmental Impact Statement or Environmental Report will commence.

This will identify any potential impacts, proposed mitigation measures and residual impacts (if any) for all aspects of the environment.

At Stage 4, when the detailed design is complete, EirGrid's consultants will complete the Environmental Impact Statement or Environmental Report and submit a planning application to An Bord Pleanála.



**Fig 1. Project Development & Consultation Road Map**

### 13. What consultation has taken place to date and where can I find more information?

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

Consultation on this project began week commencing 26<sup>th</sup> October 2009, with the publication of a newspaper notice in six regional newspapers. The newspaper notice consisted of a blank study area map supplemented with a project description. The purpose of this notice was to inform the wider public of the proposed project, to seek information and local inputs that could be incorporated into the decision making process and also to publicise the project contact details.

A project website was set up as well as a dedicated project specific email address, phone number and postal address. Numerous contacts have been made with the project team since these were set up as well as meetings with local stakeholders.

Upon completion of the 'Project Constraints Map' a second newspaper notice was placed the week commencing the 14<sup>th</sup> June 2010. The purpose of the notice was to present the findings to date and to show the constraints that had been recorded in the study area which would influence the route selection and site selection process.

Public Information Days were held on the 17<sup>th</sup> and 18<sup>th</sup> of June 2010 in Kilkenny and Portlaoise respectively where members of the general public could meet with and discuss any aspect of the project with members of the project team.

Feedback from these consultations was assessed and considered in the route and site identification stage. This culminated with the publication of a 'Stage 1 Lead Consultant's Report' which identified the consultant's emerging preferred route corridor and site.

Again a third series of newspaper notices was published which gave notification that the Stage 1 Report was available and sought feedback on the findings therein.

A second series of Public Information Days was held on the 9<sup>th</sup>, 10<sup>th</sup> and 24<sup>th</sup> of June 2011 in Kilkenny, Portlaoise and Ballyragget where the findings of the Stage 1 Report and indeed any aspect of the project could be discussed with members of the project team. An EMF specialist was also available to discuss any queries in relation to EMF and health.

Information brochures were also dropped to local shops, credit unions, libraries and county council offices in Kilkenny, Ballyragget, Ballinakill, Timahoe, Stradbally and Portlaoise ahead of the open days.

Anybody who had contacted us previously was also directly informed that this report had been published as well as given dates for Open Days.

A fourth series of newspaper notices thanking people for the feedback received over the course of the Stage 1 consultation period was also then published.

In summary:

Newspaper Notices #1	w/c 26 <sup>th</sup> Oct 2009	<ul style="list-style-type: none"> <li>Description of Proposed Project</li> <li>Definition of Study Area</li> </ul>	Kilkenny People, Leinster Express, Laois Nationalist, Carlow Nationalist, Kildare Nationalist, Leinster Leader
Newspaper Notices #2	w/c 14 <sup>th</sup> June 2010	<ul style="list-style-type: none"> <li>Description of Proposed Project</li> <li>Presentation of Constraints Recorded in Project Study Area</li> <li>Advertise Open Days</li> </ul>	Kilkenny People, Leinster Express, Laois Nationalist, Carlow Nationalist,
Open Days #1	17 <sup>th</sup> & 18 <sup>th</sup> June 2010	<ul style="list-style-type: none"> <li>As above</li> <li>Project Team available in person to discuss any findings</li> <li>Attempt to incorporate any local knowledge</li> </ul>	Portlaoise Heritage Hotel, River Court Hotel Kilkenny
Newspaper Notices #3	31 <sup>st</sup> May to 6 <sup>th</sup> June 2011	<ul style="list-style-type: none"> <li>Description of Proposed Project in four newspapers</li> <li>Presentation of findings of Stage 1 Report</li> <li>Advertise Open Days</li> </ul>	Laois Nationalist, Leinster Express, Offaly Express and Kilkenny People
Open Days #2	9 <sup>th</sup> , 10 <sup>th</sup> , 24 <sup>th</sup> June 2011	<ul style="list-style-type: none"> <li>As above</li> <li>Project Team available to discuss any findings or answer any queries in relation to the project</li> </ul>	Portlaoise Heritage Hotel, River Court Hotel Kilkenny, Canon Malone Hall, Ballyragget
Newspaper Notices #4	22 <sup>nd</sup> -24 <sup>th</sup> June 2011	<ul style="list-style-type: none"> <li>To promote awareness of the project</li> <li>To thank people for inputs received during the consultation on Stage 1 Report.</li> </ul>	Laois Nationalist, Leinster Express, Offaly Express and Kilkenny People
This summary does not list any meetings with individuals, local stakeholder groups, or statutory stakeholders that took place. EirGrid were also present at local events such as the National Ploughing Championships in Athy in 2010.			

As the project develops and an indicative line route is identified, landowners whose lands are crossed by the proposed line will be contacted with a view to carrying out field surveys.

Once a line route has been identified further information days will be scheduled. Notification of this will be as per normal methods of communication.

If, at any time, you would like to discuss any aspect of the project with a member of the project team, please see the contact information below, or see our website for updates:

<b>Tel:</b>	01 702 6642
<b>Email</b>	<a href="mailto:laoskilkennyreinforcement@eirgrid.com">laoskilkennyreinforcement@eirgrid.com</a>
<b>Web</b>	<a href="http://www.eirgridprojects.com/projects/laoskilkenny/projectactivity">www.eirgridprojects.com/projects/laoskilkenny/projectactivity</a>
<b>Post:</b>	Project Manager, Laois-Kilkenny Reinforcement Project, EirGrid, Block 2- The Oval, 160 Shelbourne Rd, Ballsbridge, Dublin 4

#### **14. How can I input into the process?**

Public consultation and input is vital. We welcome the opportunity to engage with any stakeholder. EirGrid actively respond to emails, letters and phone calls. As the project progresses, public information days will be held in the locality. The project team is also available to meet with anyone who wants to discuss any aspect of this project.

If you wish to make contact with EirGrid please refer to the 'Contact' information on the EirGrid website, also provided at question 31 in this FAQ.

Notification of any Project Activity will be shown on the EirGrid website at this link:  
<http://www.eirgridprojects.com/projects/laoskilkenny/projectactivity/>

Given the nature and extent of studies required in projects of this type, there may not be updates for extended periods of time. EirGrid will endeavour to provide updates as and when they occur.

Additionally formal submissions and observations in respect of this project can be made to the relevant planning authority once an application is lodged. This is usually a minimum 6 week period in the case of An Bord Pleanála.

Notice of planning lodgement will be placed in local newspapers and on the EirGrid website at that time.

### **Further details on what is being proposed**

#### **15. Why is electricity transmitted at such high voltages?**

Electricity is transmitted at very high voltages (400,000 V, 220,000 V and 110,000 V). These voltages are far higher than the voltages used in your house (220 V).

The reason why electricity is transmitted at such high voltages is because it is the most efficient means of moving electricity over long distances (from where it is generated to where it is used) and

minimises the amount of electrical losses. When electricity is conducted over transmission lines, electrical losses occur.

The higher the transmission voltage, the lower the amount of electrical losses that are incurred. Reduced losses along the line mean more power is available to the customer.

## **16. What is a substation?**

A substation acts as a point of common connection or 'node' for several circuits. It is helpful to think of them like a roundabout. Power comes in on one circuit (road) and can be sent down another circuit. This is achieved by using equipment in the substation such as switches and circuit breakers. All of this equipment together is known as a substation.

Transformers are also often present in substations. A transformer is a piece of equipment that safely changes electricity from higher transmission voltages to lower voltages that are appropriate for use by end-customers.

Transformers are also often present in substations. A transformer is a piece of equipment that safely changes the electricity from higher transmission voltages to lower voltages that are appropriate for use by end-customers. Most customers are connected directly to the medium and lower voltage distribution systems so these transformations occur from the high voltage transmission system level to the medium and ultimately low voltage distribution system level.

They 'transform' the electricity from one voltage to another and they represent the means through which electricity is drawn from the transmission system.

## **17. What type of substation is being proposed for this project and how big will it be?**

It is proposed to use a Gas Insulated Switchgear (GIS) substation in Laois. It is estimated that this would be approximately 2.5 acres in size. A graphic of this can be seen on Page 20 of the Stage 1 Report.

<http://www.eirgridprojects.com/media/PHASE%201%20REPORT.pdf>

Two types of substation were considered for this particular project. One is an outdoor type, known as an Air Insulated Switchgear (AIS) substation. The second type is an indoor type, known as a Gas Insulated Switchgear (GIS) substation.

As the name suggests, these stations both use different insulating mediums (Air or Gas) between hardware devices (circuit breakers) within the station. As the insulating strength of the gas is higher than that of air, smaller distances between parts can be achieved with gas. This results in a more compact overall station size therefore the size of GIS stations can be significantly smaller than the equivalent AIS station.

To illustrate this point, in Laois, an AIS compound would have been around 12.5 acres in size, whilst the GIS compound would be in the region of 2.5 acres in size.

As is standard procedure when designing and building projects of this nature spare capacity will be allocated in the station for any circuits or equipment that may be required in the future.

Not doing this would be extremely poor practice operationally, financially and from a planning perspective as these stations are expected to operate for many decades.

Only one 110 kV line is planned from Laois to Ballyragget, however EirGrid plan to provide a number of spare bays (connection points) in the Laois station. These could be used to connect new circuits but equally could be used for connecting equipment that is kept within the confines of the station (e.g capacitor banks, transformers, reactors).

In Ballyragget, an AIS extension to the existing AIS station is proposed. This would be similar in size to what is already in place. (i.e. 0.5 acres).

#### **18. Why does the 400/110 kV substation need to be located to the south east of Portlaoise?**

The rationale for the location of the substation study area, is due to the presence of the existing 400kV and 110kV overhead lines. They pass over each other at the Money Cross roads (R426/R427), half way between Timahoe and Portlaoise. These lines will be required to connect into the new 400/110 kV substation so locating the substation close to this cross over minimises the lengths of new circuit required to achieve this.

This intersection point provides the optimum technical location for the location of the new station. It will act as strong meshed node on the transmission system and act as an injection point of higher quality voltage to the entire region.

This will address the quality of supply issues in the area.

#### **19. How many new circuits will be built out of the substation in Laois?**

The proposed reinforcement involves connecting the existing 400 kV and 110 kV overhead lines into the proposed new 400/110 kV station. Both of these lines are already present (since the early 1980s) however a small diversion of these lines will be required and new structures will be seen in this regard. In effect each existing lines will be split in half and then brought into the station.

Only one new line is being introduced which is the new 110 kV overhead line from Laois to Ballyragget.

A key feature of this project is ensuring that any new infrastructure build is kept to a minimum by using existing lines to the greatest extent possible. This will result in the least possible environmental impact to the region.

We therefore plan to change the operational voltage of the existing Ballyragget-Kilkenny overhead line from 38 kV to 110 kV. The existing line is primarily constructed to 110 kV standards.

#### **20. How long will the circuit from Laois substation to Ballyragget substation be?**

It is 23km straight line distance. The final distance will depend on the final route.

#### **21. What will these structures look like?**

The 110 kV overhead line is predominantly supported by wood pole structures where the line is straight, with steel angle towers where the line changes direction.

The 400 kV overhead line is fully supported by steel angle towers. Images and dimensions can be seen in section 1.7 of the Phase 1 Report.  
<http://www.eirgridprojects.com/media/PHASE%201%20REPORT.pdf>

#### **22. Was undergrounding considered?**

Yes undergrounding of the 110 kV circuit from Laois-Ballyragget was considered but was not deemed suitable in this instance. This is explained in section 1.5 of the Phase 1 Report.  
<http://www.eirgridprojects.com/media/PHASE%201%20REPORT.pdf>

## Health

### **23. What about the health implications of this infrastructure? I am concerned about my health and that of my animals.**

EirGrid is a company owned by the State. EirGrid has the exclusive function to operate and ensure the maintenance of and, if necessary, develop a safe, secure, reliable, economical and efficient electricity transmission system with due regard for the environment in Ireland. The World Health Organisation and ICNIRP (the International Commission on Non-Ionizing Radiation Protection) continually monitor the results of scientific studies into EMF, and all other EMF related studies. From the totality of these studies ICNIRP developed its 'Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300GHz)'. Both the World Health Organisation and the European Commission have endorsed these guidelines. They form the basis of EU Council Recommendation 1999/519/EC which set out the relevant European Union Guidelines. EirGrid designs and operate the Irish transmission network in accordance with these EU Guidelines

In addition, EirGrid is a member of Cigré, the International Council on Large Electric Systems, and Entso-E, the European Network of Transmission System Operators, which thereby ensures that EirGrid has regard to, and follows, current international best practice in the planning and development of the Irish electricity transmission system.

EirGrid is satisfied from the totality of studies, the views of international authoritative agencies and international experience of best practice in transmission system development, that the balance of evidence is that overhead transmission lines proposed for use do not have any adverse effect on human health or animal health.

The proposed Laois-Kilkenny project will operate at all times, in compliance with the International Health Guidelines regarding EMF exposure and public health set by ICNIRP (International Commission on Non-Ionising Radiation Protection) and endorsed by the World Health Organisation, the EU and the Irish Government.

For more information about EMF's and overhead lines view EirGrid Booklet on EMF & Electricity on [www.eirgridprojects.com](http://www.eirgridprojects.com)

## Environment

### **24. What about the environmental impact of this infrastructure?**

The development of a strategic piece of infrastructure such as this will always incur some impact – zero impact is not possible. EirGrid will strive to mitigate this as much as possible by careful site and route selection and design and by working with the local community and stakeholders, in order to achieve the correct balance between societal benefits and environmental impacts.

Our findings to date can be reviewed in the Phase 1 Report. The potential impacts of sites and route corridors were evaluated under a number of headings, including: Community, Ecology, Visual Impact, Cultural Heritage, Landscape, Geology and Hydrogeology.

## **25. I am concerned about the impacts of this proposed project on the local flora and fauna?**

As outlined in FAQ no. 12, the process for submitting a planning application has been divided into four key stages, each with an increasing level of detail than the preceding stage.

The local ecology is considered by environmental consultants AOS Planning Ltd., in the Stage 1 Lead Consultant's Report. In this report all constraints within the study area were identified and assessed. This report is available online by following the link in FAQ no. 12.

Stage 2 and Stage 3 will see the studies carried out in Stage 1 developed further. Field surveys will be carried out in these stages where deemed necessary. At the detailed design stage, more detailed environmental assessments will be carried out and prepared, that will identify and assess any potential impacts and proposed mitigation or avoidance measures for same.

Finally a comprehensive Environmental Report or Environmental Impact Statement will be prepared and submitted as part of the planning application. This will be made publically available at that time.

## **26. What is an Environmental Impact Statement (EIS)?**

An EIS is a document that sets out the possible impact that a proposed development may have on an area.

An EIS firstly assesses the current situation in the area with regard to health, noise, ecology, visual amenity, air quality, flora and fauna. It then examines the possible impact a proposed development might have on each of these and proposes measures that can be taken to avoid or reduce these effects to acceptable levels.

## **27. How were the site and route corridors decided on?**

EirGrid's Lead Consultants, ESBI, have prepared a Phase 1 Lead Consultant's Report which details the methodology used to identify the emerging preferred route corridor and site. This report is available online. <http://www.eirgridprojects.com/projects/laoisilkenny/phaseone-reports/>

The identification of various route corridor options and sites, and the consultant's emerging preferred options, arises from an initial evaluation of a combination of technical, environmental and community criteria and also from feedback received through consultations to date with the general public as well as other stakeholder organisations.

The eventual route and location of the planned development will be confirmed following consideration of ongoing consultation, environmental surveys and more detailed design.

## **28. Can power lines be built over my house?**

One of the main constraints in the route selection of overhead lines is avoiding existing residential developments such as houses, schools and hospitals. EirGrid aims to build the power lines a minimum distance of 50-60 meters from the existing dwellings to the centre of the line. In the vast majority of cases this is achieved.

There is no specified 'minimum distance' other than that required to ensure safety from electrocution. The Electricity Supply Act however requires that any person intending to construct a building within 25 yards (approximately 23 meters) of an existing overhead line must notify ESB in advance. This is required so that ESB Networks can ensure that the works can be carried out safely and that the future safe operation and maintenance of the overhead line, and the proposed building, is ensured.

**29. Should any of this proposed infrastructure be located on my lands or property, will I receive financial compensation?**

In the event that the proposed transmission development receives planning approval and proceeds to construction any losses incurred by the landowner of lands on which the line is constructed will be compensated by means of a statutory compensation process.

Further to this, for projects of this nature, appropriate 'flexibility payments/access payments' are agreed with the IFA. Directly impacted landowners are entitled to such payments.

**30. Is there any limitation to agricultural land should the proposed infrastructure be constructed?**

Normal agricultural activities can continue as usual after the construction of the infrastructure.

EirGrid is the operator of the transmission system (Transmission System Operator) while ESB is the owner of the transmission system (Transmission Asset Owner). In its role as the TAO, ESB produces an excellent booklet 'Farm Well Farm Safely' which can be downloaded from the ESB Networks website at [www.esb.ie/esbnetworks](http://www.esb.ie/esbnetworks).

**31. I am concerned as an adjacent landowner whose land/property is not traversed that there will be a decrease in the value of my home.**

EirGrid operates approximately 6,400 km of transmission circuits throughout Ireland in a safe and secure manner. Much of this network has been in existence for over 40 years and EirGrid does not perceive that overhead power lines and associated transmission infrastructure impact on property values. The development of the electricity grid is vital to provide us all with an essential and secure energy supply.