

# Customer Connections Forum

## Grid25 Projects

17<sup>th</sup> May 2012

Aidan Corcoran



# What Grid25 involves

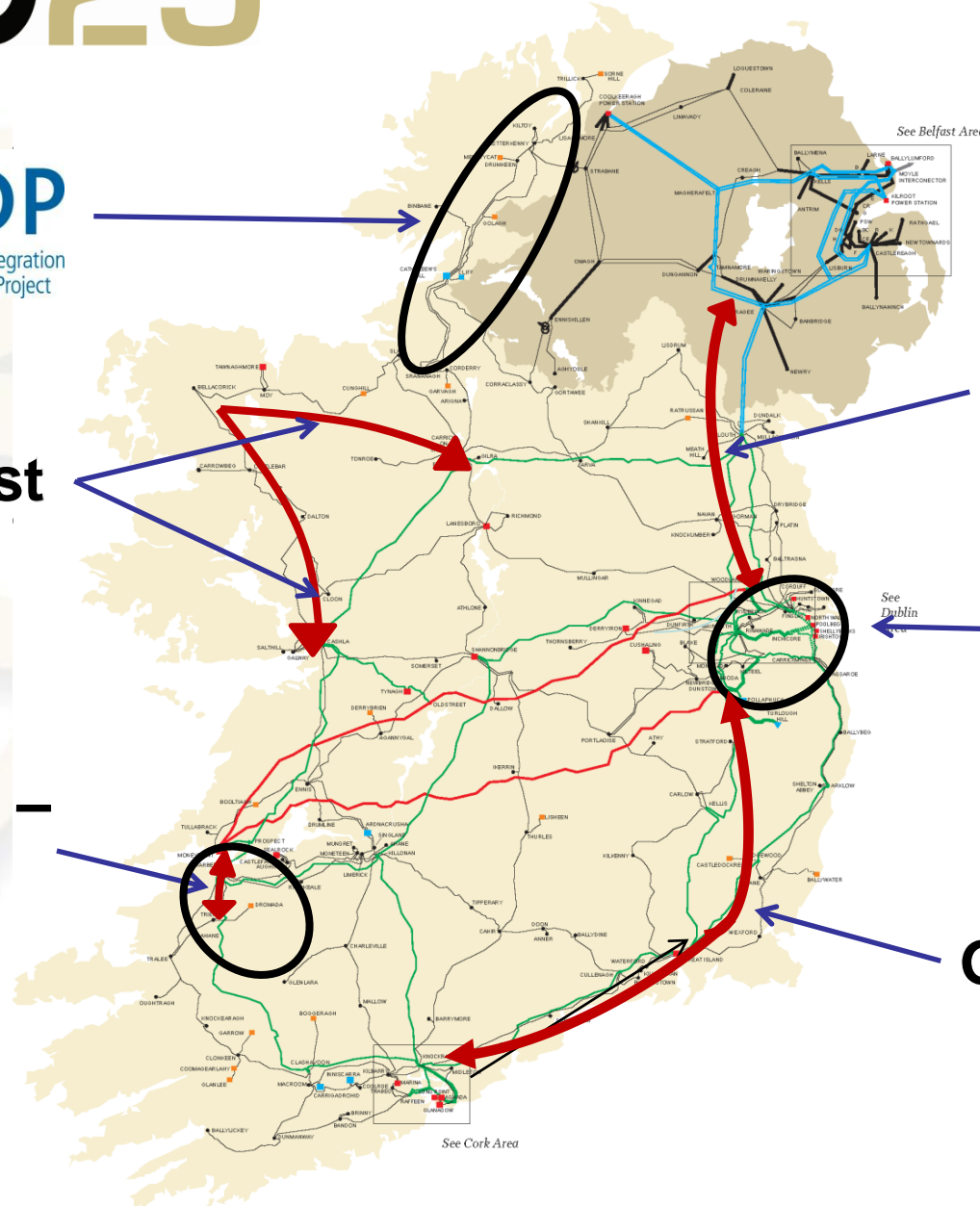


- More than 300 projects
- 2,000 km of line upratings
- 800 km of new build
- Significant number of new HV Stations
- €3.2bn expenditure



# GRID25

# Big 6 Major Projects



**GridWest**

**North-South Interconnector**

**Dublin Ring**

**Moneypoint - North Kerry**

**GridLink**



**Binbane Letterkenny 110kV line**

**Arva Shankill No. 2 110kV line**

**Flagford Srananagh 220kV line**

**Dalton Galway 110kV loop-in to Cashla Energised**

**Moneypoint Kilpaddoge 220/400kV Cables**

**Tarbert Tralee No. 2 110kV line Energised**

**Gorman Meath Hill 110kV line**

**Gorman Navan No. 3 110kV line Energised**

**Mullingar Kinnegad 110kV line**

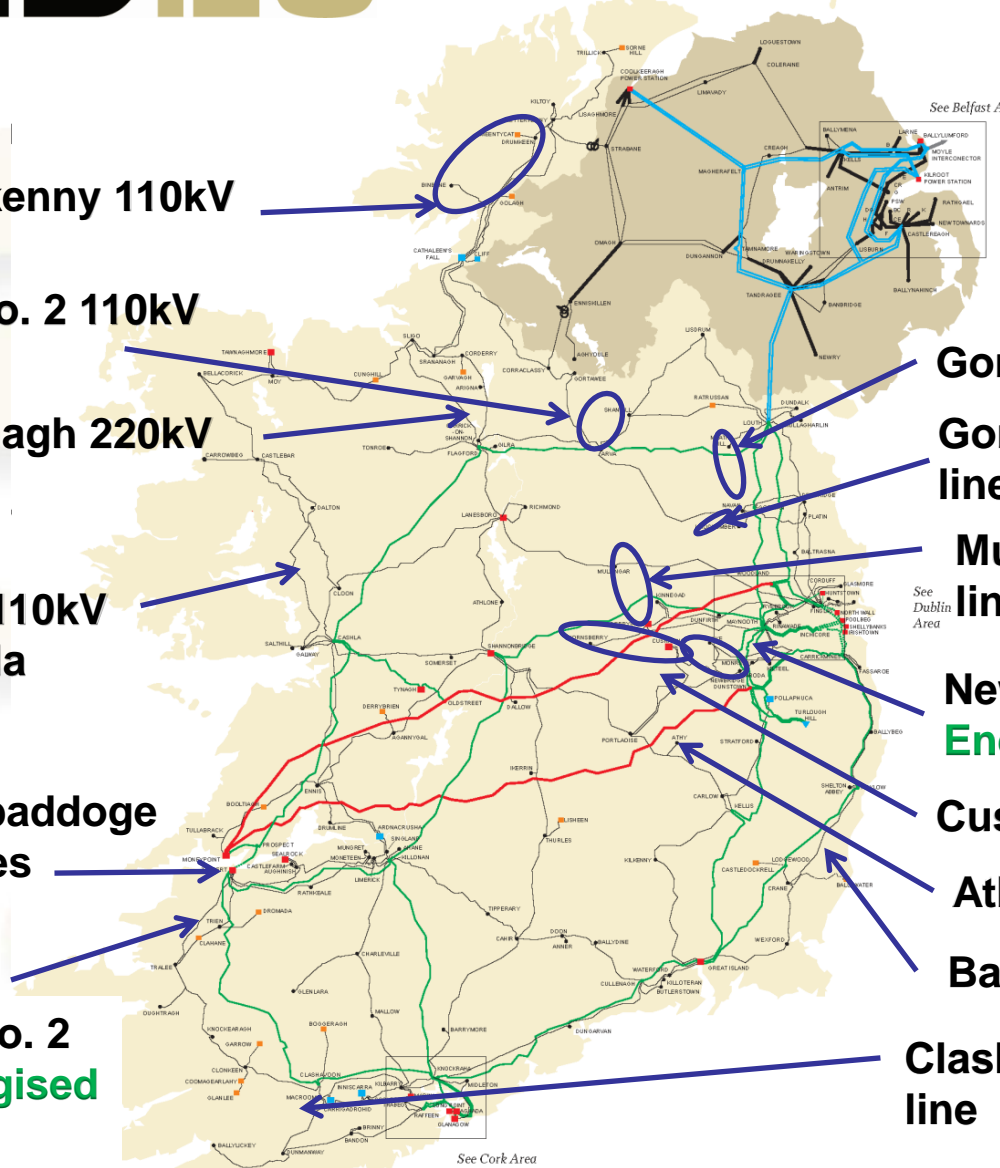
**Newbridge 110kV line Energised**

**Cushaling Thornsberry 110kV**

**Athy 110kV line Energised**

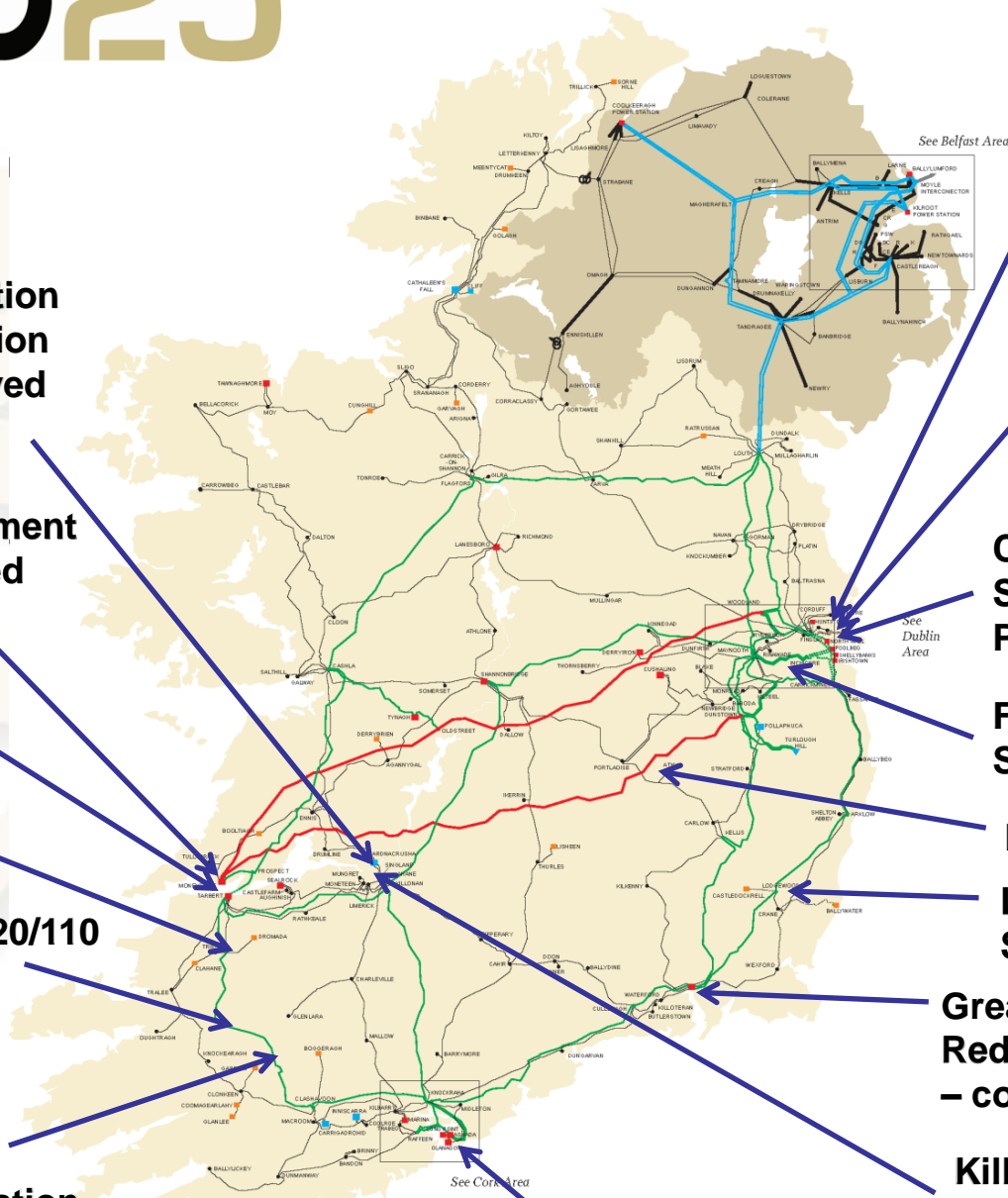
**Banoge 110kV line**

**Clashavoon Dunmanway 110kV line**



\* Interconnector part of South East Region (legacy reasons)  
 \* Laois-Kilkenny part of North Region (legacy reasons)





**Ardnacrusha 110kV station refurbishment – Decision to grant planning received May**

**Moneypoint Redevelopment 400/220/110 - CPP Issued**

**Kilpaddoge 220/110 kV – CPP Issued**

**North Kerry 220/110 kV Station**

**East Kerry / NW Cork 220/110 kV Station**

**Millstreet 220/110 kV Station – lodged Nov 11' no oral hearing**

**Glanagow 220kV Station - Energised**

**Finglas 110kV Station**

**Dublin North Fringe 220 kV Station -**

**Carrickmines 220kV Station redevelopment – PA signed Feb**

**Finstown 220/110kV Station - deferred**

**Laois 400/110kV Station**

**Lodgewood 220kV Station - Energised**

**Great Island 220/110kV Redevelopment – PA Signed – construction started**

**Killonan 220kV station refurbishment**



# 2011/2012 Grid25 Programme Progress Update

## 2011 Actual

- New Line - 80km completed
- Line Uprates - 300km completed
- Cork Harbour area Projects Completed
- Lodgewood 220kV station

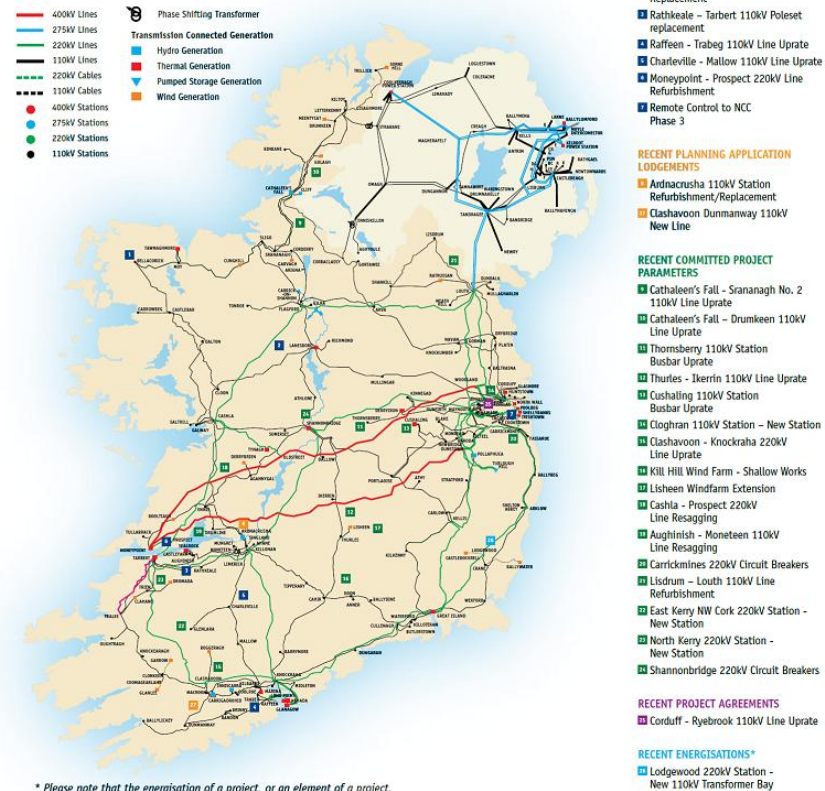
## 2012 Forecast

- New Line -160km due for completion
- Line Uprates - 300km
- Highlights to include completion of
  - Flagford – Srannanagh 220kV line,
  - Dalton- Galway 110kV line Loop into Cashla 220kV Station
  - Gorman-Navan 3 110kV line
  - Gorman-Meath Hill 110kV line
  - Banoge 110kV Station



### GRID25 PROGRAMME MILESTONES ACHIEVED

The Map shows recent milestones achieved:



\* Please note that the energisation of a project, or an element of a project, does not imply that all works of a particular project are complete.

# Grid25 Recent Highlights & Milestones

- Completion of
  - Banoge (Gorey) 110kV station, April 2012
  - Dalton-Galway 110kV loop-in to Cashla, May 2012
  - Gorman-Navan 3 110kV line, *February 2012*
- South-West projects
  - Moneypoint redevelopment (granted)
  - Tarbert redevelopment (granted)
  - Mill Street 220kV station (decision due May 2012)
  - North Kerry 220kV station (application May 2012)
  - East Kerry/NW Cork 220kV station (application May/June 2012)
  - Shannon cable crossing (x2) – cable enquiry issued
  - Clashavoun-Dunmanway 110kV line planning lodgment (submitted April 2012)
  - Decision to Grant received for Ardnacrusha 110kV GIS



## GRID25 PROGRAMME MILESTONES ACHIEVED

The Map shows recent milestones achieved:

- 400kV Lines
- 275kV Lines
- 220kV Lines
- 110kV Lines
- 220kV Cables
- 110kV Cables
- 400kV Stations
- 275kV Stations
- 220kV Stations
- 110kV Stations

- Phase Shifting Transformer
- Transmission Connected Generation
  - Hydro Generation
  - Thermal Generation
  - Pumped Storage Generation
  - Wind Generation



### RECENT INVESTMENT DECISIONS

- Bellaconnick 110kV Station Busbar Upgrade
- Cloon – Lanesboro 110kV Poleset Replacement
- Rathkeale – Tarbert 110kV Poleset replacement
- Raffeen – Trabeg 110kV Line Upgrade
- Charleville – Mallow 110kV Line Upgrade
- Moneypoint – Prospect 220kV Line Refurbishment
- Remote Control to NCC Phase 3

### RECENT PLANNING APPLICATION LODGEMENTS

- Ardnacrusha 110kV Station Refurbishment/Replacement
- Clashavoun Dunmanway 110kV New Line

### RECENT COMMITTED PROJECT PARAMETERS

- Cathaleen's Fall – Srananagh No. 2 110kV Line Upgrade
- Cathaleen's Fall – Drumkeen 110kV Line Upgrade
- Thornsberry 110kV Station Busbar Upgrade
- Thurles – Ikerrin 110kV Line Upgrade
- Cushaling 110kV Station Busbar Upgrade
- Cloghran 110kV Station – New Station Line Upgrade
- Clashavoun – Knockraha 220kV Line Upgrade
- Kill Hill Wind Farm – Shallow Works
- Lisheen Windfarm Extension
- Cashla – Prospect 220kV Line Resagging
- Aughinish – Moneteen 110kV Line Resagging
- Carrickmines 220kV Circuit Breakers Refurbishment
- Lisdrum – Louth 110kV Line Refurbishment
- East Kerry NW Cork 220kV Station – New Station
- North Kerry 220kV Station – New Station
- Shannonbridge 220kV Circuit Breakers

### RECENT PROJECT AGREEMENTS

- Corduff – Ryebrook 110kV Line Upgrade

### RECENT ENERGISATIONS\*

- Lodgewood 220kV Station – New 110kV Transformer Bay

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You are Here

## STAGE 1

### Information Gathering

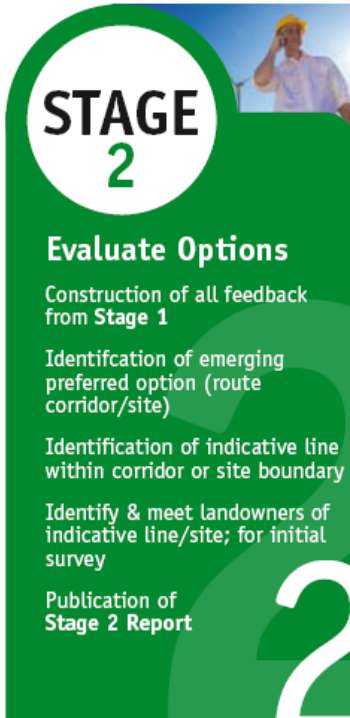
- Identify Project Study Area
- Identify environmental & other constraints
- Identify feasible options (corridor/sites)
- Publication of **Stage 1 Report**



## STAGE 2

### Evaluate Options

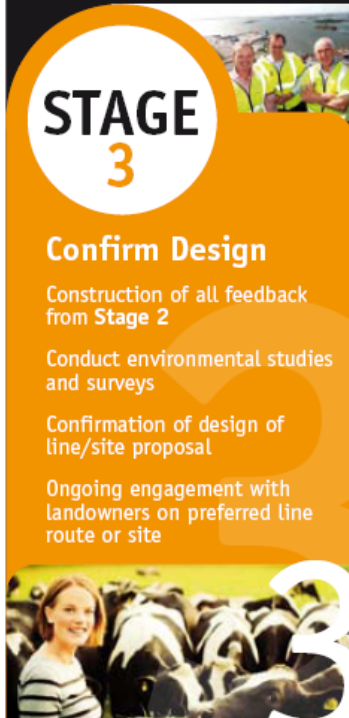
- Construction of all feedback from **Stage 1**
- Identification of emerging preferred option (route corridor/site)
- Identification of indicative line within corridor or site boundary
- Identify & meet landowners of indicative line/site; for initial survey
- Publication of **Stage 2 Report**



## STAGE 3

### Confirm Design

- Construction of all feedback from **Stage 2**
- Conduct environmental studies and surveys
- Confirmation of design of line/site proposal
- Ongoing engagement with landowners on preferred line route or site



### Public

- Ongoing public information
- Pre-application consultation with ABP

You are Here

## STAGE 4

### Prepare Planning Application

- Complete reports and prepare planning application
- Preparation of EIS/Environmental Impact Statement (as required)
- Submit application to Planning Authority/ An Bord Pleanála.



### Public

- Ongoing public information
- Conclusion of Pre-application consultation with ABP
- Public can make submissions to Planning Authority/ An Bord Pleanála once application submitted

## STAGE 5

### Planning Permission/Approval Granted

- Preparation of construction plans
- Serve Wayleave notice to landowners & agree access for construction
- Commence construction



### Public

- Ongoing public information
- Evaluation of Public Consultation process



# Thank you

Project information:

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



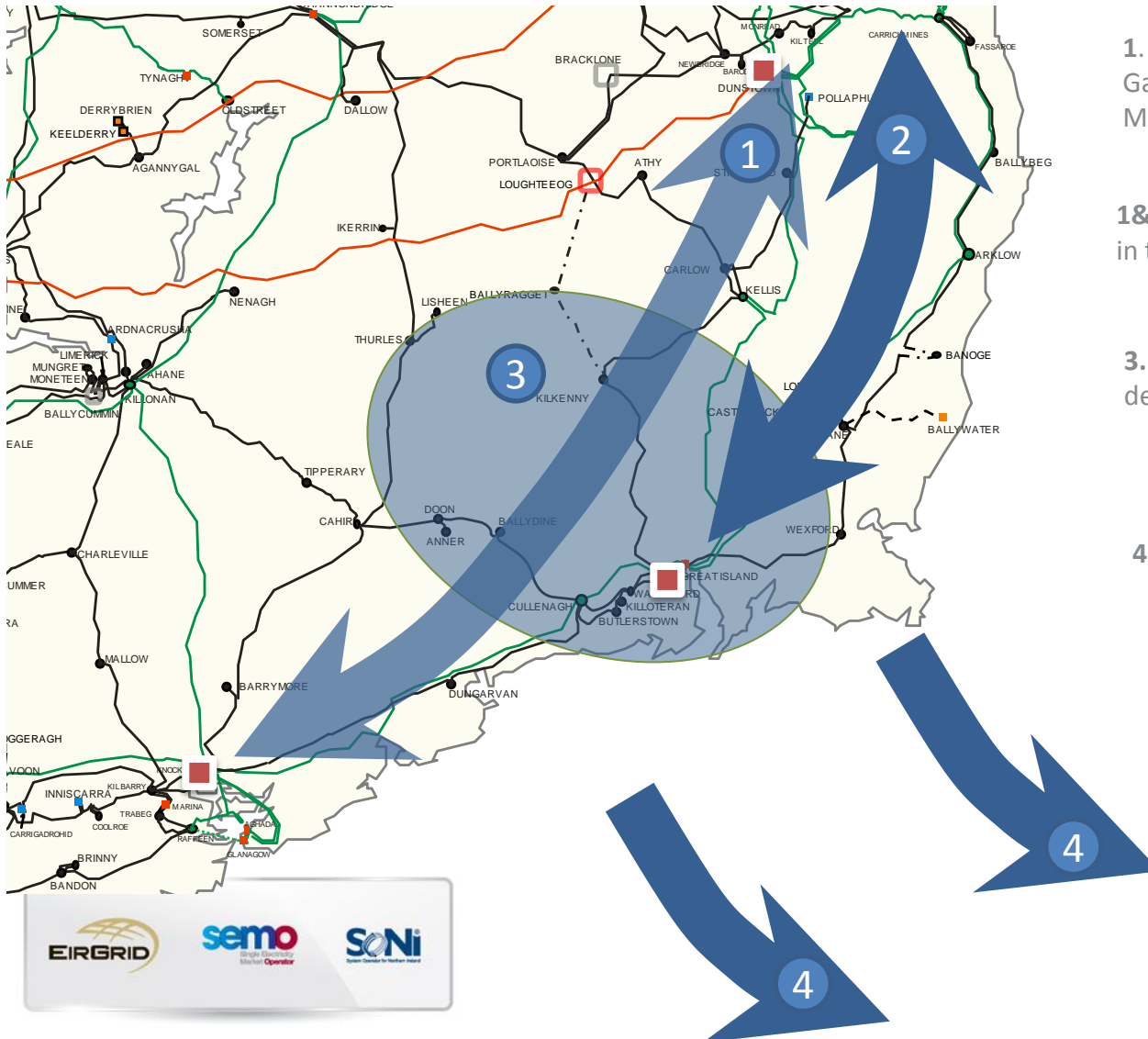
# The Grid Link Project

## The Grid Link Project

- Secures supply of energy for the south & east regions
- Facilitates growth in the south & east
- Enables Ireland meet its 40% renewable targets



# Why is the Project needed



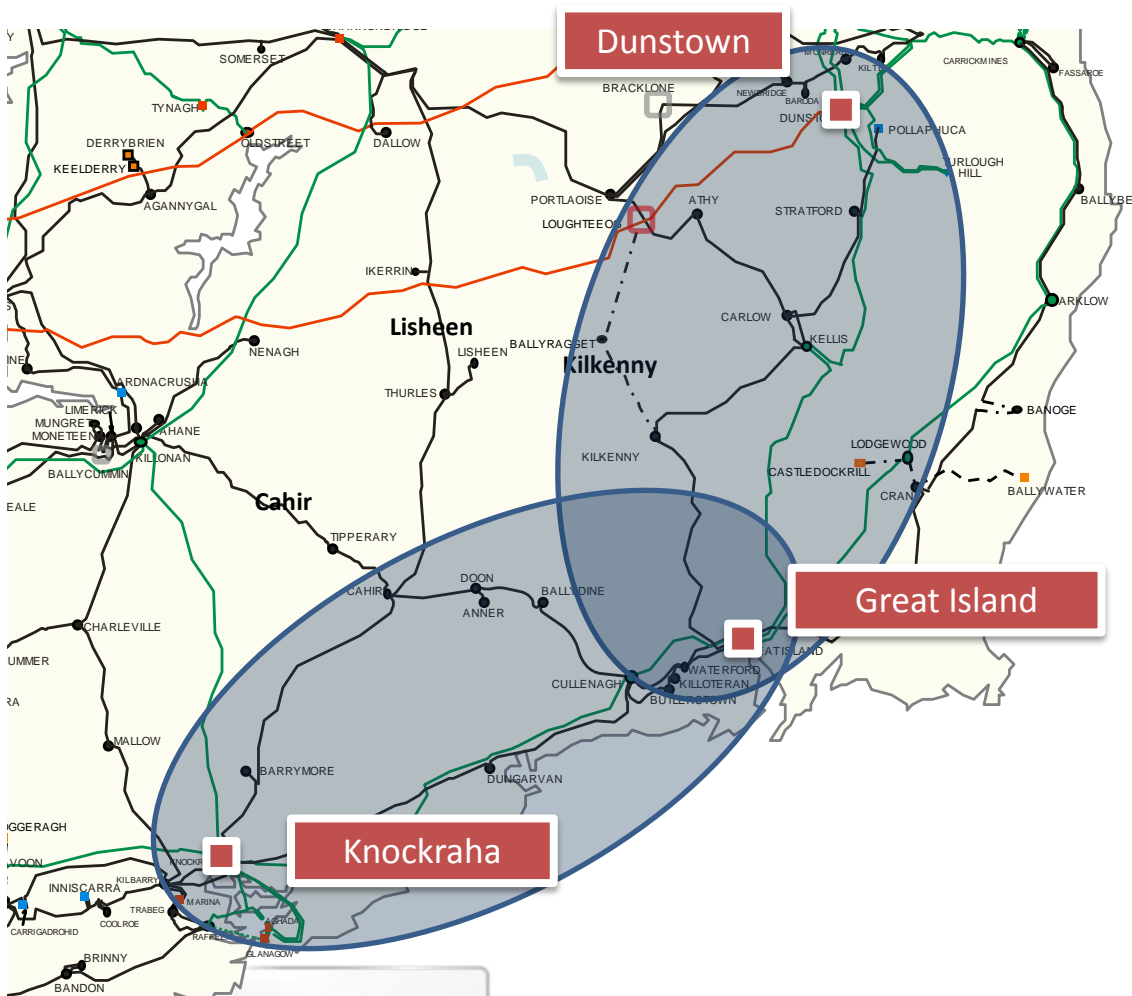
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4. Facilitation of future interconnection

# What is the Grid link Project



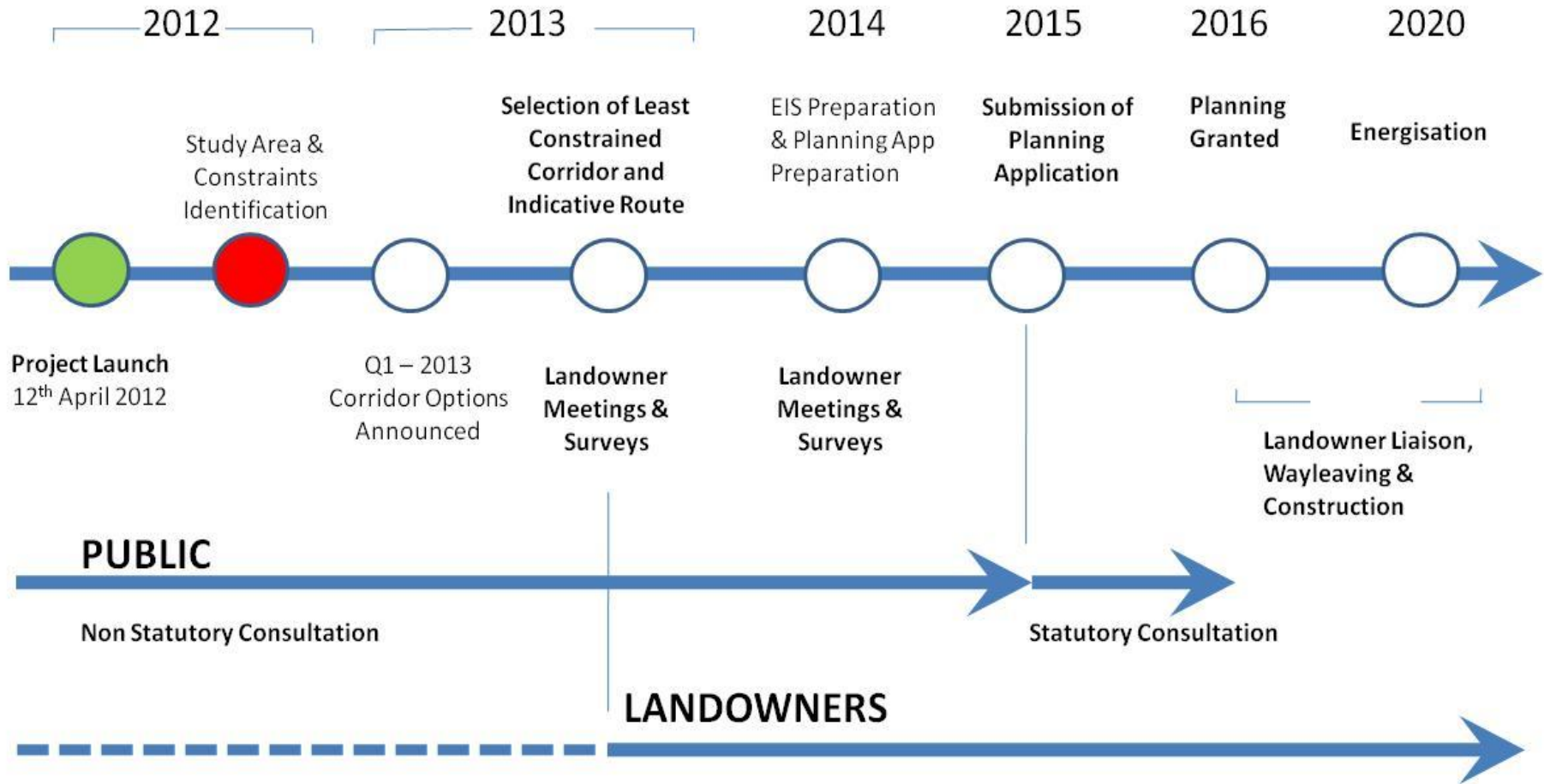
*400 kV Circuit Linking  
Leinster & Munster*

## Investment

- Estimated €500m



# Grid Link Project Programme



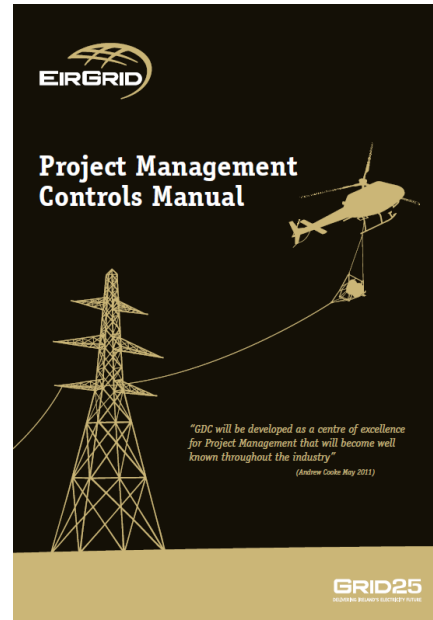
# EirGrid Centre of Excellence for Project Management



## Controls & Policy

Best practice project management to ensure delivery

- On Budget
- To Schedule



## Stakeholder Management

- 11 Counties
- 15 Local Authorities
- 450 Elected Representatives
- Approx 1.7million citizens



# Grid Link Project Team



- Full Time Project Management Team
- Full Time Project Management Team
- Support functions
- Support functions
- Technical Engineering
- Environmental Team
- Planning
- Transmission Design Team
- Environmental
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- Landowner Engagement
- Landowner Engagement Team
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- Health & Safety
- Health & Safety
- Legal

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Corrib Gas Pipeline  
(post Rosport 5)



ISLES Project  
(Irish-Scottish Links  
On Energy Study)



Gas Pipeline to  
the West



Mulroy Bay  
Bridge



Poolbeg Waste to  
Energy



Luas Lines



M6, M11 Motorways



**WATER SUPPLY PROJECT**  
DUBLIN REGION

Dublin Water  
Supply Project



Samuel Beckett  
Bridge



Adamstown Strategic  
Development Zone





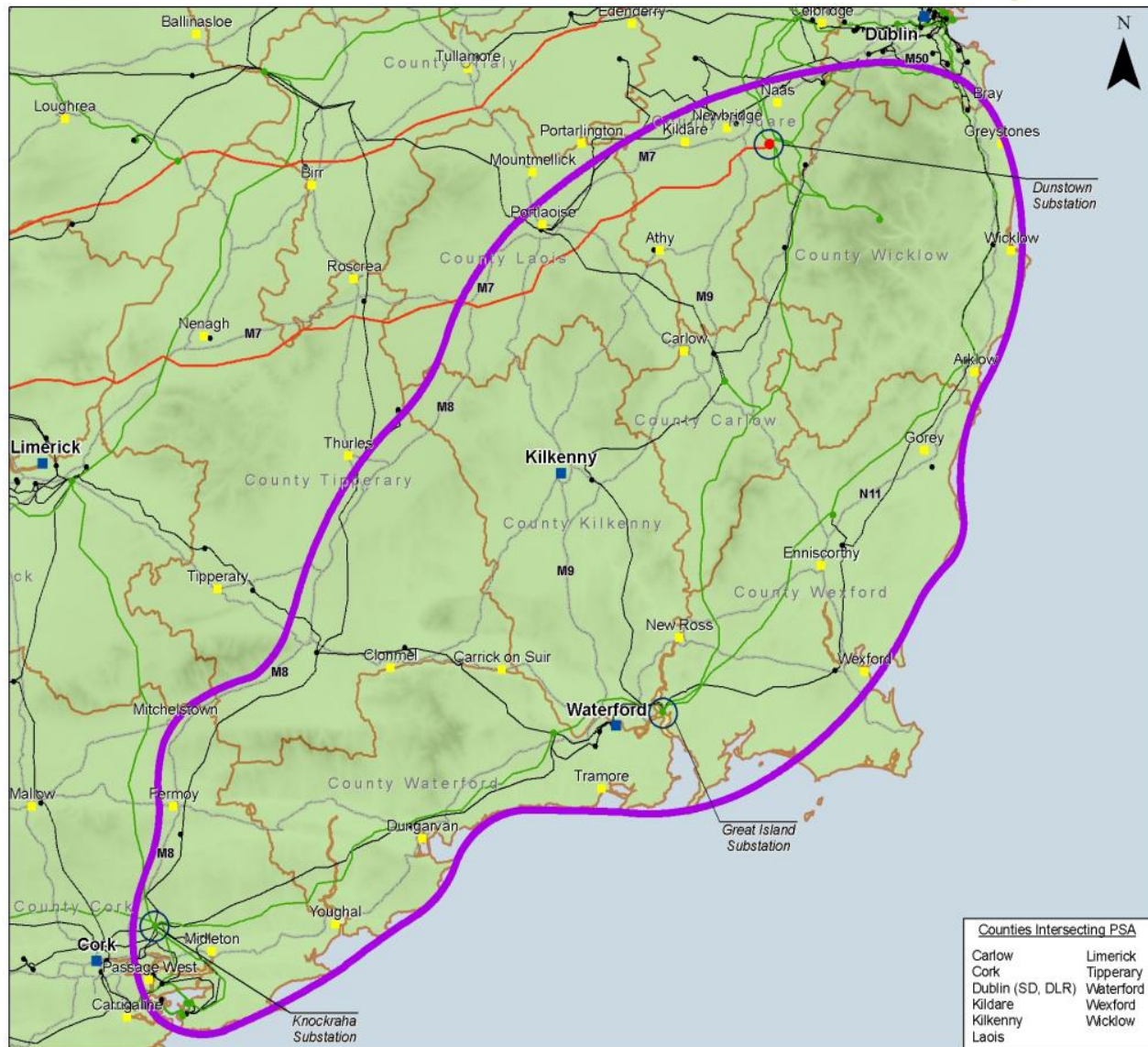
# Grid Link Project Study Area



- Accommodate the Strategic points of connection to existing system

- Jurisdictional & Physical Boundaries

- M50
- N7/M7/M8
- Coastline



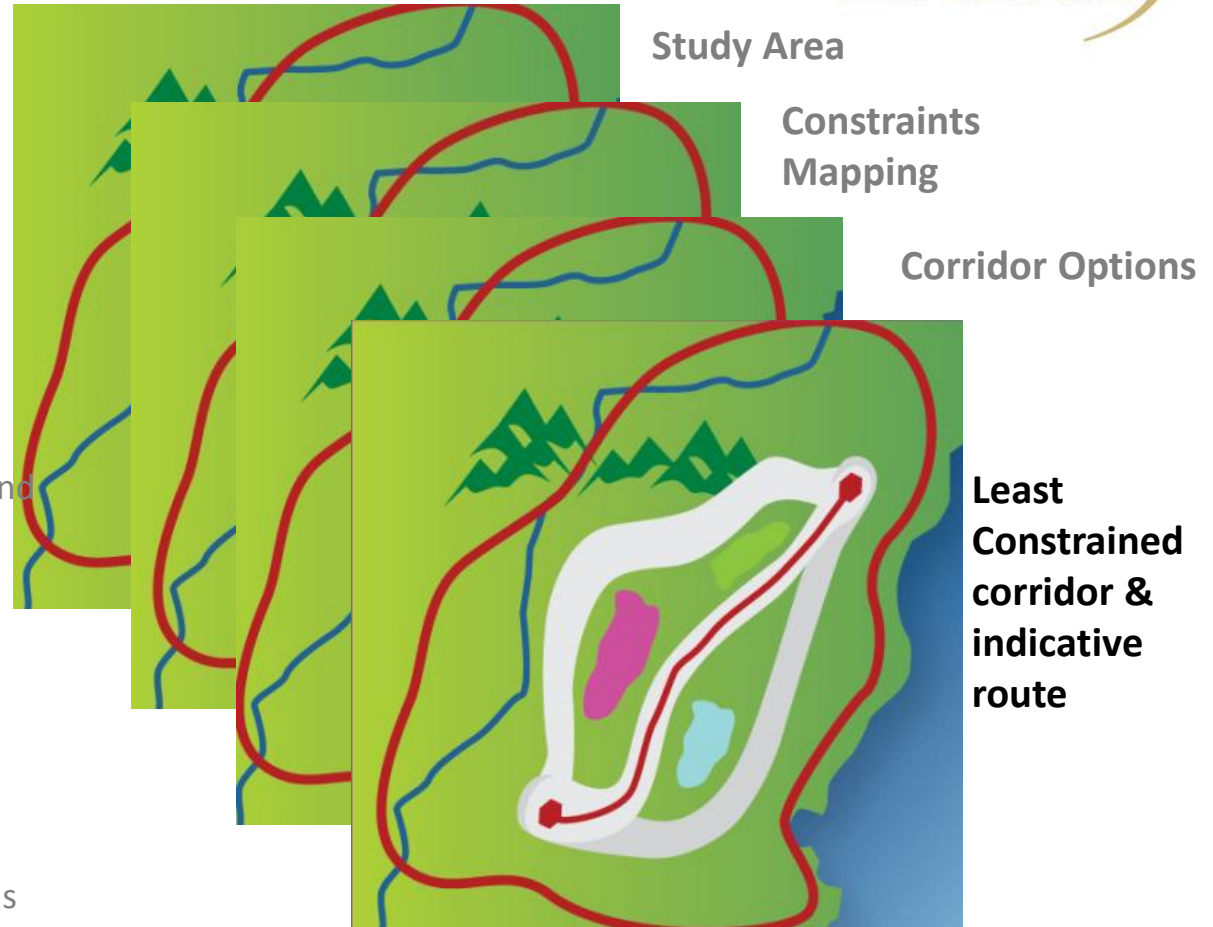
# Determining the most appropriate route



**Natural Environment:**  
e.g. Landscape & ecology including features, views, topography, water bodies designated sites and species

**Cultural Environment:**  
Archaeology, architecture and cultural heritage, e.g. protected monuments, structures

**Built Environment:**  
Land use, settlements & infrastructure including roads railways and utilities



# Facilitating Public Participation



## 4 INFORMATION OFFICES

Midleton  
Carrick-on-suir  
New Ross  
Carlow

## 7 OPEN DAYS

Midleton  
Waterford  
Naas  
Clonmel  
Kilkenny  
Newtownmountkennedy  
Wexford

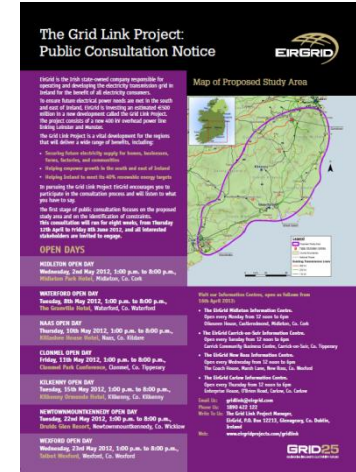
## CORRESPONDANCE

Website: [www.eirgridprojects.com/project/gridlink](http://www.eirgridprojects.com/project/gridlink)

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

Phone line: 189042211

Written: PO Box



Ciarán French, an engineer with EirGrid, speaks with Eddie and Margaret Mackessy of Knockraha at the public consultation day at the Midleton Park Hotel yesterday. Picture: Eddie O'Hare

## EirGrid hosts Midleton open day to inform public of future projects

IRELAND has all the ingredients to become the Saudi Arabia of renewable energy — which could net the country billions of euro in revenue.

That is according to EirGrid, which has been tasked with linking Munster and Leinster with the €500m Grid Link project.

The State-owned body that operates Ireland's national electricity grid had an open day in Midleton yesterday to explain to people what the Grid Link projects would do, as well as taking on board suggestions from local people about the proposed route for the project.

The upgrade of the electricity grid between Munster and Leinster will deliver a wide range of benefits to the national and regional economies, including hundreds of jobs, according to EirGrid.

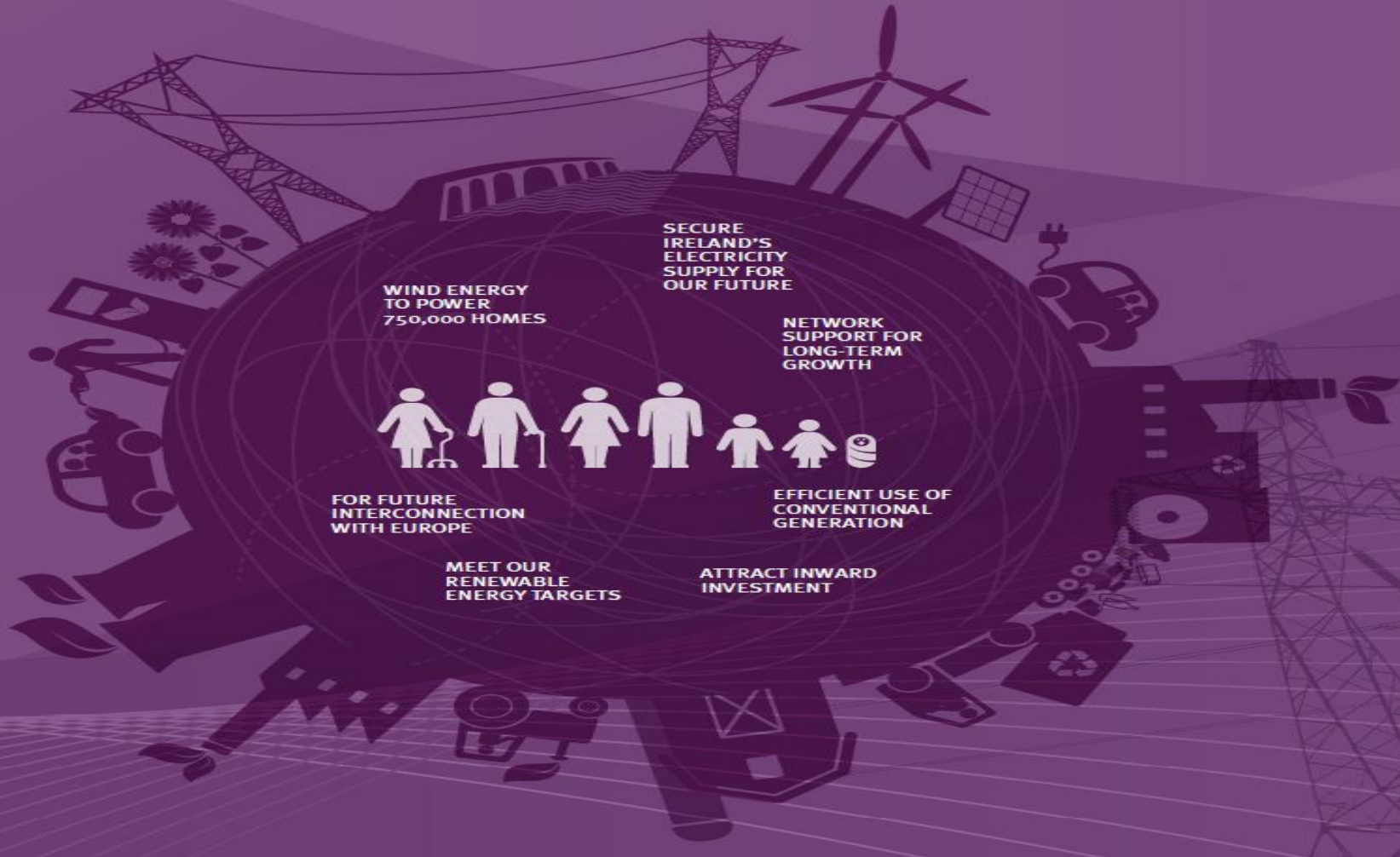
Dave Martin of EirGrid confirmed to the Evening Echo that the €500 million earmarked for the project was firmly in place and that there was no question that funding would be an issue.

Yesterday's open day in the Midleton Park Hotel was the beginning of the information gathering process, which will identify what social, archaeological, cultural and social obstacles lie in place for the project.

Harnessing renewable energy means Ireland will be able to produce huge amounts and that it could then be sold to other European states, thereby generating billions for the Exchequer.



# Project Benefits







# The Grid West Project

## Electricity Transmission Scheme in the West

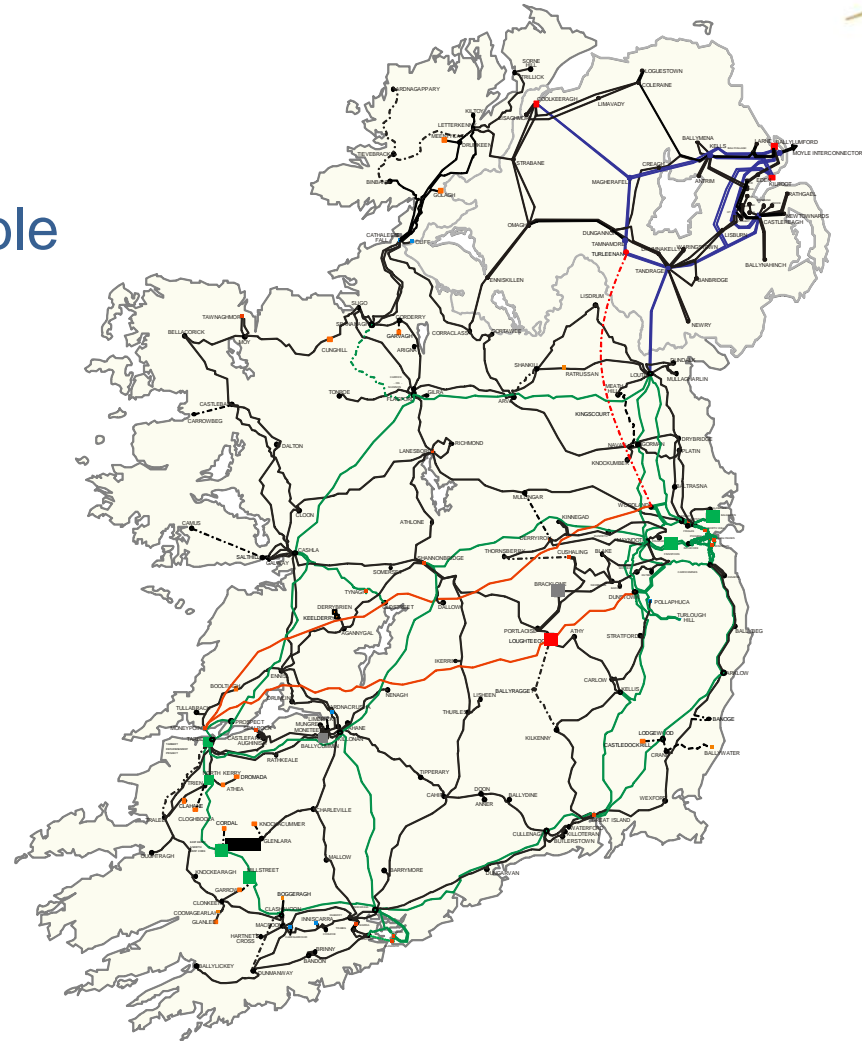
- Delivering 21st century energy infrastructure to the West of Ireland
- Connecting renewable energy
- Facilitating job creation and economic recovery



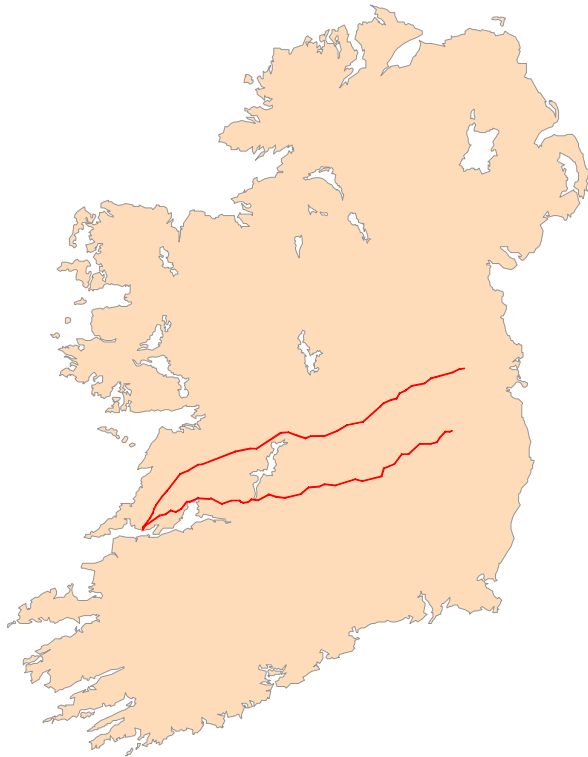
# Transmission Grid



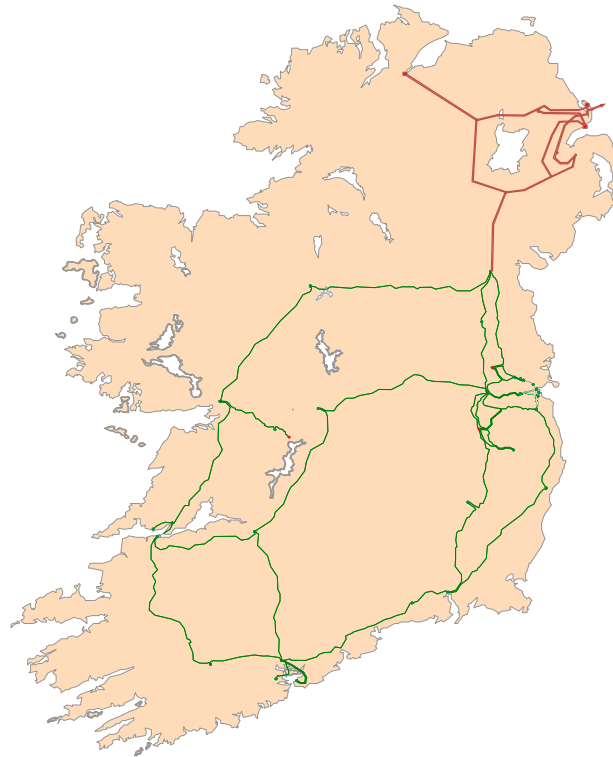
- High capacity, efficient, reliable link between
  - Generation Stations
  - Demand centres
  - Interconnections to other systems
- 3 classes of line



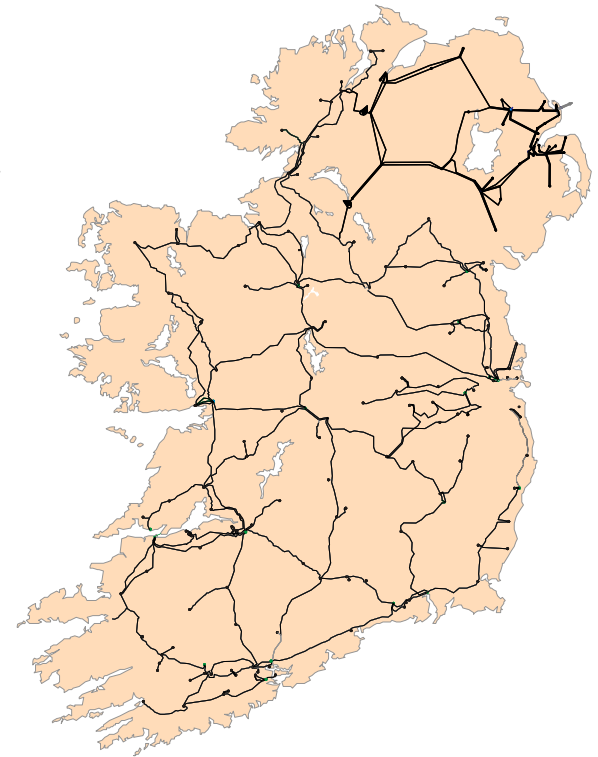
# Transmission Grid



**400 kV**    **440 km**



**220 kV**    **1866 km**

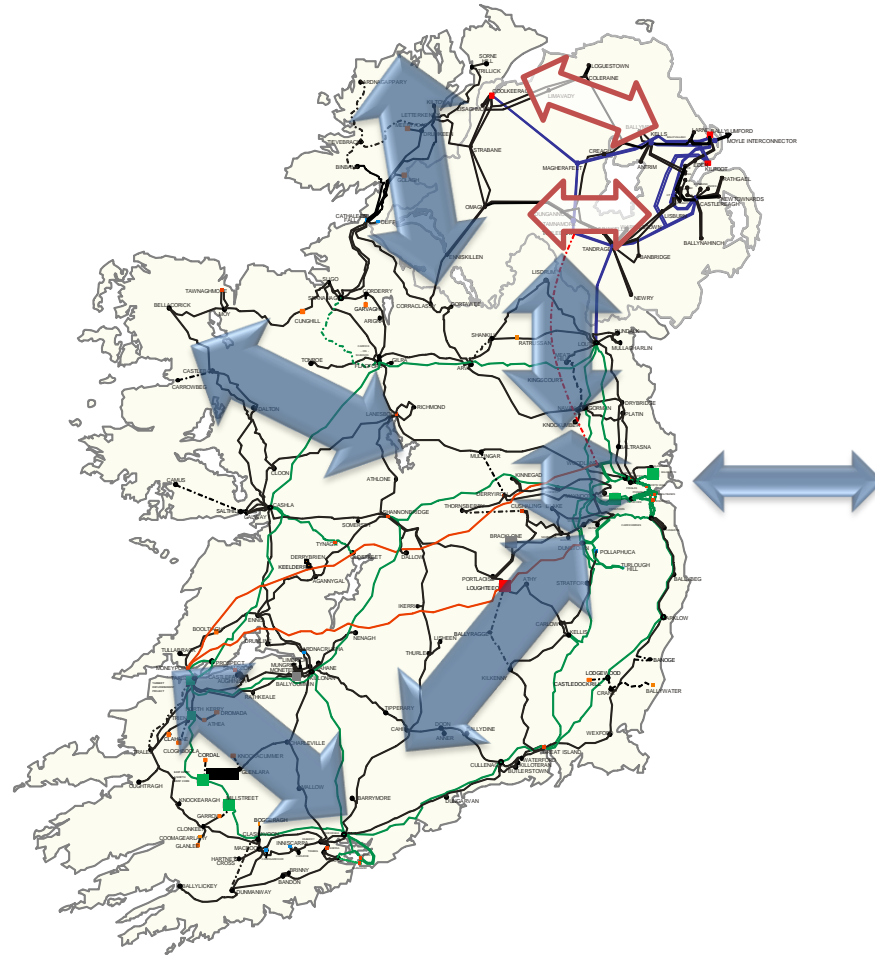
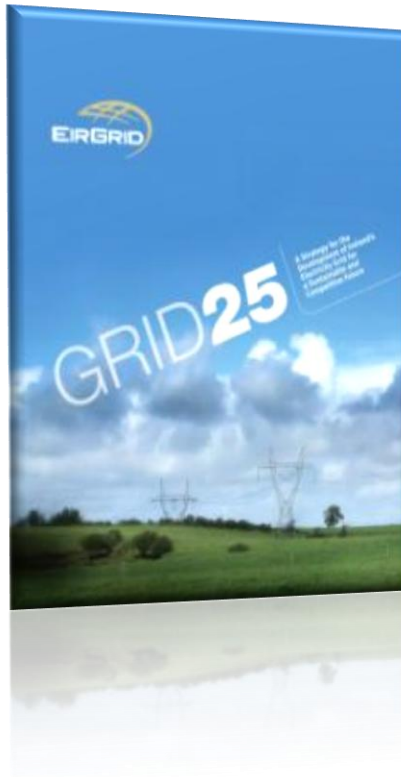


**110 kV**    **4122 km**

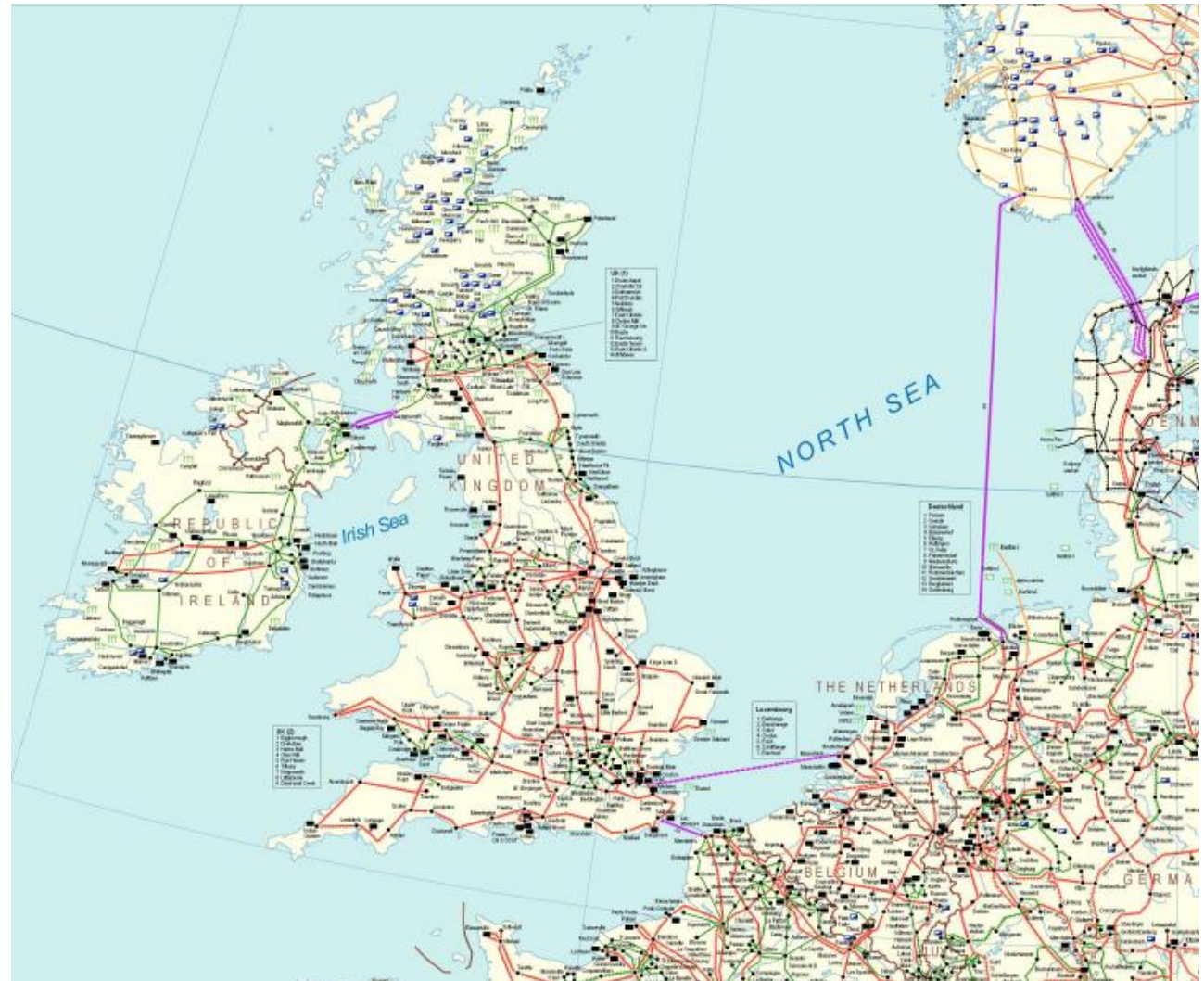




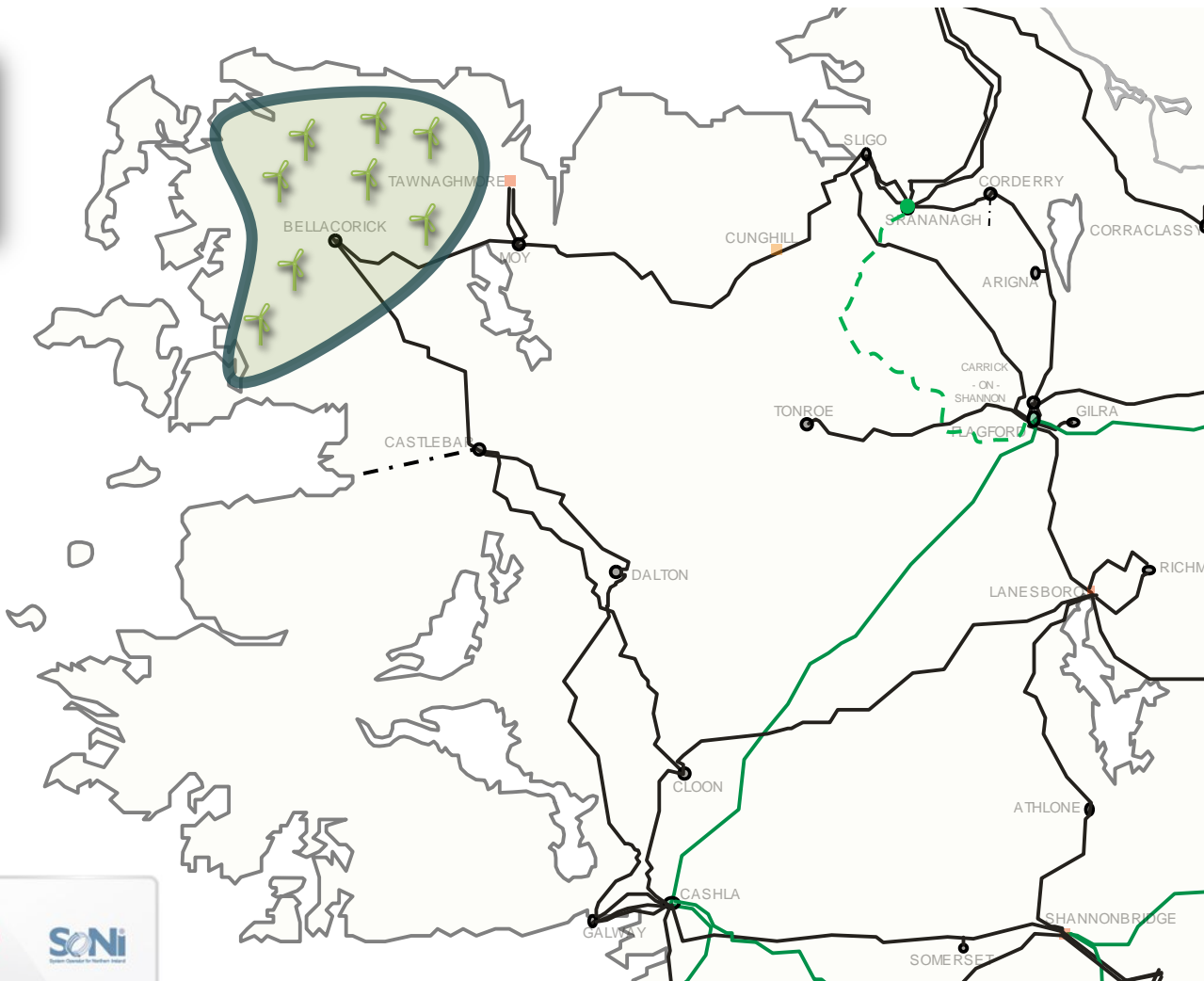
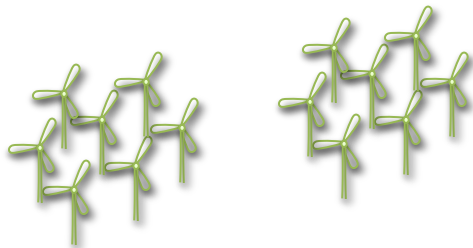
# GRID25



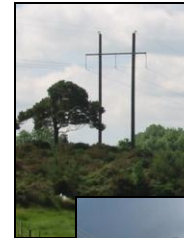
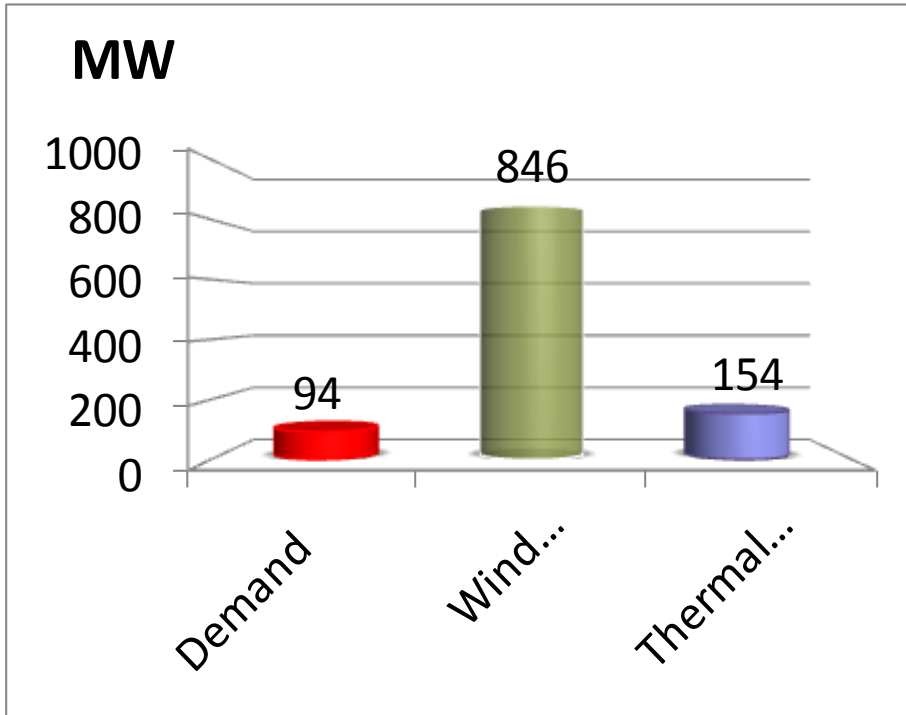
# European Transmission



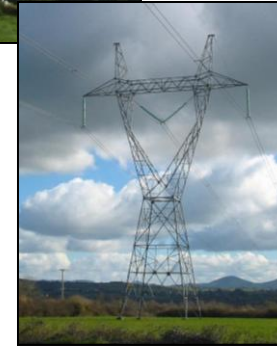
# Need for Grid West



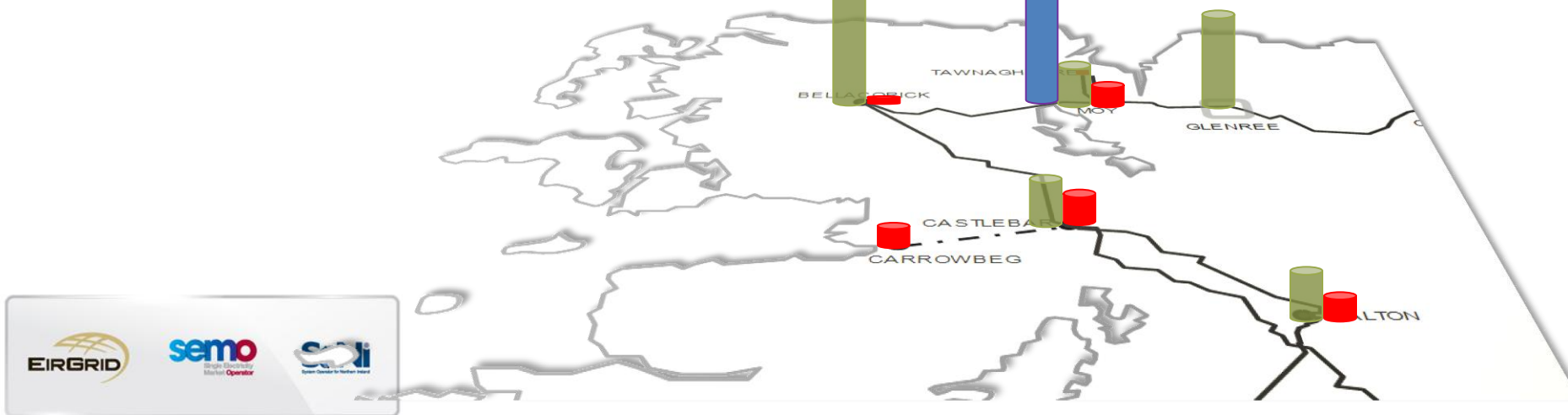
# Comparing Generation with Demand



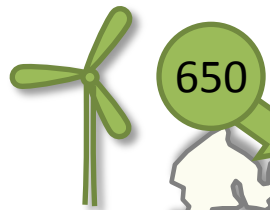
110 kV ?







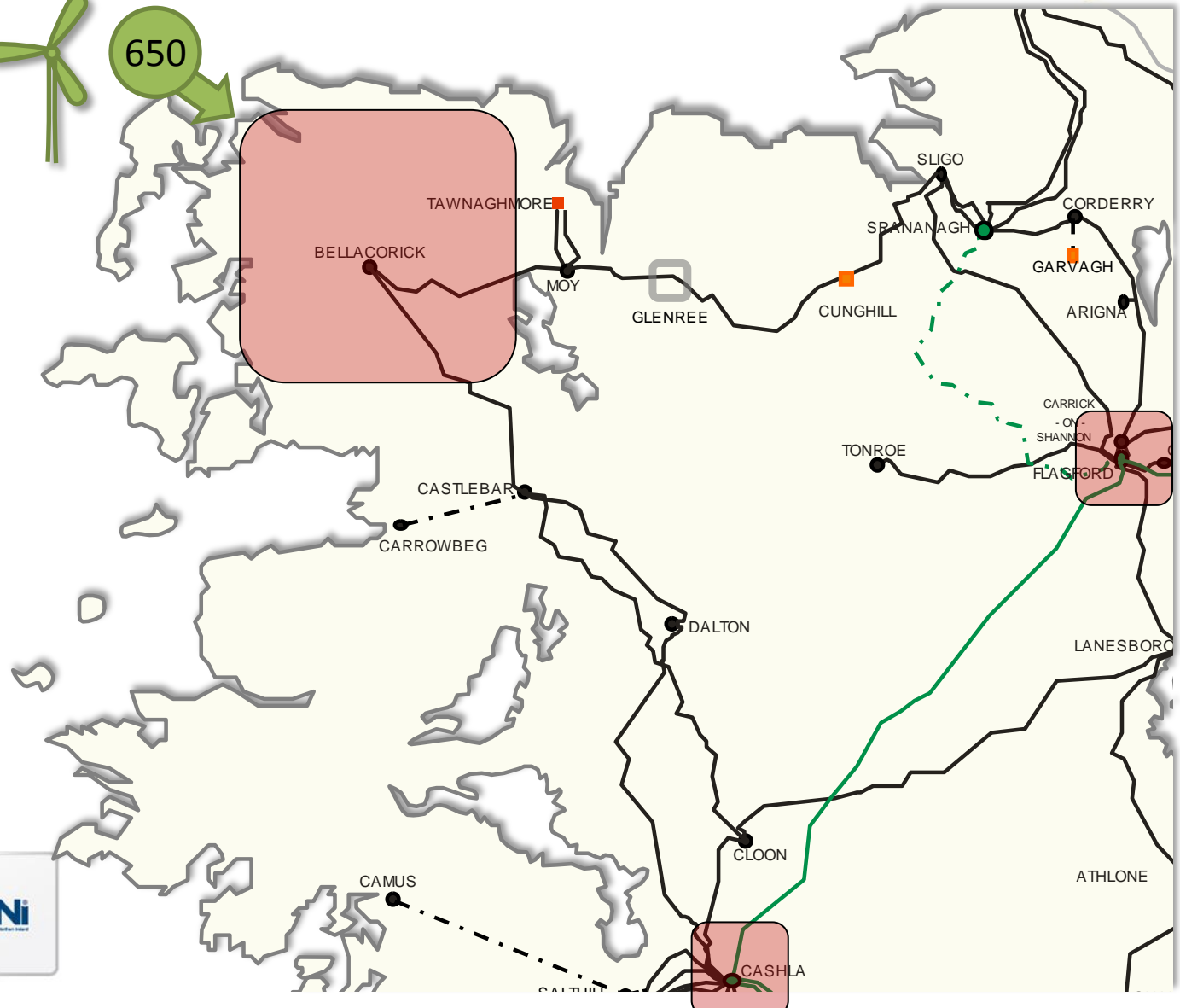
400kV



# Grid West - Connecting Renewables



-  Power (MW)
-  Existing 110kV lines (to be uprated)
-  Existing 220kV lines
-  Connection options for new 400 kV circuit



# GRID25 Grid West Team




**Alan McHugh**  
Senior Project Manager



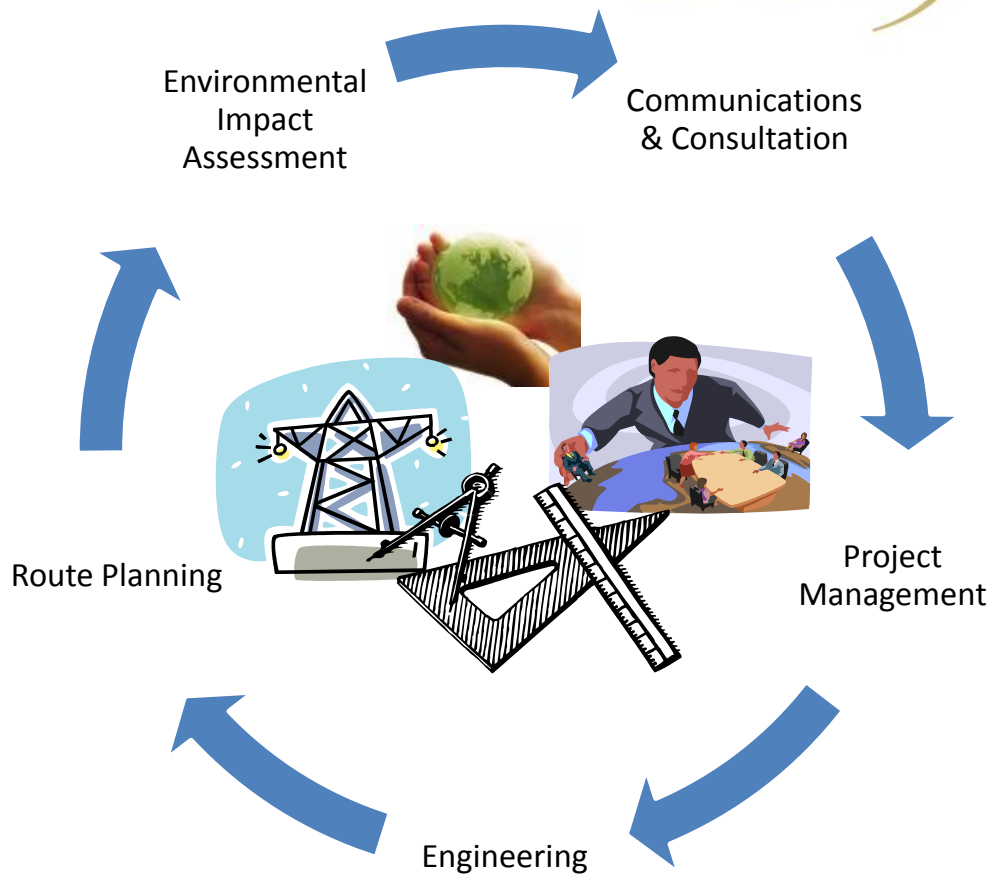
**Graham Parker**  
Senior Engineer



**Valerie Hedin**  
Senior Communications Specialist



**Cian Corbett**  
Project Analyst



**External Consultants & Specialists**



**TOBIN**  
Consulting Engineers

**URS**



# Project Development and Consultation Roadmap



You are Here

**STAGE 1**

**Information Gathering**

Identify Project Study Area

Identify environmental & other constraints

Identify feasible options (corridor/sites)

Publication of **Stage 1 Report**

Pre-application consultation with An Bord Pleanála

**Public**

Public and stakeholder consultation on study area and constraints

Public and stakeholder consultation on findings of **Stage 1 Report**

**STAGE 2**

**Evaluate Options**

Consideration of all feedback from **Stage 1**

Identification of EirGrid's emerging preferred option (route corridor/site)

Identification of indicative line within corridor or site boundary

Identify & meet landowners of indicative line/site; initial survey

Publication of **Stage 2 Report**

Pre-application consultation with An Bord Pleanála

**Public**

Public and stakeholder consultation on findings of **Stage 2 Report**

**STAGE 3**

**Confirm Design**

Consideration of all feedback from **Stage 2**

Conduct environmental studies and surveys

Confirmation of design of line/site proposal including construction methodology

Ongoing engagement with landowners on preferred line route or site

Pre-application consultation with An Bord Pleanála

**Public**

Ongoing public information

**STAGE 4**

**Prepare Planning Application**

Complete reports and prepare planning application

Preparation of Environmental Impact Statement (EIS) or Environmental Report as required

Conclusion of Pre-application consultation with An Bord Pleanála

Submit application to An Bord Pleanála

**Public**

Ongoing public information

Public can make submissions to An Bord Pleanála once application submitted

**STAGE 5**

**Wayleaving and Construction**

Preparation of construction plans

Serve Wayleave notice to landowners & agree access for construction

Commence construction

**Public**

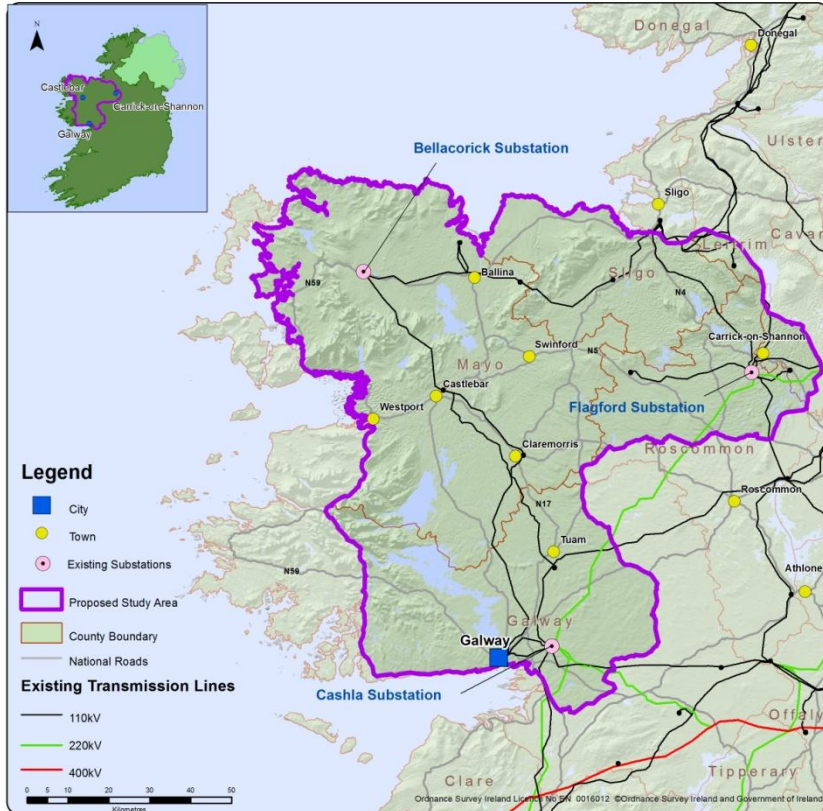
Ongoing public information

Evaluation of Public Consultation process

You are Here



# Study Area and Consultation



Publish the Study Area in local papers

Dedicated Website:

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

Lo-Call Information Line:

1890 94 08 02

Local Offices:

Castlebar & other centres

Open Days across the region

Libraries & County Council Offices





# Engineering & Environment



- Ongoing review of studies and need
- Project Planning
  - Technical
  - Environmental
  - Communications
- Identify and obtain environmental constraints datasets
- Liaison and co-ordination of statutory stakeholders
- Stakeholder Consultation
- Planning for Health & Safety
- Prepare for Planning Process



# Conclusion



- 21<sup>st</sup> century energy infrastructure for the west of Ireland
- Connect the region's huge renewable resources
- Job creation, investment, national recovery and growth

Public consultation is OPEN

*"We want to hear your views"*





# The Grid West Project

## Electricity Transmission Scheme in the West

- Delivering 21st century energy infrastructure to the West of Ireland
- Connecting renewable energy
- Facilitating job creation and economic recovery

User Name: [wallace\\_c@eirgrid.emea.microsoftonline.com](mailto:wallace_c@eirgrid.emea.microsoftonline.com)



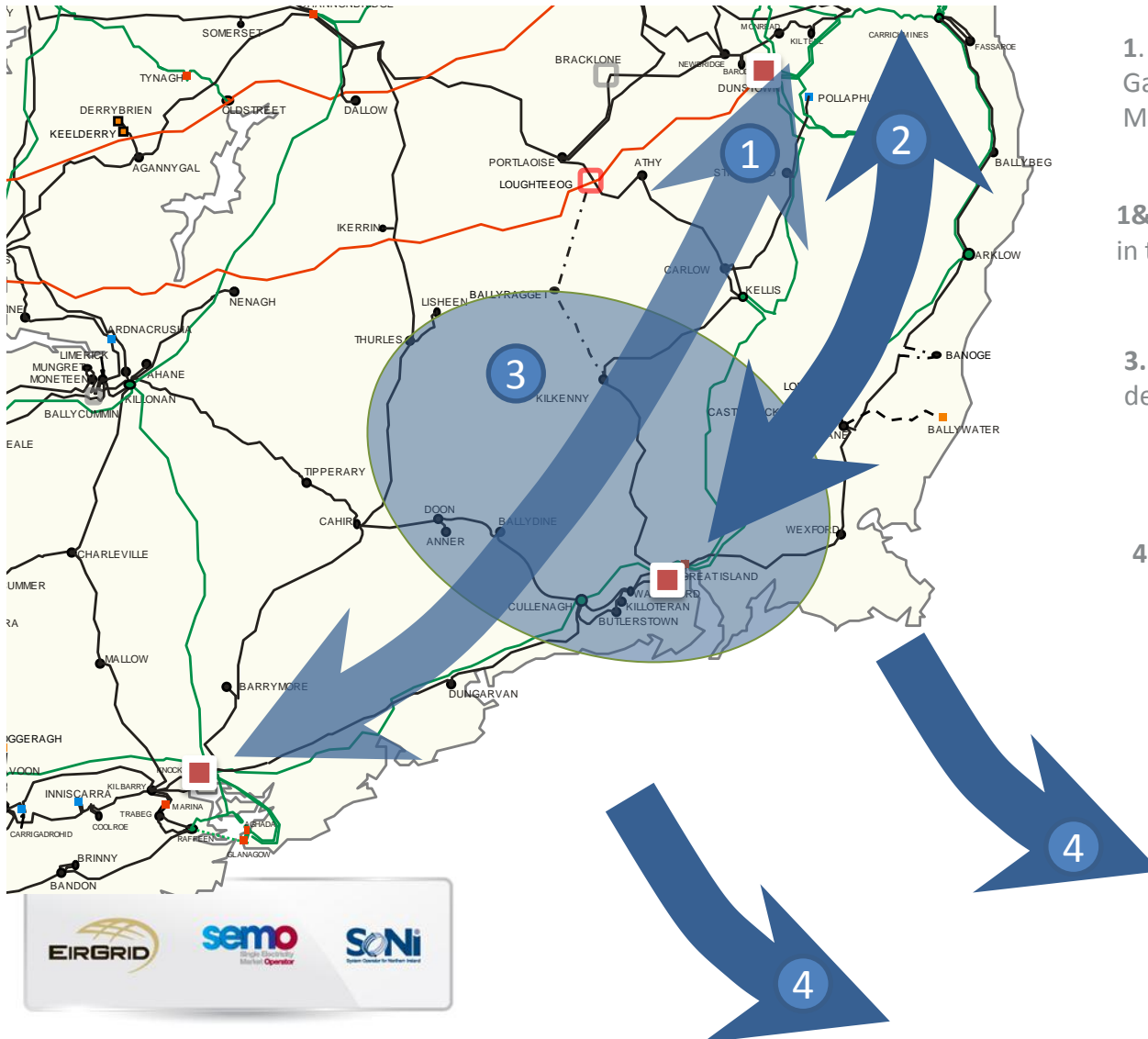
# The Grid Link Project

## The Grid Link Project

- Secures supply of energy for the south & east regions
- Facilitates growth in the south & east
- Enables Ireland meet its 40% renewable targets



# Why is the Project needed



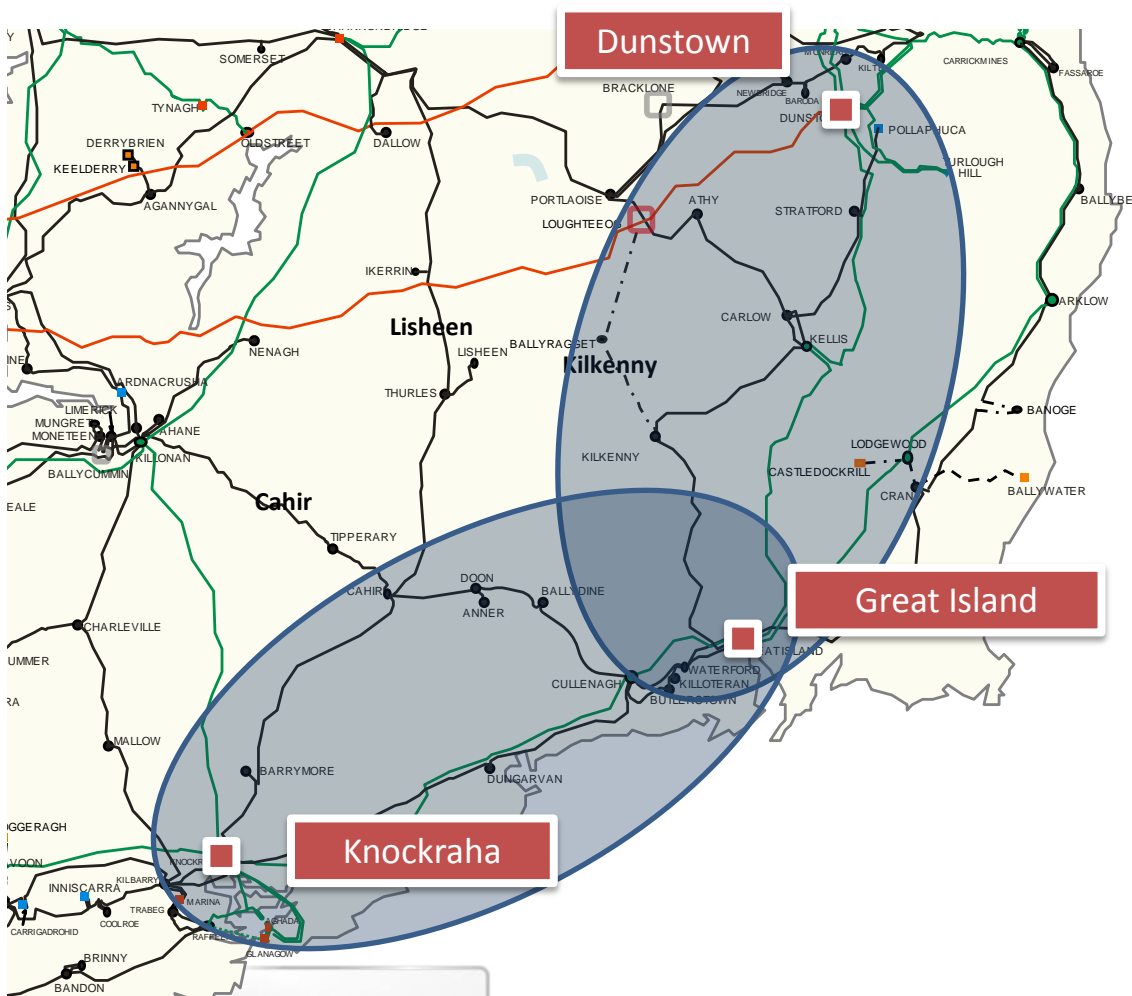
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# What is the Grid link Project



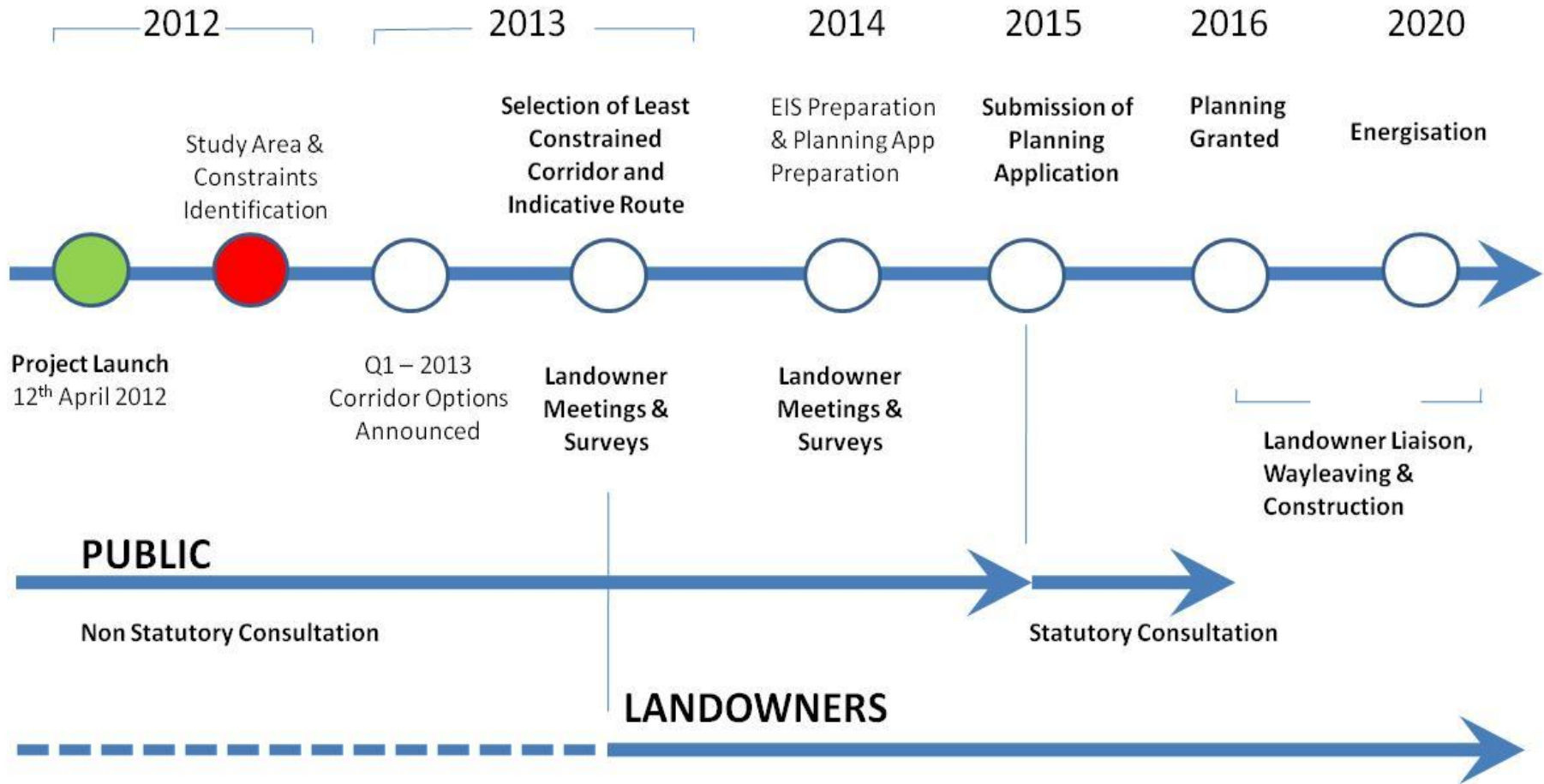
*400 kV Circuit Linking  
Leinster & Munster*

## Investment

- Estimated €500m



# Grid Link Project Programme



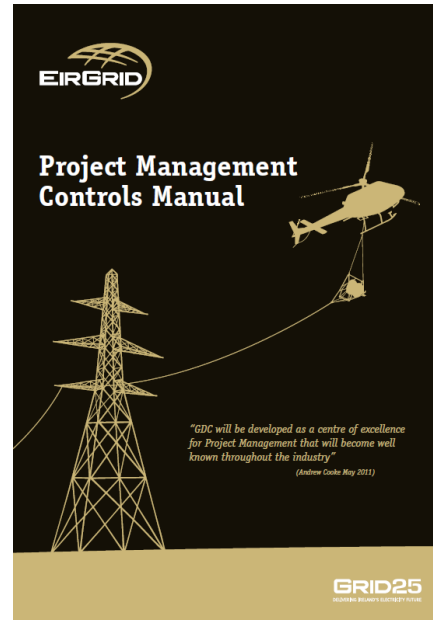
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## Controls & Policy

Best practice project management to ensure delivery

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## Stakeholder Management

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# Grid Link Project Team



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Corrib Gas Pipeline  
(post Rosport 5)



ISLES Project  
(Irish-Scottish Links  
On Energy Study)



Gas Pipeline to  
the West



Mulroy Bay  
Bridge



Poolbeg Waste to  
Energy



Luas Lines



M6, M11 Motorways



**WATER SUPPLY PROJECT**  
DUBLIN REGION

Dublin Water  
Supply Project



Samuel Beckett  
Bridge



Adamstown Strategic  
Development Zone



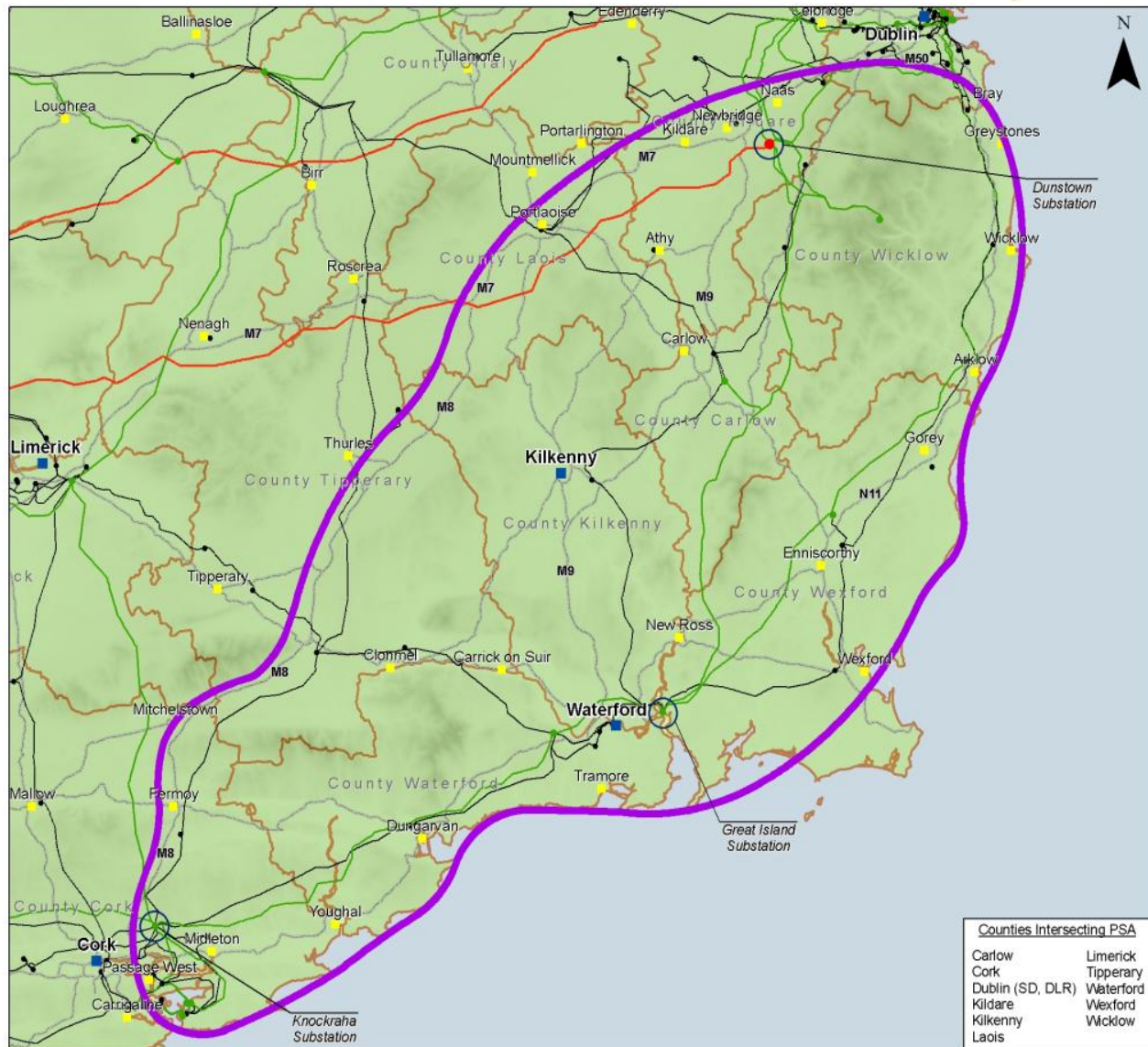
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- N7/M7/M8
- Coastline



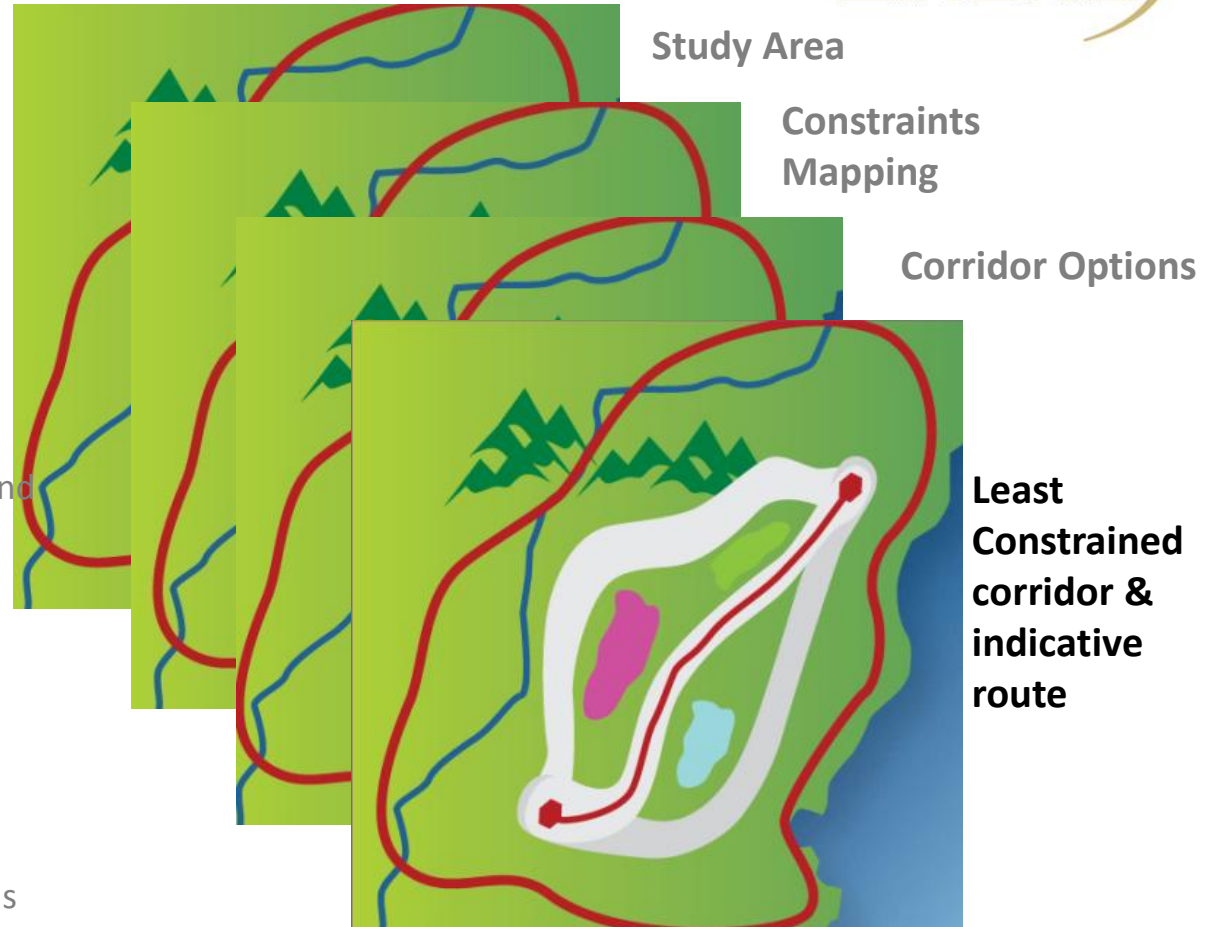
# Determining the most appropriate route



**Natural Environment:**  
e.g. Landscape & ecology including features, views, topography, water bodies designated sites and species

**Cultural Environment:**  
Archaeology, architecture and cultural heritage, e.g. protected monuments, structures

**Built Environment:**  
Land use, settlements & infrastructure including roads railways and utilities



# Facilitating Public Participation



## 4 INFORMATION OFFICES

Midleton  
Carrick-on-suir  
New Ross  
Carlow

## 7 OPEN DAYS

Midleton  
Waterford  
Naas  
Clonmel  
Kilkenny  
Newtownmountkennedy  
Wexford

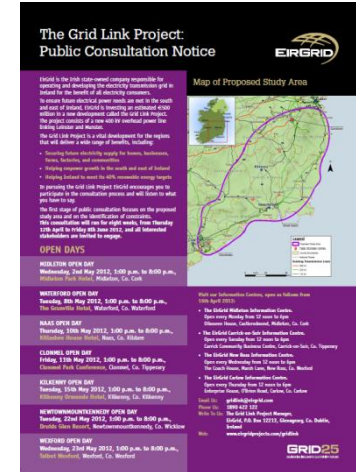
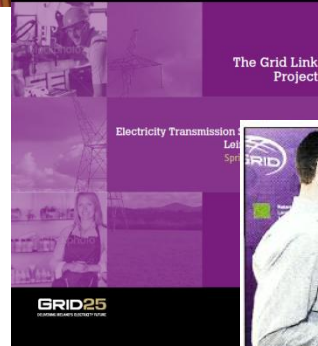
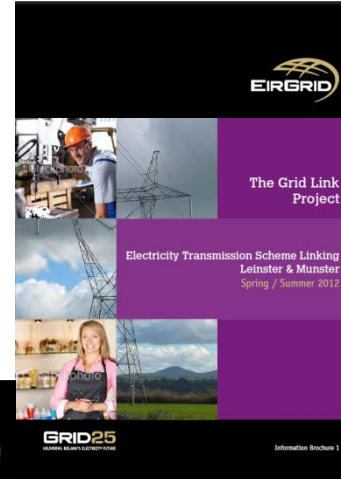
## CORRESPONDANCE

Website: [www.eirgridprojects.com/project/gridlink](http://www.eirgridprojects.com/project/gridlink)

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

Phone line: 189042211

Written: PO Box



Ciarán French, an engineer with EirGrid, speaks with Eddie and Margaret Mackessy of Knockraha at the public consultation day at the Midleton Park Hotel yesterday. Picture: Eddie O'Hare

## EirGrid hosts Midleton open day to inform public of future projects

IRELAND has all the ingredients to become the Saudi Arabia of renewable energy — which could net the country billions of euro in revenue.

That is according to EirGrid, which has been tasked with linking Munster and Leinster with the €500m Grid Link project.

The State-owned body that operates Ireland's national electricity grid had an open day in Midleton yesterday to explain to people what the Grid Link projects would do, as well as taking on board suggestions from local people about the proposed route for the project.

The upgrade of the electricity grid between Munster and Leinster will deliver a wide range of benefits to the national and regional economies, including hundreds of jobs, according to EirGrid.

Dave Martin of EirGrid confirmed to the Evening Echo that the €500 million earmarked for the project was firmly in place and that there was no question that funding would be an issue.

Yesterday's open day in the Midleton Park Hotel was the beginning of the information gathering process, which will identify what social, archaeological, cultural and social obstacles lie in place for the project.

Harnessing renewable energy means Ireland will be able to produce huge amounts and that it could then be sold to other European states, thereby generating billions for the Exchequer.



# Project Benefits

