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Planning and Delivering the Electricity Transmission Network

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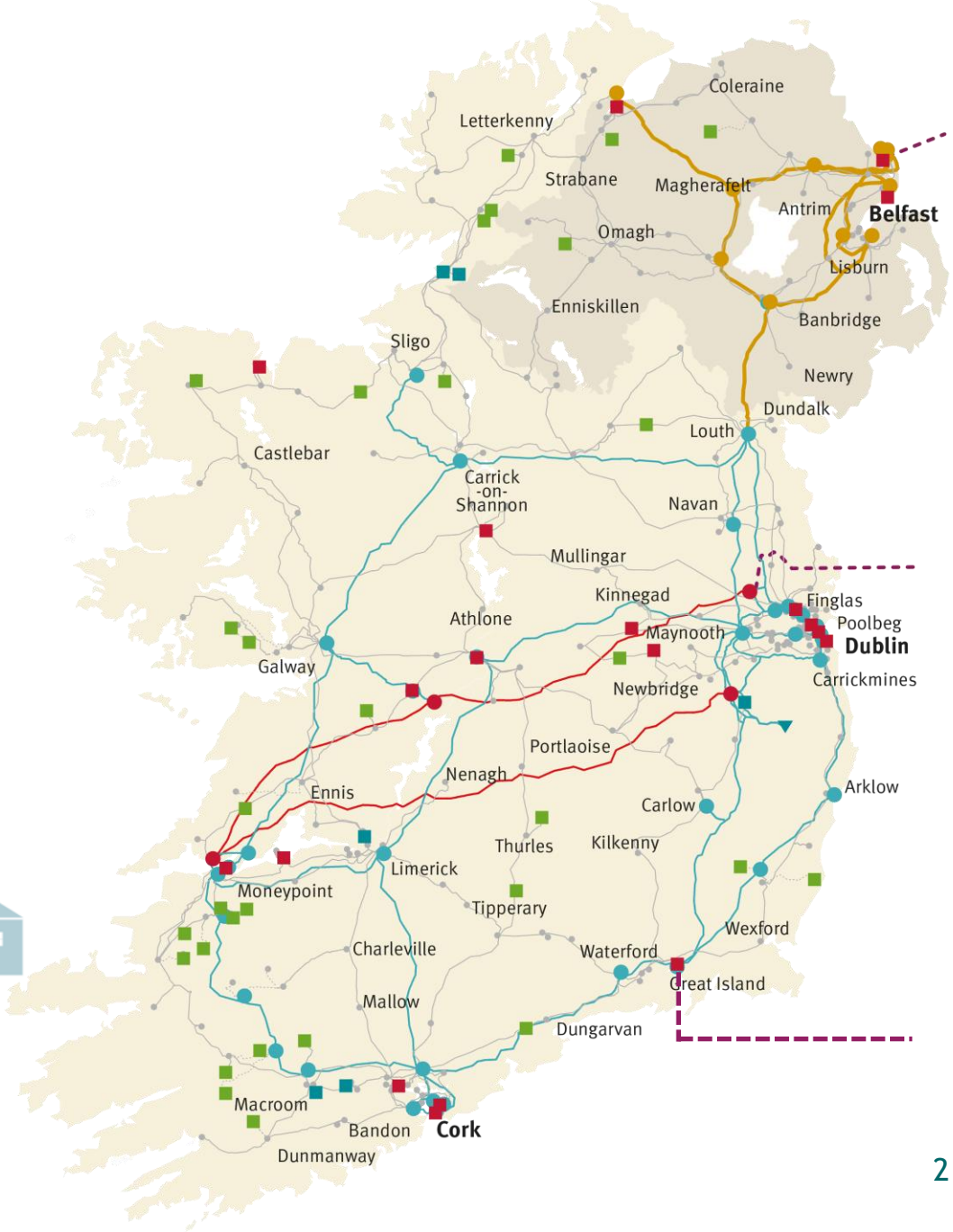
EirGrid

Tionscadal Éireann
Project Ireland
2040

Ireland’s electricity grid

- EirGrid is Ireland’s Transmission System Operator- Responsible for planning for Ireland’s long-term electricity needs, balancing supply and demand every minute of the day.
- More electricity will be carried across this grid than ever before, and most of this power will come from renewable sources.
- Electrification of society



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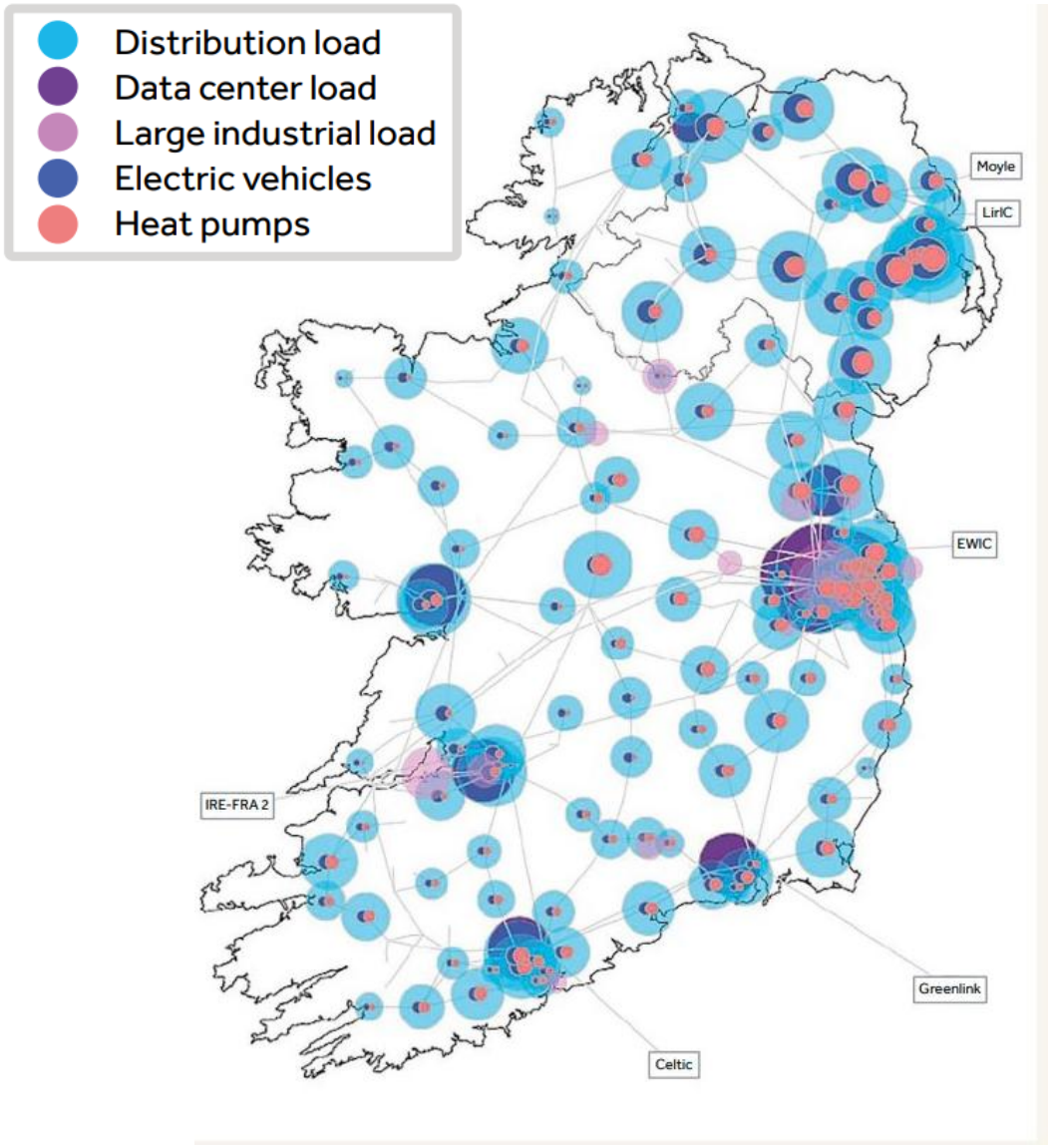
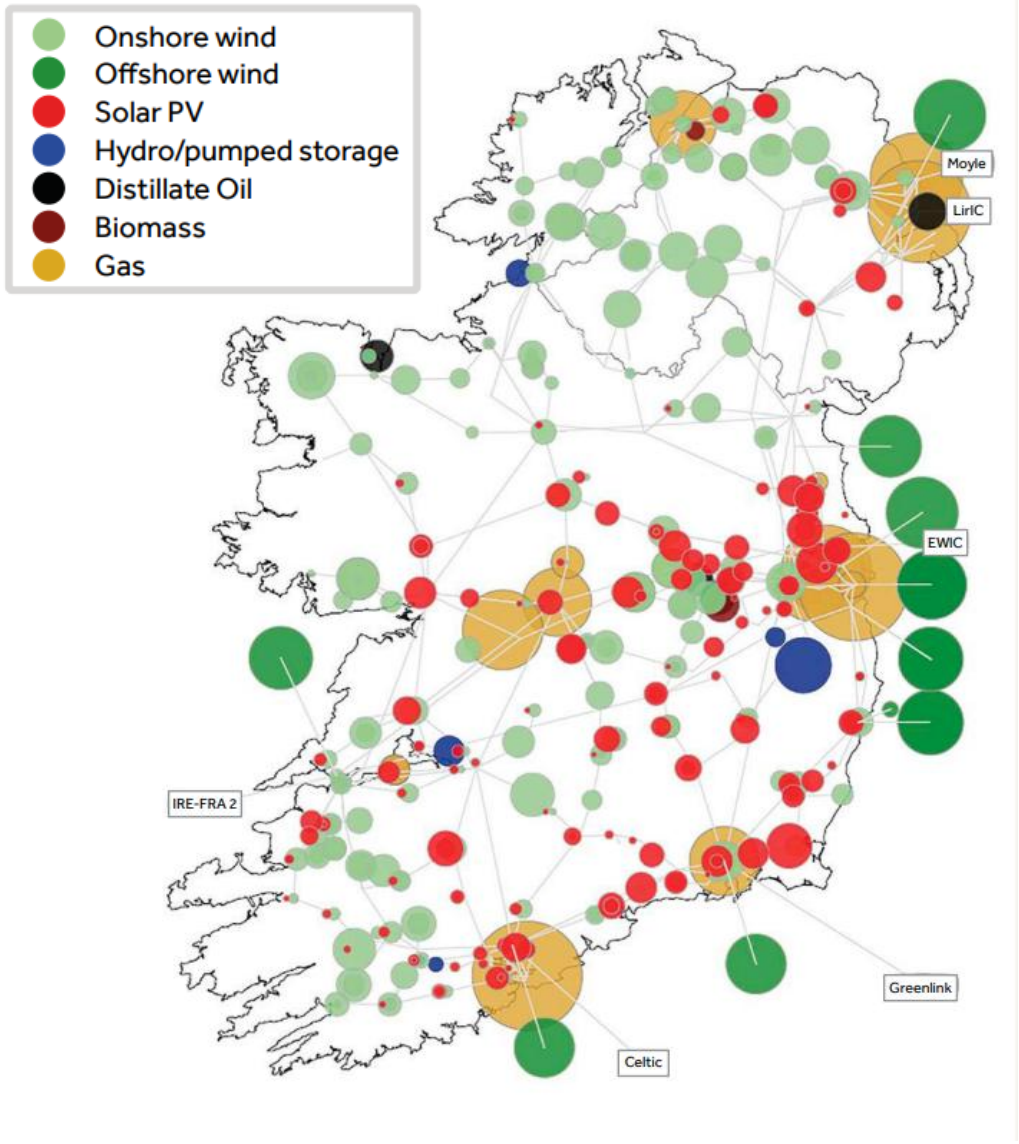
Forecast Electricity Demand in 2030



Forecast Electricity Generation in 2030



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Shaping Our Electricity Future Roadmap: Version 1.1

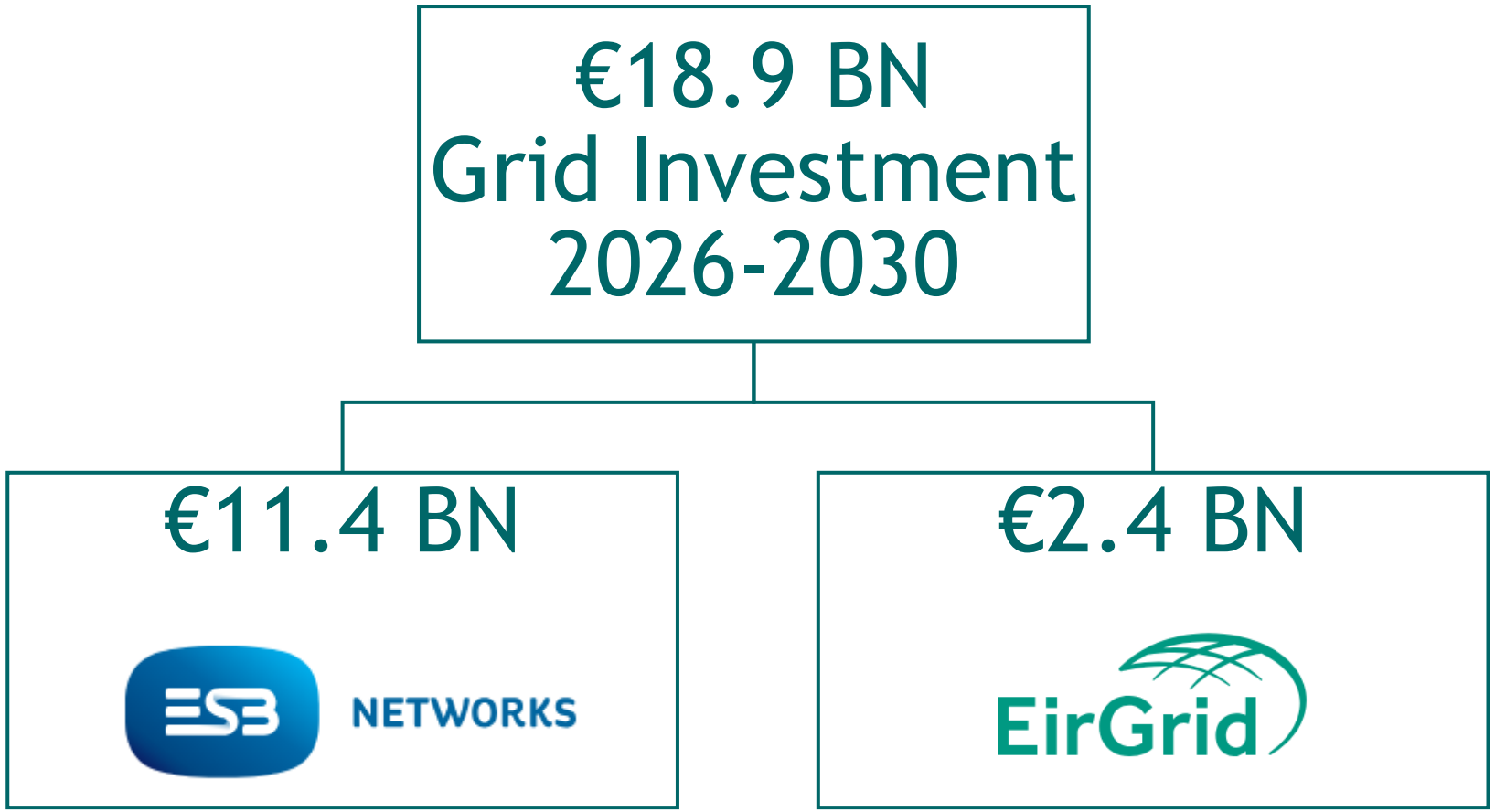
Need for Grid Reinforcement

Economic	Local	Sustainability	Security of Supply

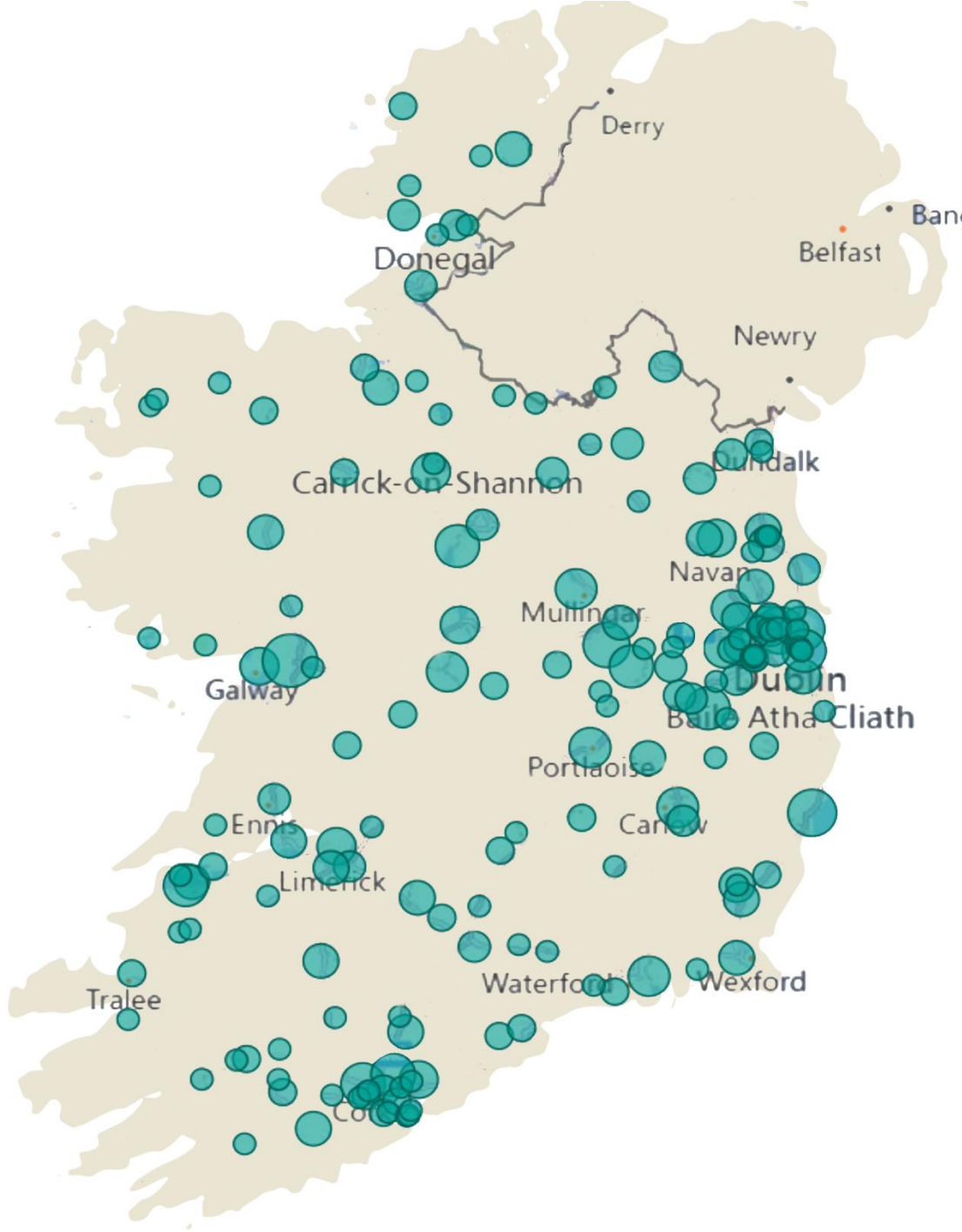
• Capacity in network allows economic growth in agri-business, pharma, FDI, hi-tech/ICT
• Help to lower electricity costs
	• Secure supply for:
	  ○ Population Growth forecasted
	  ○ Growth in EVs and electrification of railways
	  ○ Electricity to replace oil and gas heating (heat pumps)
		• Target of up to 80% generation from renewable sources
		• Grid improvements allow more renewable energy connections
			• Secure and reliable transmission grid
			• Aging assets are replaced
			• Better resistance to extreme weather
			• FDI clients benefit from resilience in the network

An Coimisiún um Rialáil Fóntais
Commission for Regulation of Utilities

Price Review 6



PR5 2021-25	PR6 2026-30
Uprate OHL 280 km	New Uprate OHL 1018 km
OHL 20 km	New OHL 179 km
UGC 83 km	New UGC 272 km
Stations 38	New Stations 65
Bays 104	New Bays 159
Transformers 14	New Transformers 19



All figures are approximate and may be subject to revision

Framework for Grid Development

Step One	Step Two	Step Three	Step Four	Step Five	Step Six
How do we identify needs of the electricity grid?	What technologies can meet these needs?	What's the best option and what area may be affected	Where exactly should we build?	Apply for planning permission	Construct, energise (make live), and share benefits.

Central to our Approach

- Inclusive consultation with local communities and stakeholders.
- We will consider all practical technology options
- We will optimise the existing grid to minimise the need for new infrastructure

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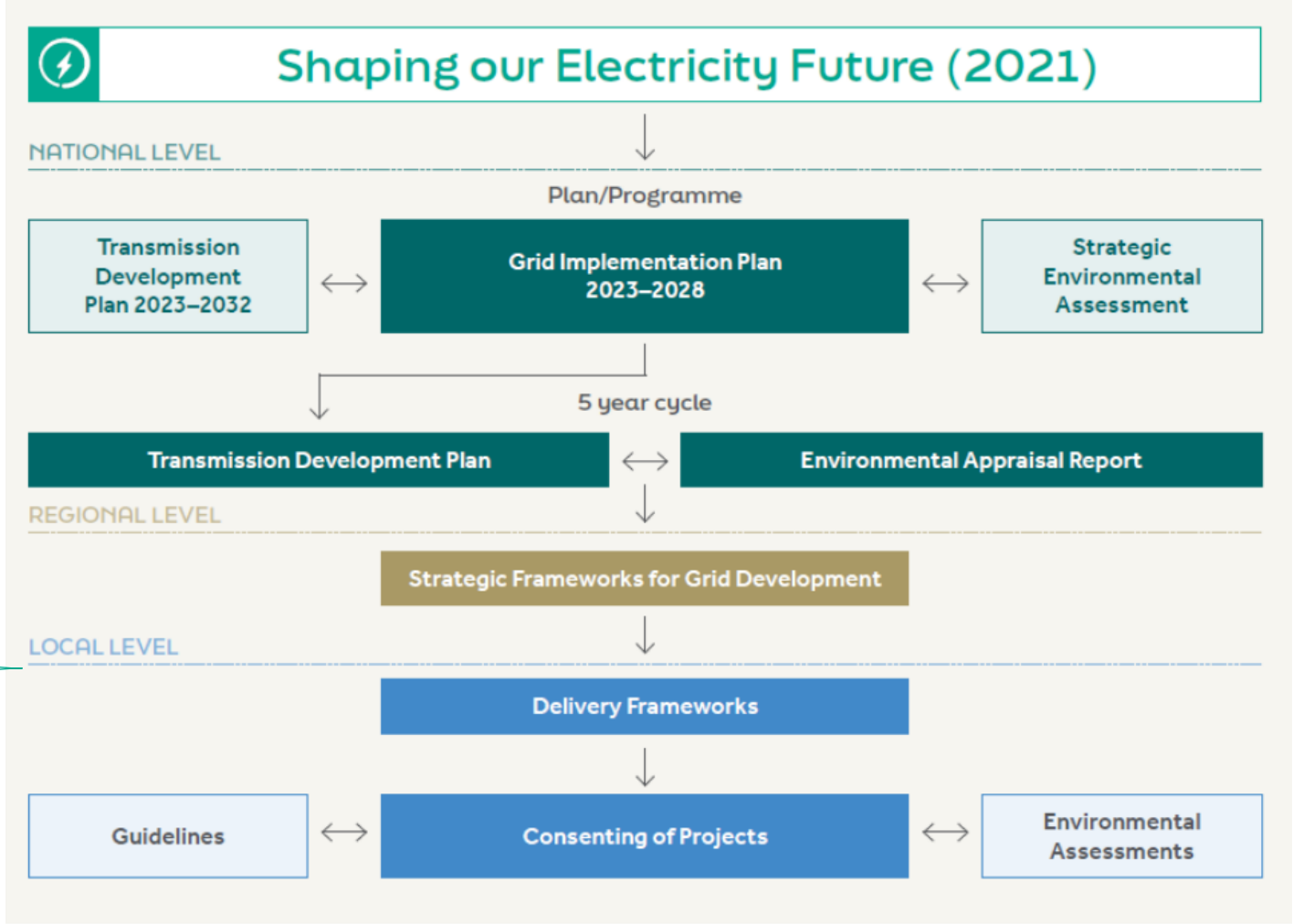
How EirGrid Plans for the Future

Policy/Legal/Regulatory Inputs
(National policy targets and direction, licence obligations etc)

Transmission Planning
(scenario planning, network modelling, asset condition, options,

Targeted grid reinforcement investment and projects
(uprates, refurbishments, extensions, replacements, new infrastructure)

Delivery
(what, where and how (consenting requirements, environmental, spatial and stakeholder inputs)



Strategic Vision
50 years

Medium Term Planning
up to 10 yrs

Dublin Region - New High Voltage Circuits

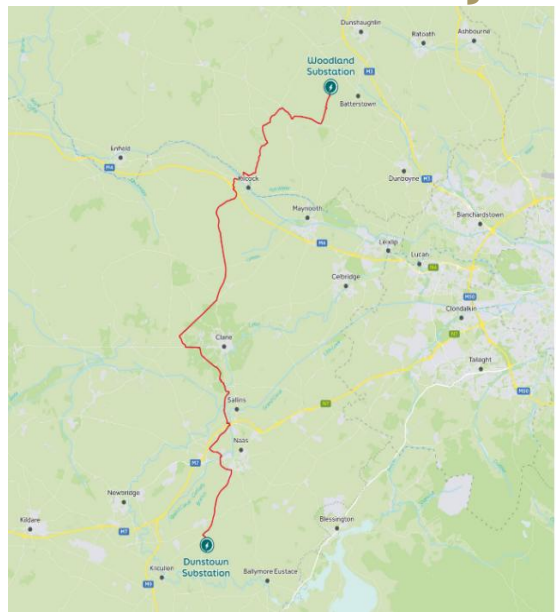
Policy/Need:
Climate targets, meeting energy demands, securing our energy supply

Transmission Planning:
Need to strengthen the grid to improve the transfer of power across the existing transmission network.

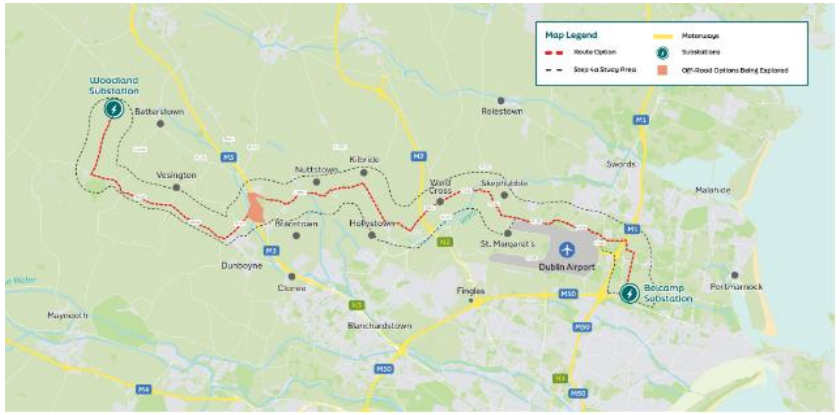
Targeted grid reinforcement:
To extend the high-capacity 400 kV transmission network around Dublin linking the key transmission nodes serving the region:
(a) Dunstown (Co Kildare) to Woodland substation (Co Meath), and (b) Woodland substation (Co Meath) to Belcamp substation (Fingal).

Delivery:
New underground cables.
Planning granted by ACP.

Kildare East Meath Project



East Meath North Dublin Project



Dublin Region - Transmission Interface Substations

Policy / Need
DSO needs more capacity at transmission interface stations (or Bulk Supply Points (BSP)) to meet demand from:

- Housing
- Electrification of heat and transport
- Economic growth
- Integration of renewables

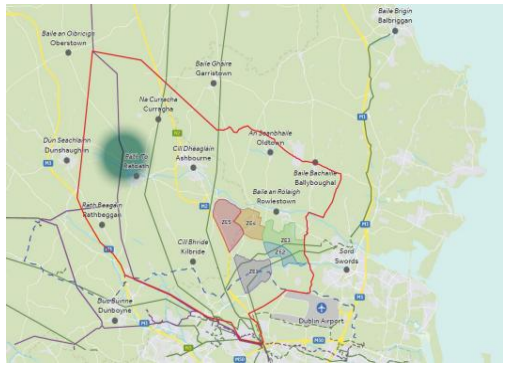
Transmission Planning:
BSPs enable higher voltage levels to step down to lower voltages 220kV/110kV which in turn is stepped down to 38 kV (and below) at substations on the distribution system.

Central Bulk Supply

Targeted grid reinforcement:
New BSP looping into an of the existing 220 kV circuit in the North Inner City

Delivery:
New 220/110kV Gas Insulated Substation at East Wall Road. Planning granted by ACP in 2025

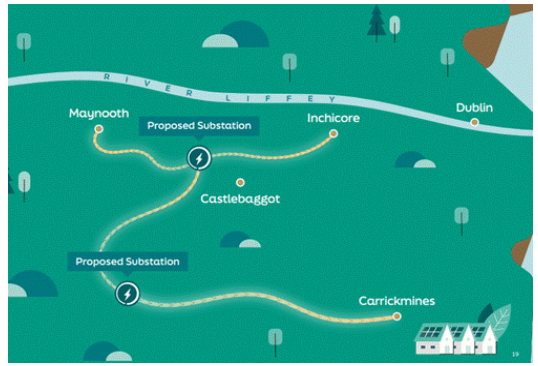
Northern Bulk Supply (Fingal East Meath)



Targeted grid reinforcement:
New substations and circuits.

Delivery:
New 400/220/110kV Gas Insulated Substation to be progressed through planning (Step 4); other projects currently in Step 3.

Southern Bulk Supply (Kildare Dublin)



Targeted grid reinforcement:
New substations and circuits.

Delivery:
Projects in different stages of Step 3.

Substation sites - location, technology (Air Insulated/Gas Insulated), scale, connectivity and future proofing

Circuits – voltage, technology (overhead and/or undergrounding), routing, etc

Interface with the Development Plan Process

How can we help you?

- National Planning Statement for Electricity Infrastructure
- Assistance for Regional Authorities
- Collaborative meetings at pre plan stage to:
- (a) explain our targeted investment requirements in your area
- (b) to explain transmission and distribution in terms of capacity and demand planning and land activation
- (c) to open up lines of communication

How can we help each other?

- Mutual understanding of projected demand growth in the area.
- To understand potential requirements for Transmission Interface Stations, and loop-in requirements and new substations.
- Explore opportunities for collaboration, identification of strategic substation sites (including state owned land) and future circuit corridors, including opportunities for advance ducting.

What we need from you?

- Clear and unambiguous policy to protect and support upgrading of existing electricity infrastructure.
- Clear and unambiguous policy for new electricity infrastructure , as identified in published transmission development plans.
- Flexible Zoning and Land Use Matrices. To increase options for the location of future electricity infrastructure.
- To facilitate discussion and collaboration between infrastructure providers on the spatial context and implications of our respective infrastructure plans and projects.

Submissions on our respective plans

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Framework for Grid Development - Development Management

Step One	Step Two	Step Three	Step Four	Step Five	Step Six
How do we identify needs of the electricity grid?	What technologies can meet these needs?	What's the best option and what area may be affected	Where exactly should we build?	Apply for planning permission	Construct, energise (make live), and share benefits.

Project Scopes:
Refurbishment: Uprate: Up-voltage: Works within existing substations: New Infrastructure

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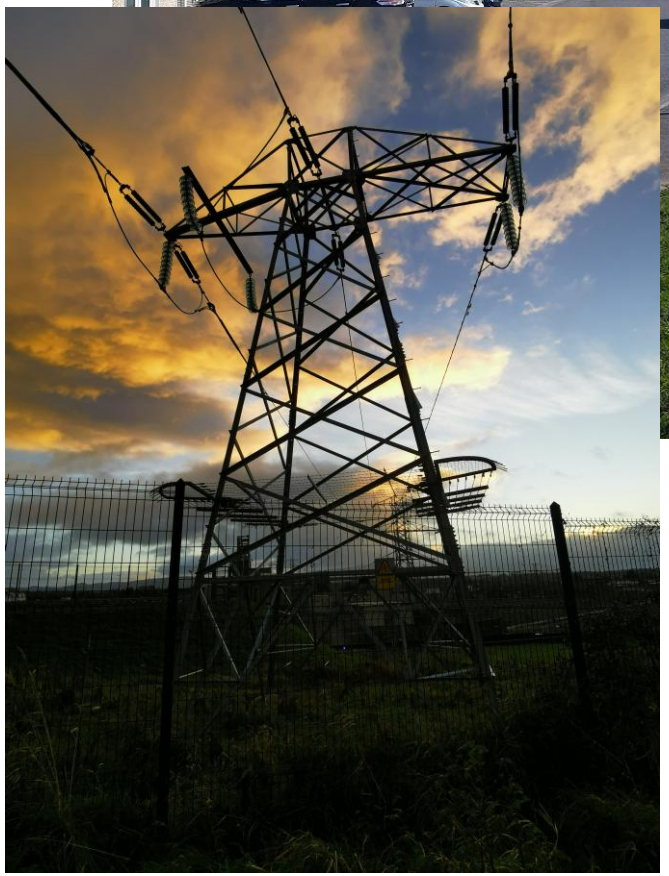
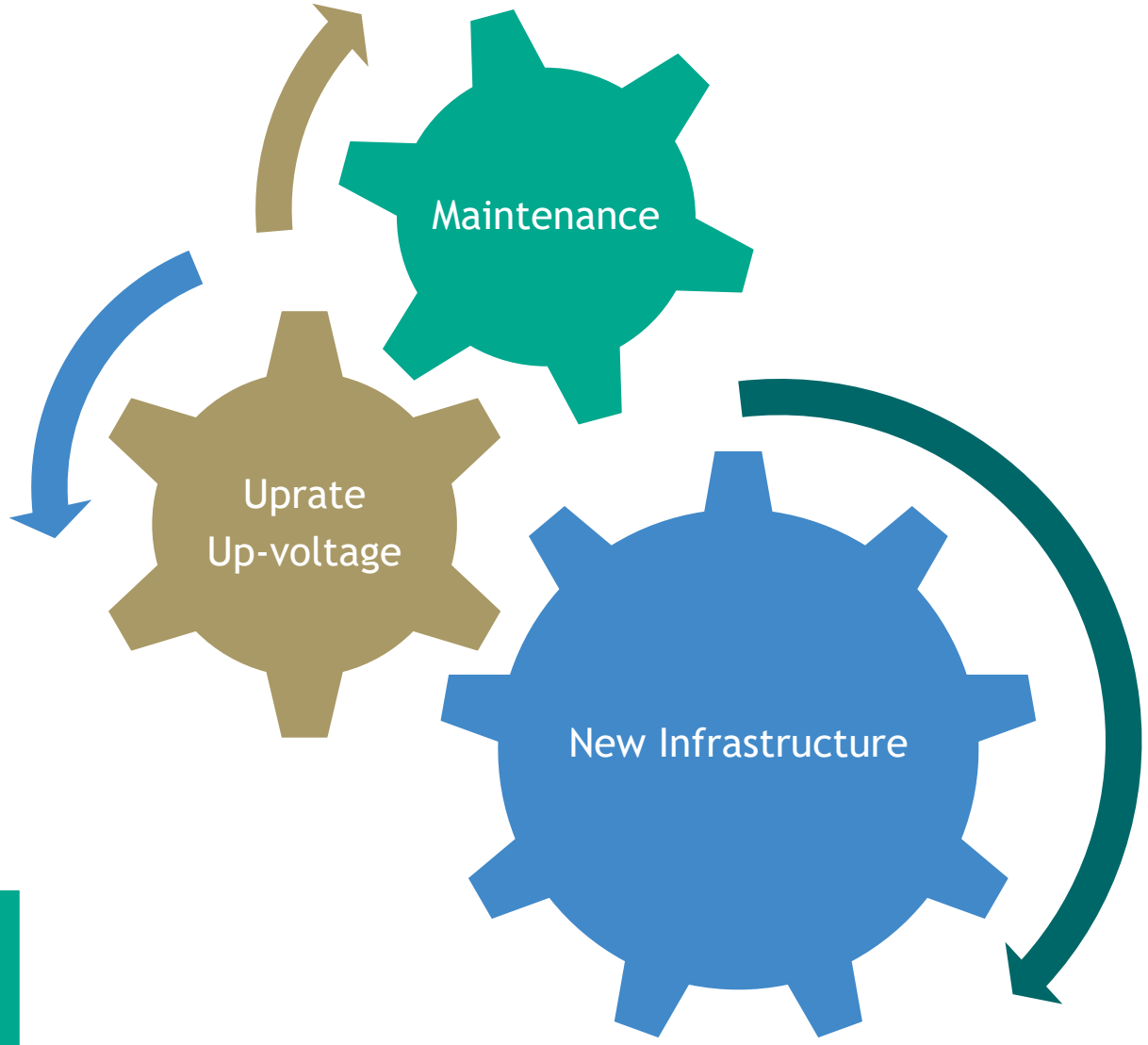


Framework for Grid Development

Planning Strategies:

- Exempted Development,
- Planning Application,
- Strategic Infrastructure Applications.



2025 Statistics

13 Grants Received,
11 Applications lodged

47 Exempted
Development
Declarations

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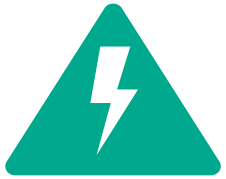
Framework for Grid Development



What EirGrid considers:

Technology requirements and limitations

Outages – dependant on grid capacity

Public Consultation

Advanced ducting

What we need from you:

Pre-planning Meetings,

Knowledge Share, sharing experience and knowledge of key issues within a planning authority,

Careful consideration of the need for RFI, using conditions where appropriate

Co-operation between councils where linear projects cross county boundaries,

Standard planning conditions and mitigations measures - OPR Guidelines

What EirGrid must provide:

Clear information at pre-planning

Comprehensive and robust planning application

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Framework for Grid Development - Public Engagement

Step One

How do we identify needs of the electricity grid?

Step Two

What technologies can meet these needs?

Step Three

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

Step Four

Where exactly should we build?

Step Five

Apply for planning permission

Step Six

Construct, energise (make live), and share benefits.

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Public Engagement - Community Benefit Funds

We create a community benefit scheme in proportion to the scale of the project and establish a Community Forum

Categories for calculate funding:

kilometre of new overhead line,

new transmission substation with a voltage of 220 kV,

underground cable project.

Three streams: Sustainability, Community & Biodiversity.

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Engaging the Public | In the Community | EirGrid

To Conclude:

Engagement:

- Strengthening relationships with planning authorities.
- Early proactive dialogue to help councils understand and assess electricity infrastructure applications effectively.
- Align County Development Plans with Grid Development Plans

Supporting future grid development:

- Facilitating early engagement and pre-planning meetings
- Knowledge sharing of key considerations
- Targeted planning conditions – OPR Guidelines

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Thank you

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