Shaping our electricity future

Preparing for at least 70% clean electricity by 2030

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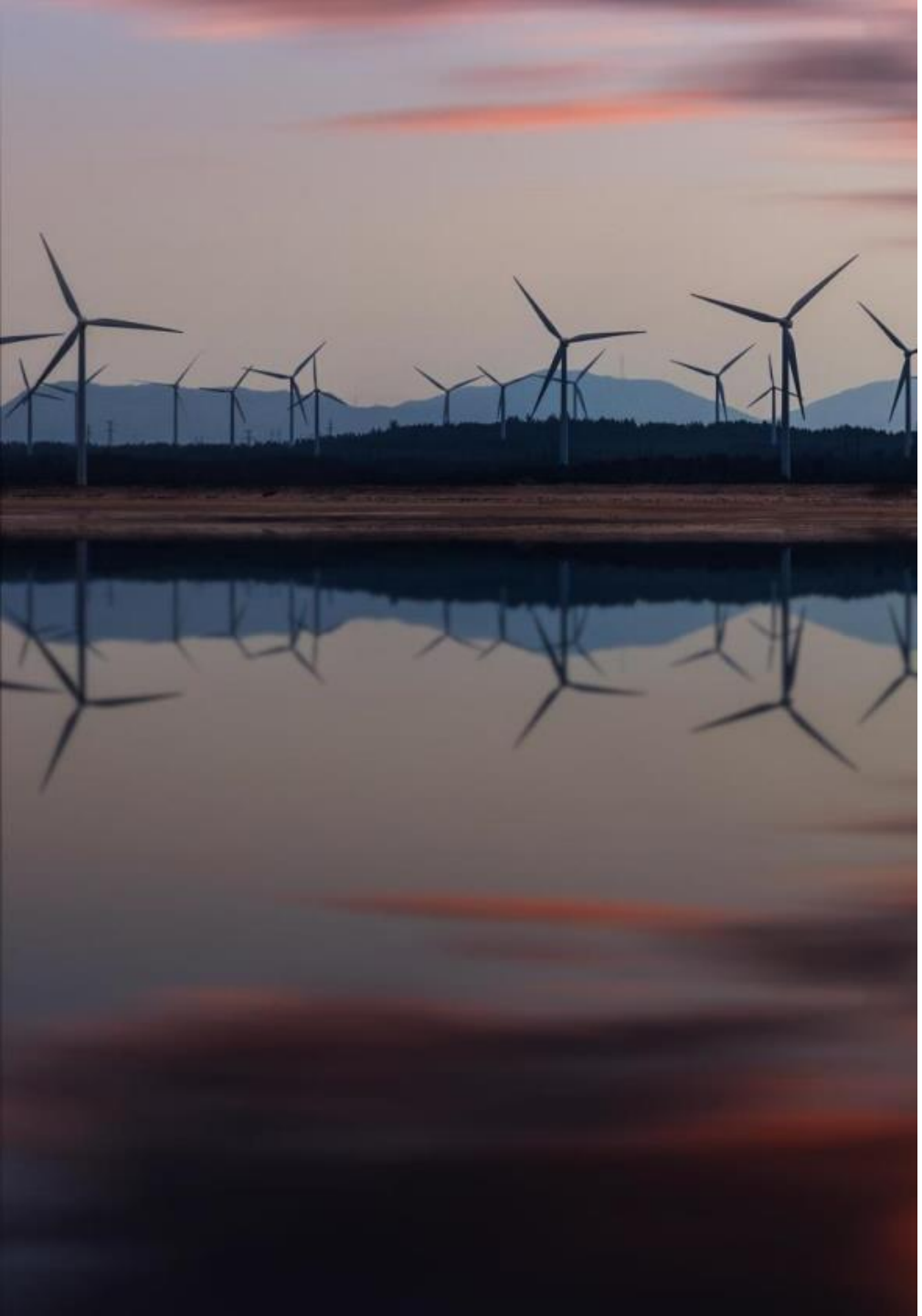

Agenda

10:00 Welcome and Introduction

10:10 Preparing the Grid for 2030

Presentation / Q&A

10:45 Facilitated Discussion

11:20 Break

11:30 Facilitated Discussion

12:10 Reflection and Final Questions

12:30 Close

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We are all here because climate action matters to us, but who is in the room?

You	People from a range of civil society organisations from across Ireland.
Chair	Marie Donnelly. Chair of Ireland's Climate Change Advisory Council
EirGrid	To present their plans for the project, listen to your feedback and answer your questions.
Traverse and Quality Matters	Independent research and engagement organisations providing the technical support, breakout group facilitation and note-taking.

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How this forum works

- **Use the chat function**
  - for comments and questions
  - To let us know if you can't see us or hear us
- **Your space**
  - Don't worry about children, pets or backgrounds
  - Consider using a virtual background instead of turning your camera off
- **Mute** your mic unless you are talking
- We are **recording** this dialogue for note taking and analysis
- Let's ensure everyone feels comfortable to contribute by providing a respectful and safe space

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What is the purpose of this forum?

To have an open, transparent and meaningful discussion about EirGrid's four approaches to preparing the grid for a clean energy future.

To understand what influences your views.

Shaping our electricity future

Preparing for at least 70% clean electricity by 2030

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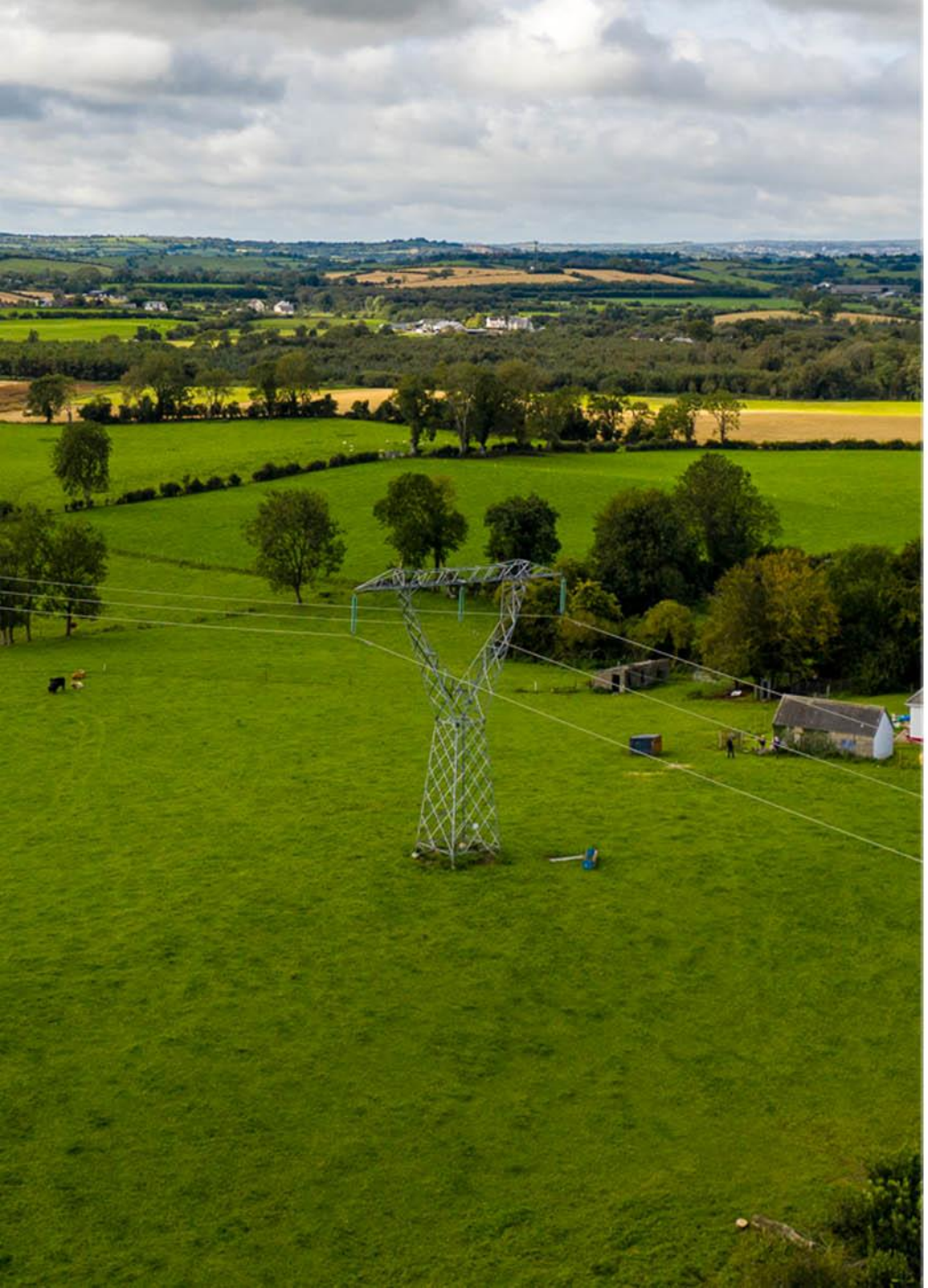

Introduction to EirGrid

- EirGrid operates and develops the electricity grid in Ireland. We send power from where it is generated to where it is needed.

- We are owned by the Irish Government, and we are a regulated utility. This means we operate solely for the benefit of the electricity user.

- We do not generate electricity – we bring it from generators across the grid. We also operate some interconnectors with neighbouring electricity grids.

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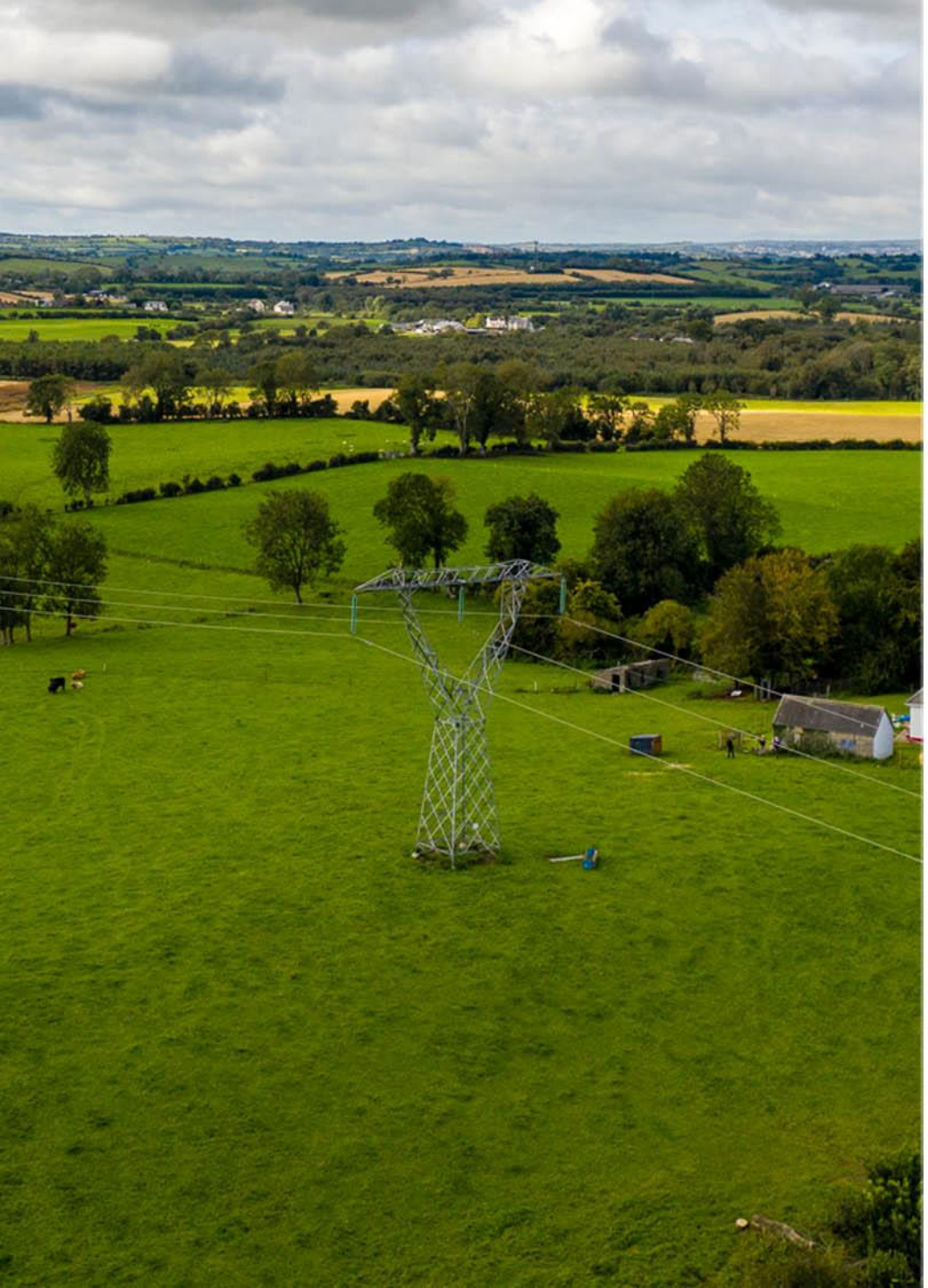

Introduction to EirGrid

- We run the wholesale electricity market. This ensures electricity is always available at the most economic price possible.
- We do not own the electricity grid, and have no vested interest in adding to it.
- We only upgrade or add to the grid in response to government policy, or where it is an essential response to secure Ireland's electricity supply.

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#Shaping
The Government has asked us to prepare the grid so at least 70% of Ireland's electricity can come from renewable sources by 2030.
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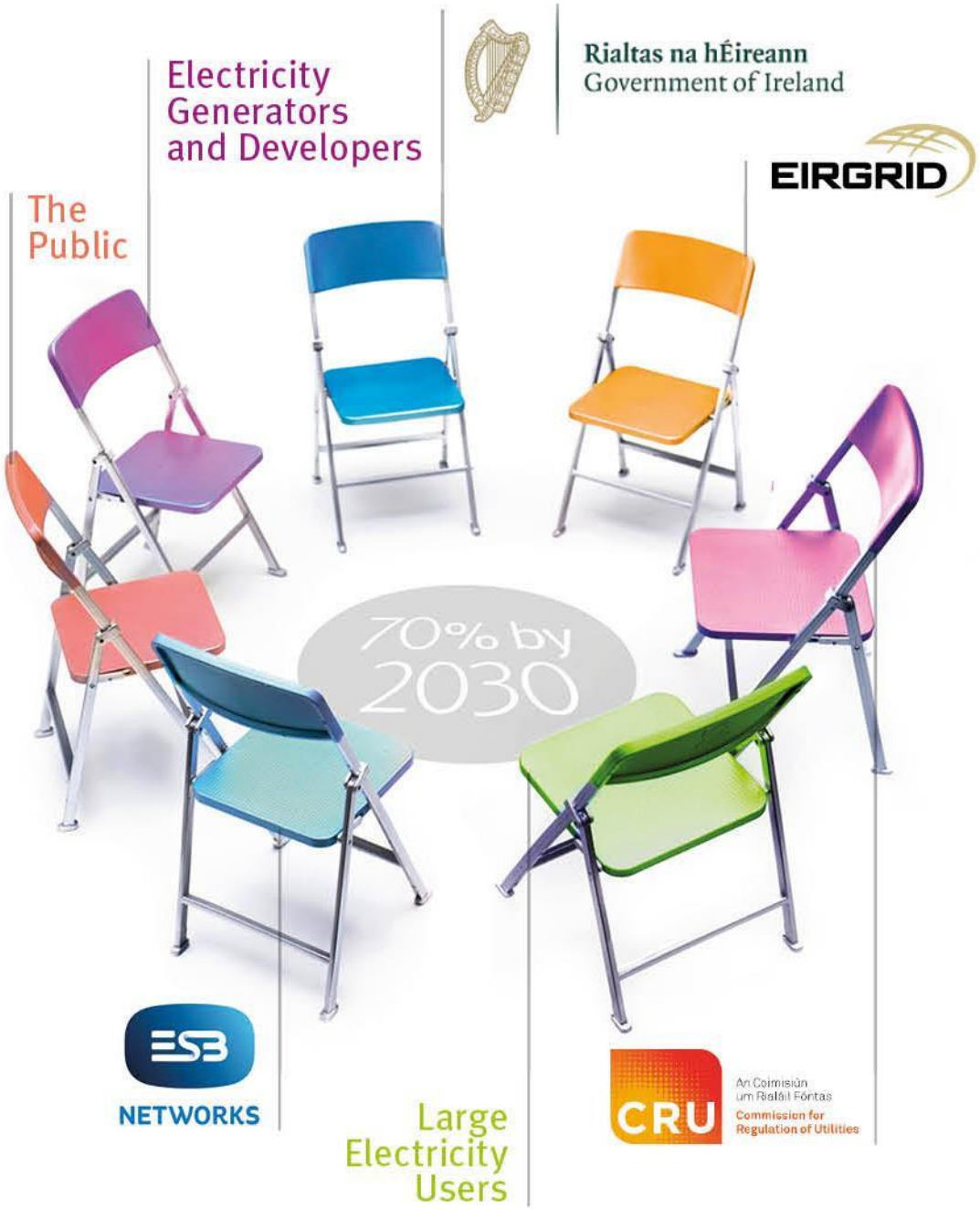

Partnership

- The goal of 70% by 2030 is driven by government policy.
- Achieving this goal will need flexibility and innovation across the electricity sector and society.
- Some of the approaches depend on the actions of stakeholders like you to succeed.
- All approaches need timely public consent – which is why we're consulting so extensively.

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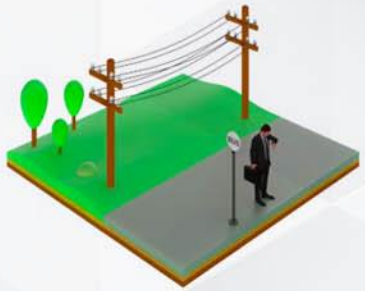
How does the grid work?

Generation companies create electricity and compete to supply it at the best price.

EirGrid ensures there is enough electricity, then safely delivers this directly to large energy users and all around the grid.



ESB Networks take electricity from the grid and send it to everyone who needs it.

Consumers choose an electricity supplier, confident that they'll have a reliable and secure supply – now and in future.

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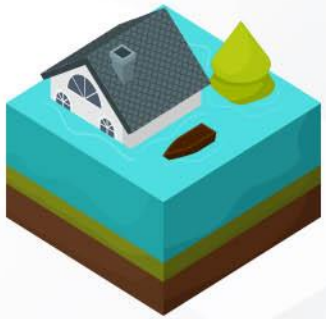
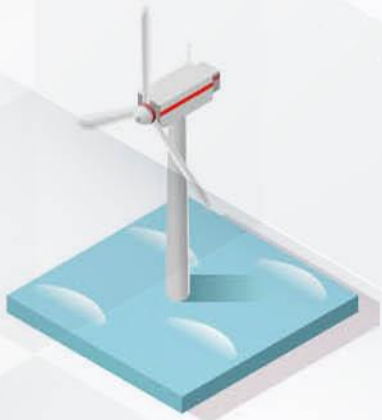
Why is electricity a solution to climate change?

Burning **fossil fuels** creates carbon emissions



Carbon emissions create **climate change**



Electricity can be generated from clean and renewable sources with no carbon emissions

Clean electricity from renewable sources will **replace fossil fuels**

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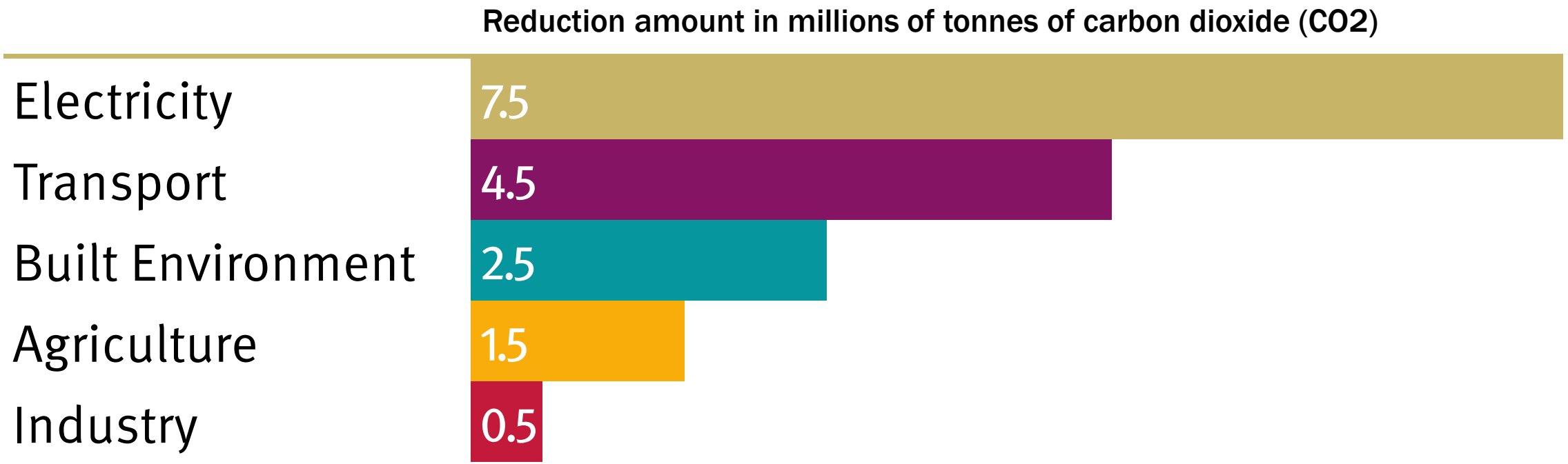
Climate Action Plan Targets



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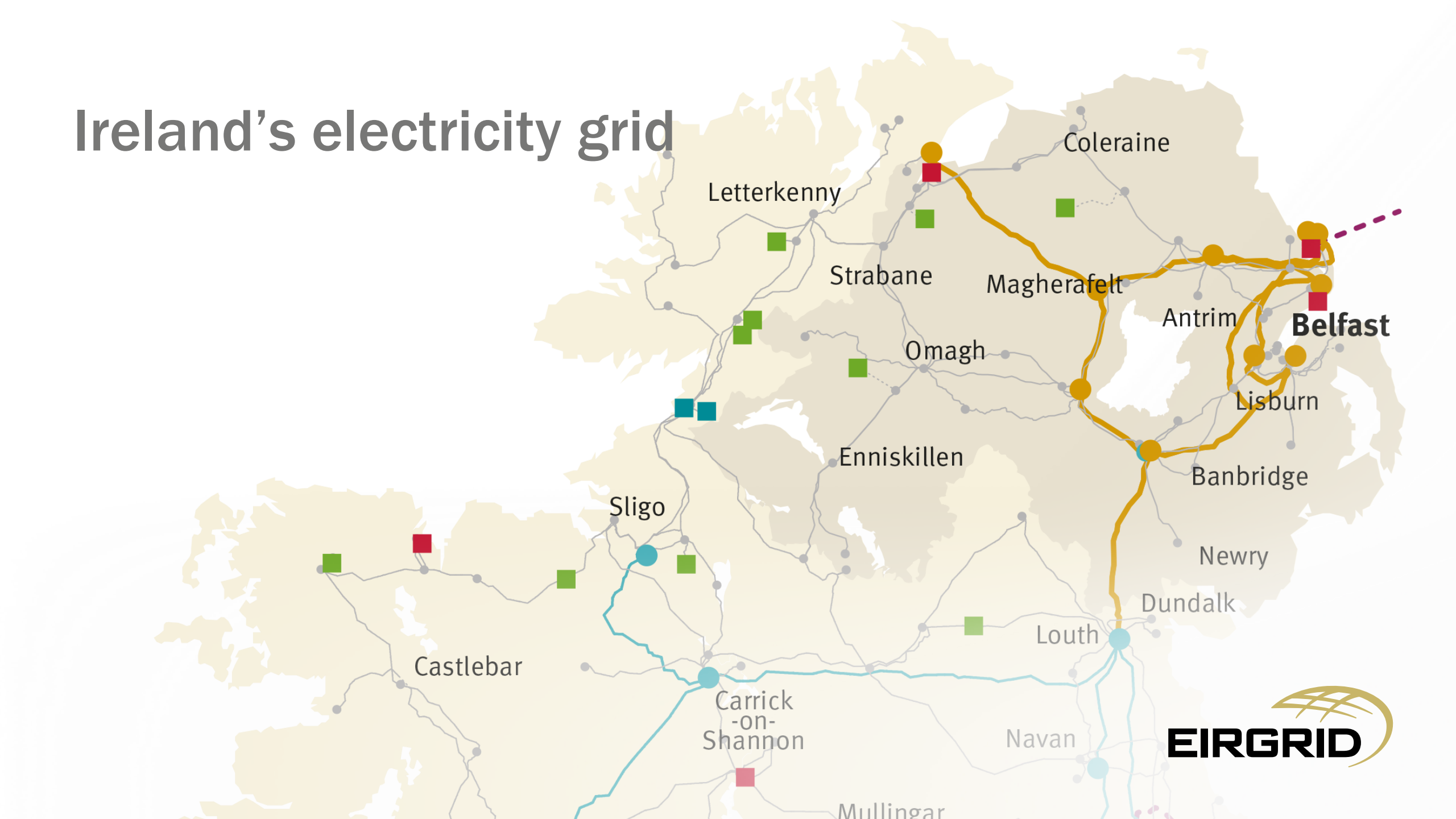
Ireland’s electricity grid



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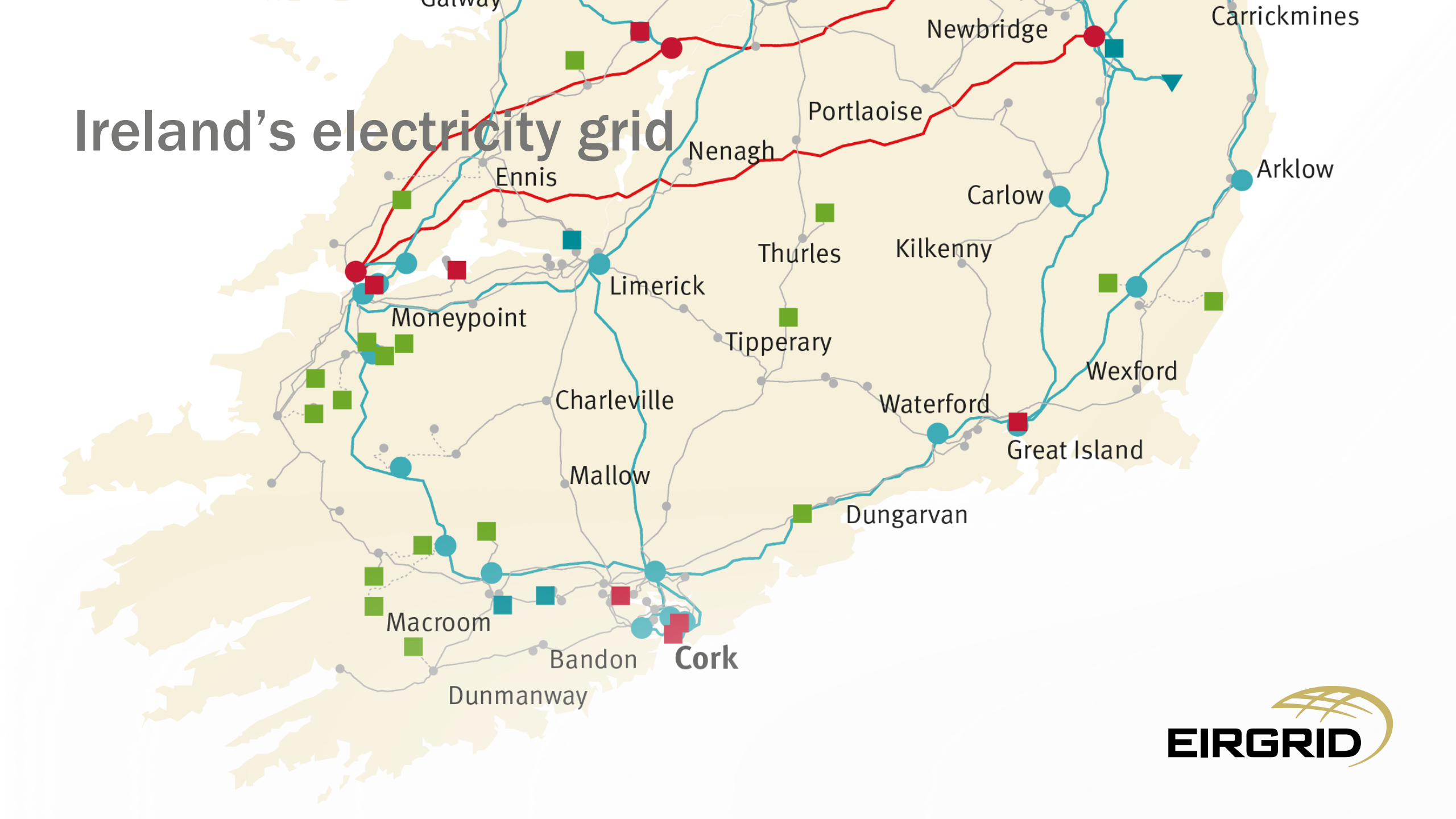

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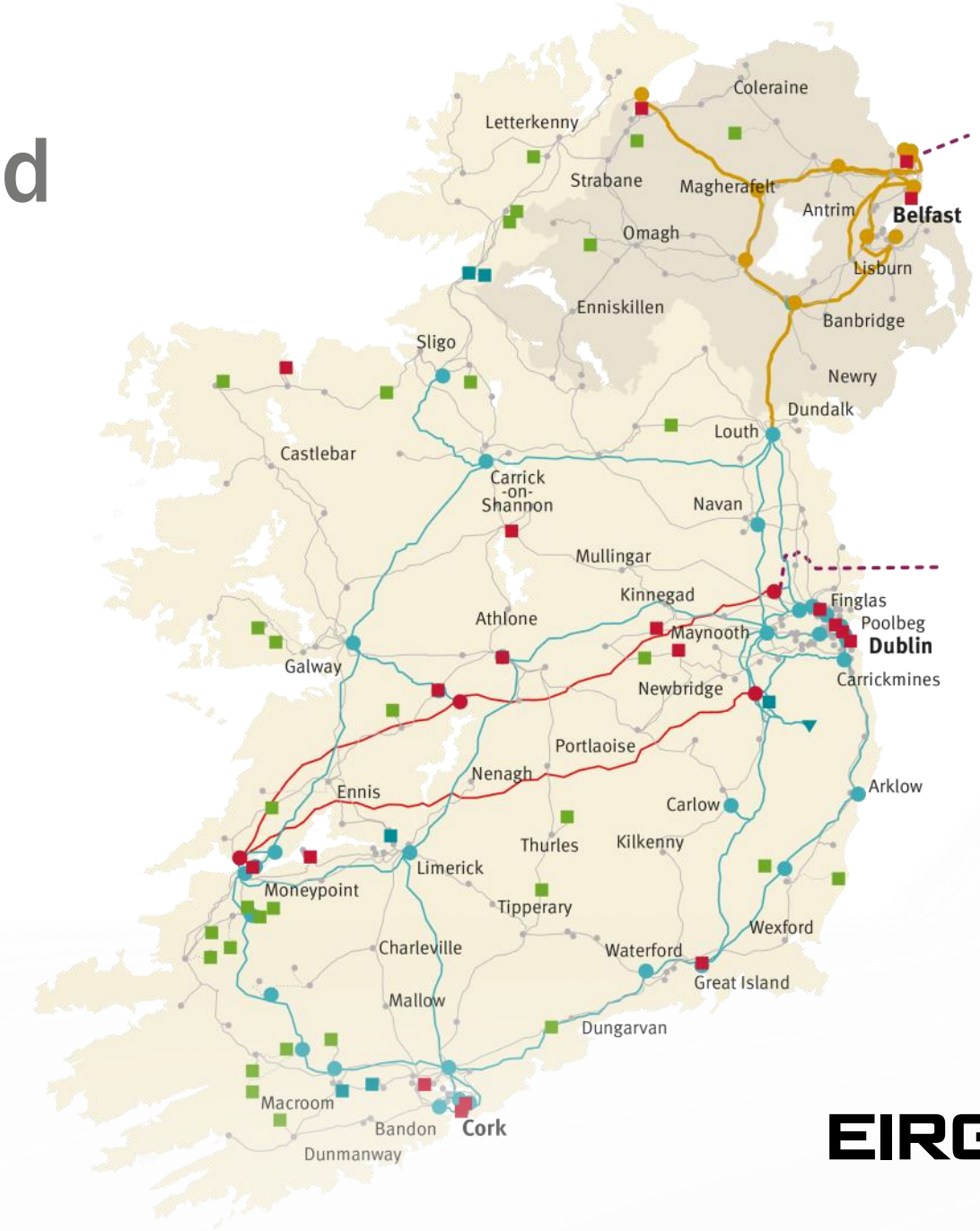

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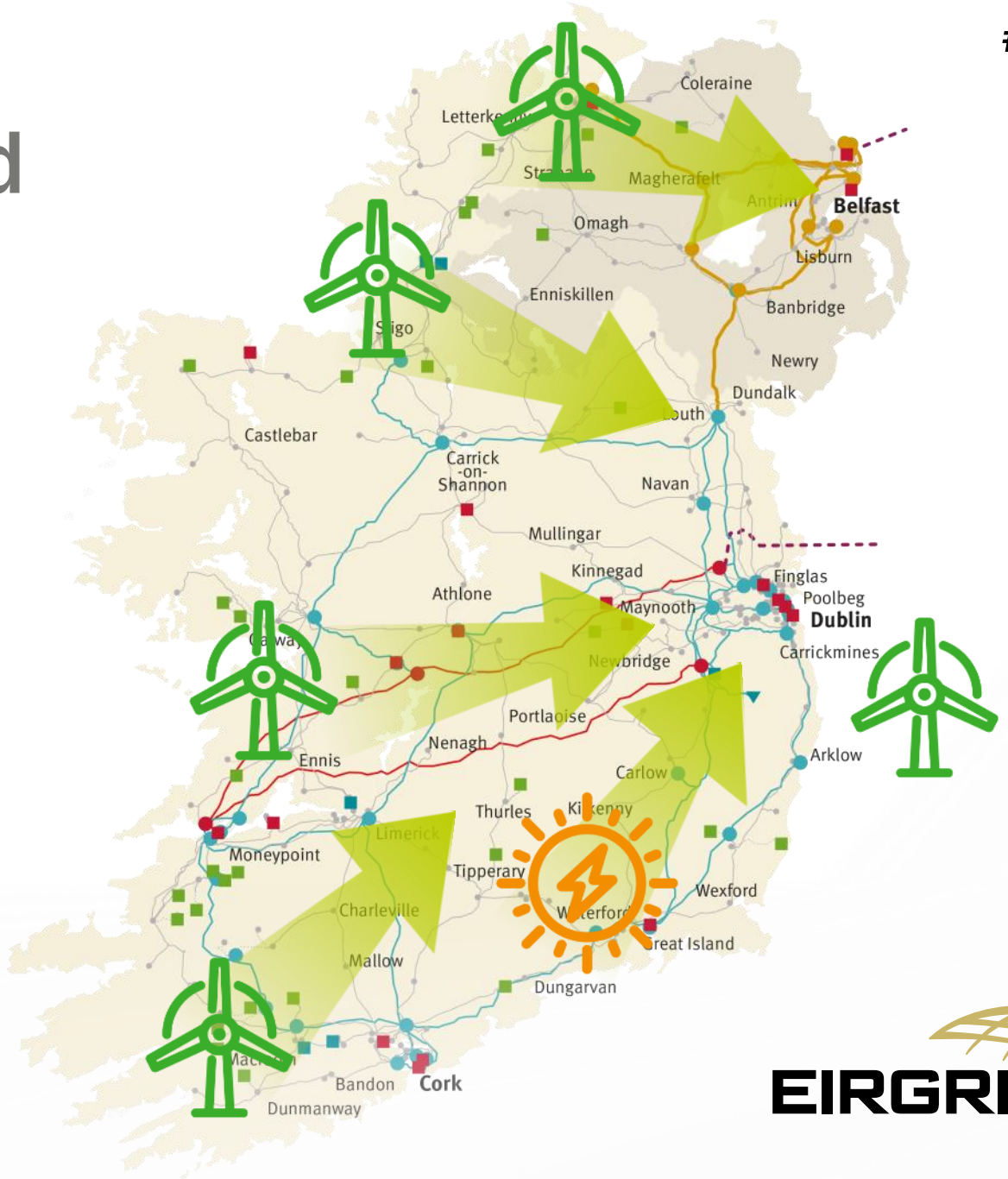
Ireland's electricity grid

- More electricity will be carried across this grid than ever before, and most of this power will come from renewable sources.
- The grid needs to carry at least 10 GW more renewable electricity by 2030 – double 2020 levels.
- Power output from renewable sources depends on the weather.
- Renewable electricity is typically generated far away from where most electricity is used.



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To achieve at least 70% clean electricity by 2030, we need to make the grid stronger and more flexible.

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How should we achieve this goal?

Four draft approaches to reach 70% by 2030

1 Generation-Led

Put clean electricity generation close to where most power is used

2 Developer-Led

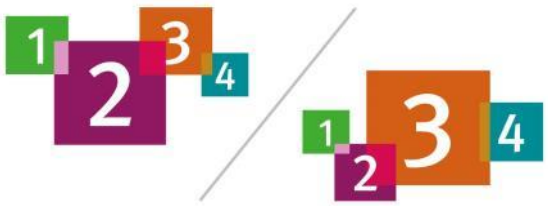
Let developers decide where to locate clean electricity generation

3 Technology-Led

Try new ways to move clean electricity across the country

4 Demand-Led

Put large electricity users close to sources of clean electricity generation



Our final plan will include elements of all approaches, strongly led by one of them.

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1 Generation-Led

Put clean electricity generation close to where most power is used

- Government policies would determine the best location of new renewable generation.
- Preferred locations will consider the strength of the existing grid and the local demand.
- Likely to lead to more offshore wind generation close to major cities, with less need for new onshore renewable generation.
- Requires around 38 projects / €0.7bn
  4.5 GW offshore wind (east coast)
  1 GW solar energy and inland wind farms
- **Highly likely to succeed**

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2 Developer-Led

Let developers decide where to locate clean electricity generation

- Continue to connect new sources of renewable electricity in any location that developers request.
- This will create a need for a very large number of grid development projects – that cannot be delivered for many years after 2030.
- This approach would also see more power being generated than can be used.
- Requires over 77 projects / €1.9bn
  4 GW from inland wind farms
  2 GW each from solar and offshore wind
- **Highly unlikely to succeed.**

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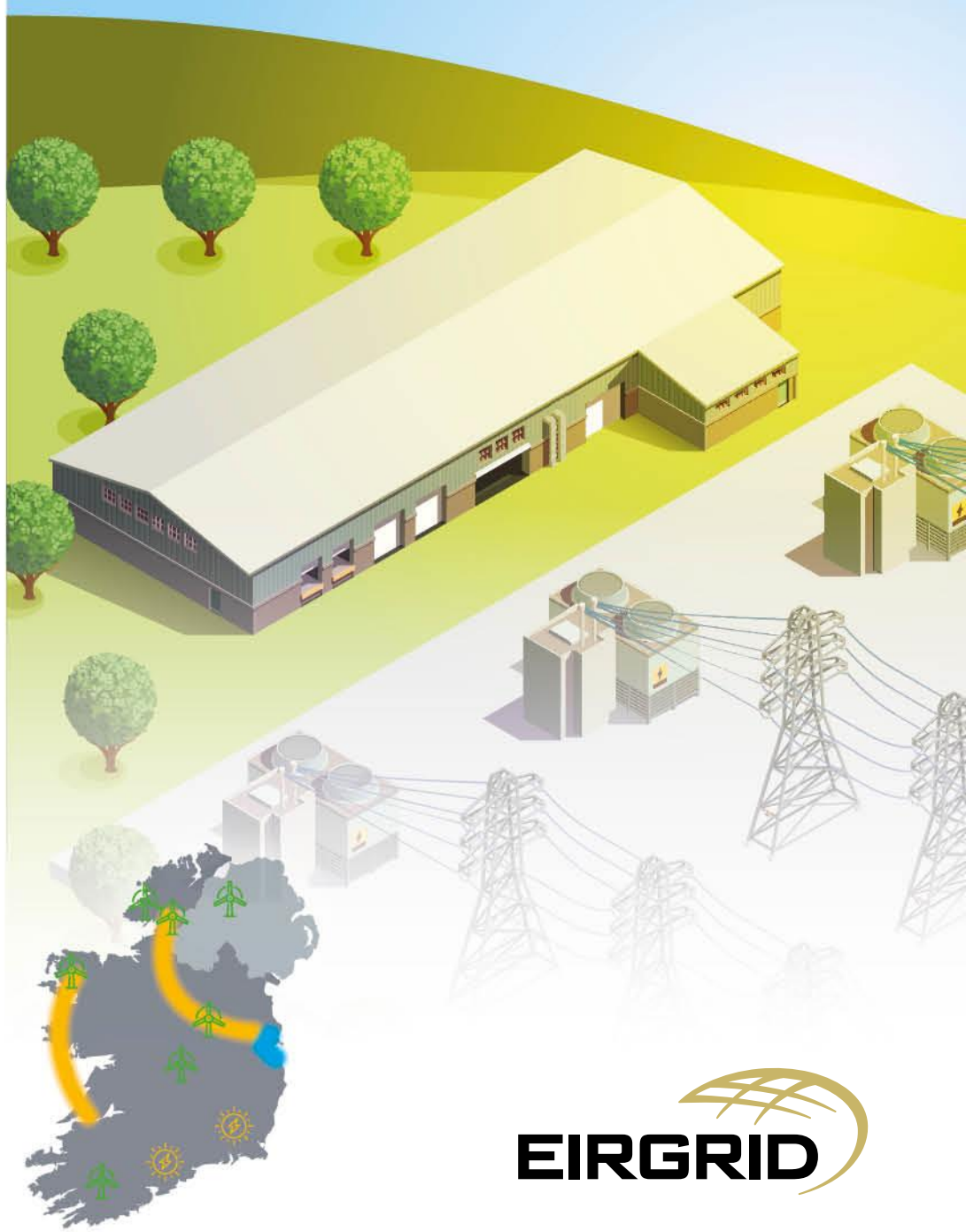
3 Technology-Led

Try new ways to move clean electricity across the country

- Use innovative ways to move clean electricity from the west coast to the east coast.
- This will involve isolated underground cables carrying high voltage direct current – directly from renewable sources to east coast cities.
- These cables would not integrate with the rest of the grid. They need large, expensive and complex converter stations at both ends of each cable.
- Requires over 46 projects / €1.5bn
  4 GW from inland wind farms
  2 GW each from solar and offshore wind
- **Very challenging to complete in time.**



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4 Demand-Led

Put large electricity users close to sources of clean electricity generation

- Government policies would determine the best location for large-scale electricity users. These users, such as data centers, could use 27% of all the electricity on the grid by 2030.
- This means new high-demand customers would locate closer to sources of renewable electricity, and where the grid is already strong.
- Requires over 41 projects / €0.5bn
  4 GW from inland wind farms
  2 GW each from solar and offshore wind
- **Requires large electricity users to locate in preferred locations to succeed.**

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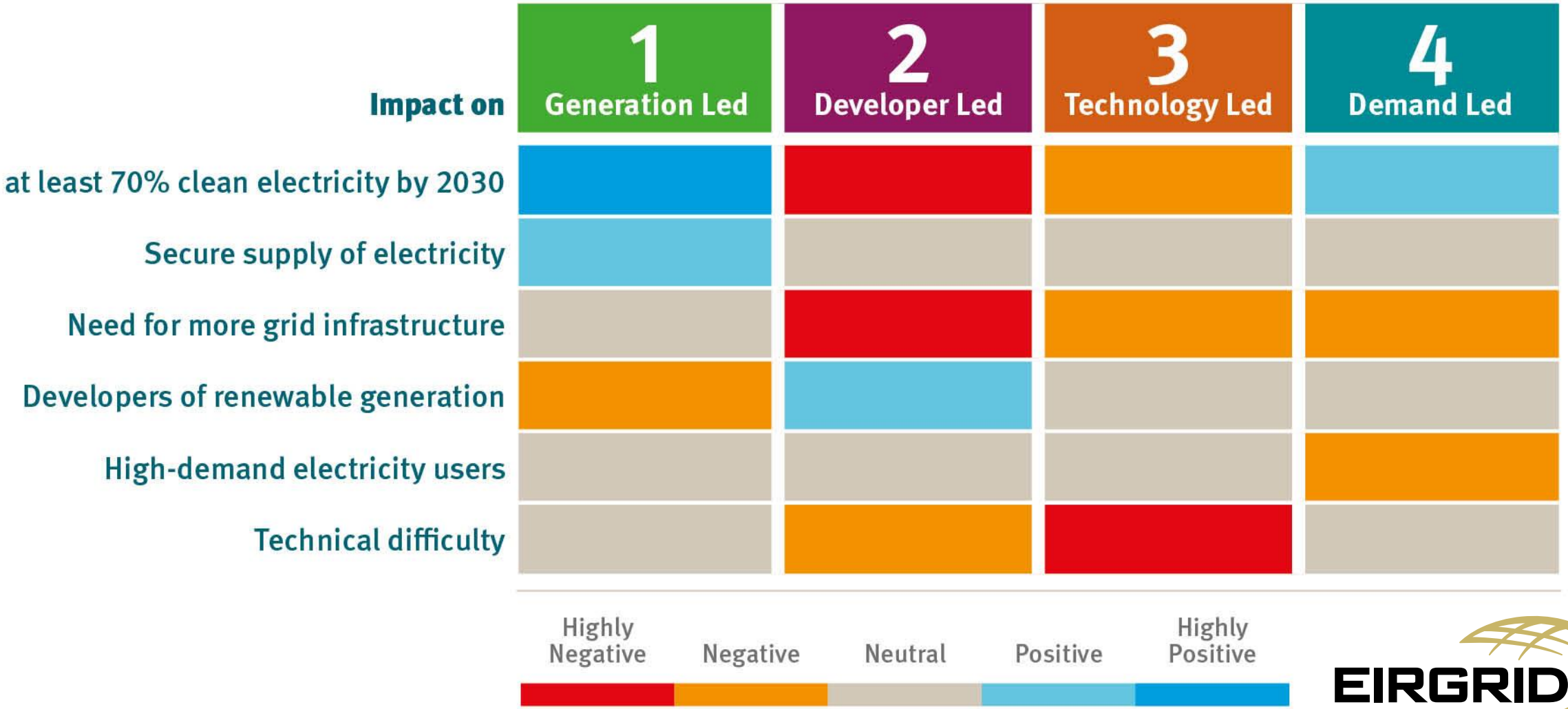
How do these different approaches compare?



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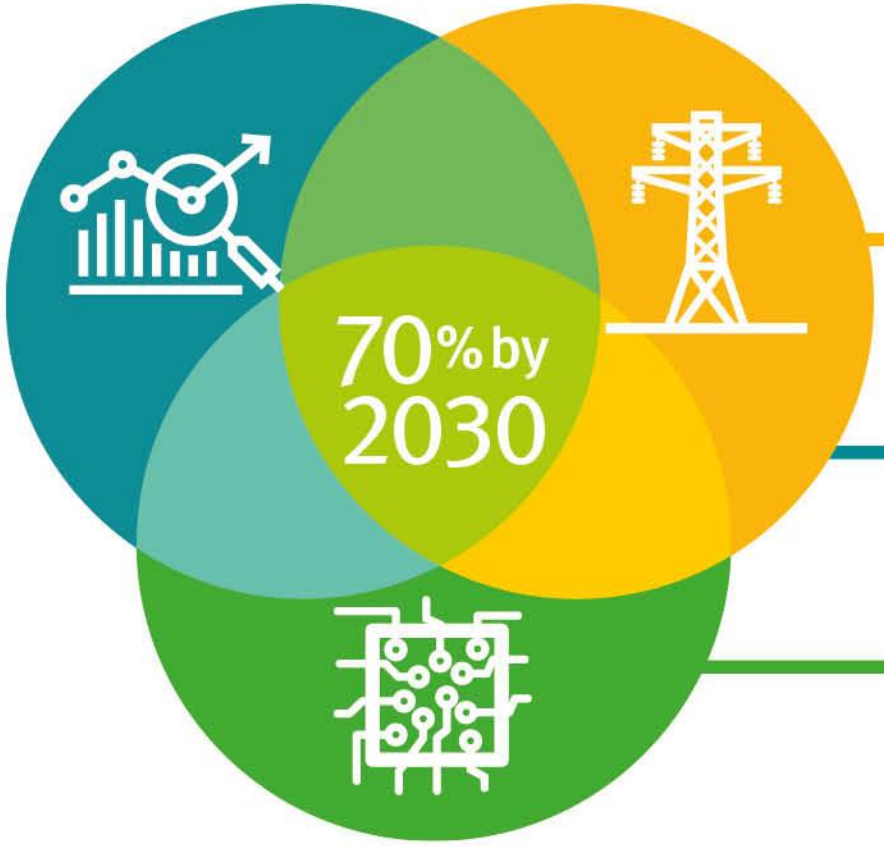
What must change to reach at least 70% by 2030?



How we plan the electricity grid

How we run the electricity markets

How we operate the electricity grid

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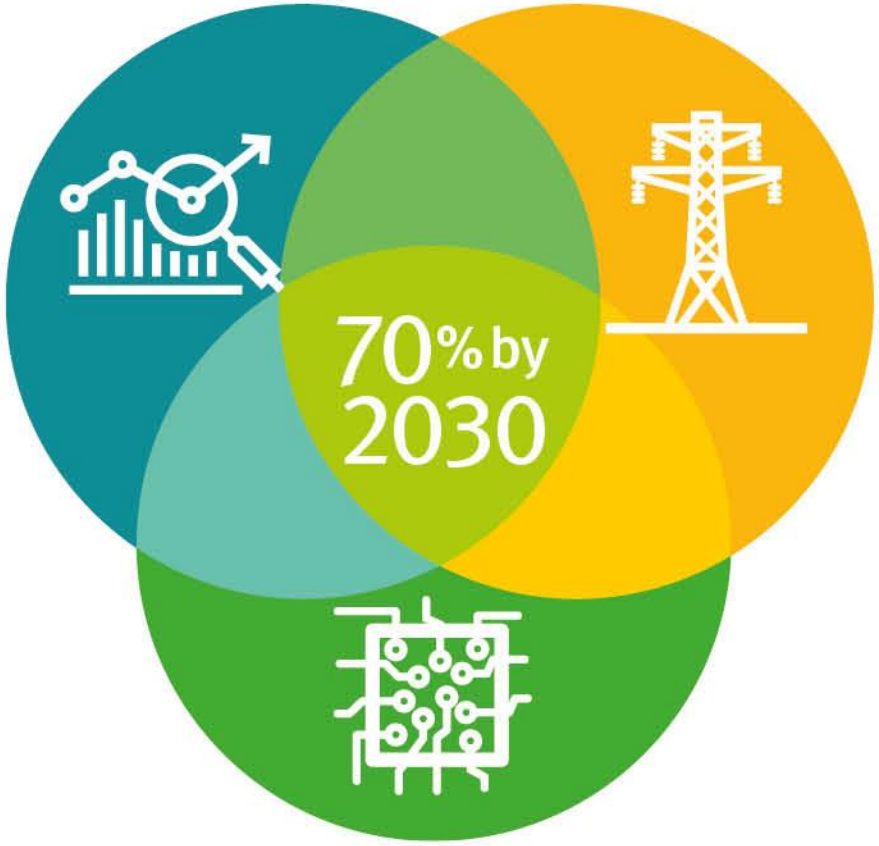
What must change to reach at least 70% by 2030?



How we run the electricity market

- We don't generate electricity – we operate all-island markets that allow generators compete to supply power.
- These markets are subject to regulatory rules, largely driven to the goal of achieving the lowest possible price.
- Lowest possible price for renewable electricity is much lower than fossil-fuel generation: This model will not sustain the cost of developing new sources of clean electricity.
- The markets also need to fund investment in technical solutions to maintain the resilience of the electricity system when there is less wind or sun.
- Consulting with electricity sector to find the best response.

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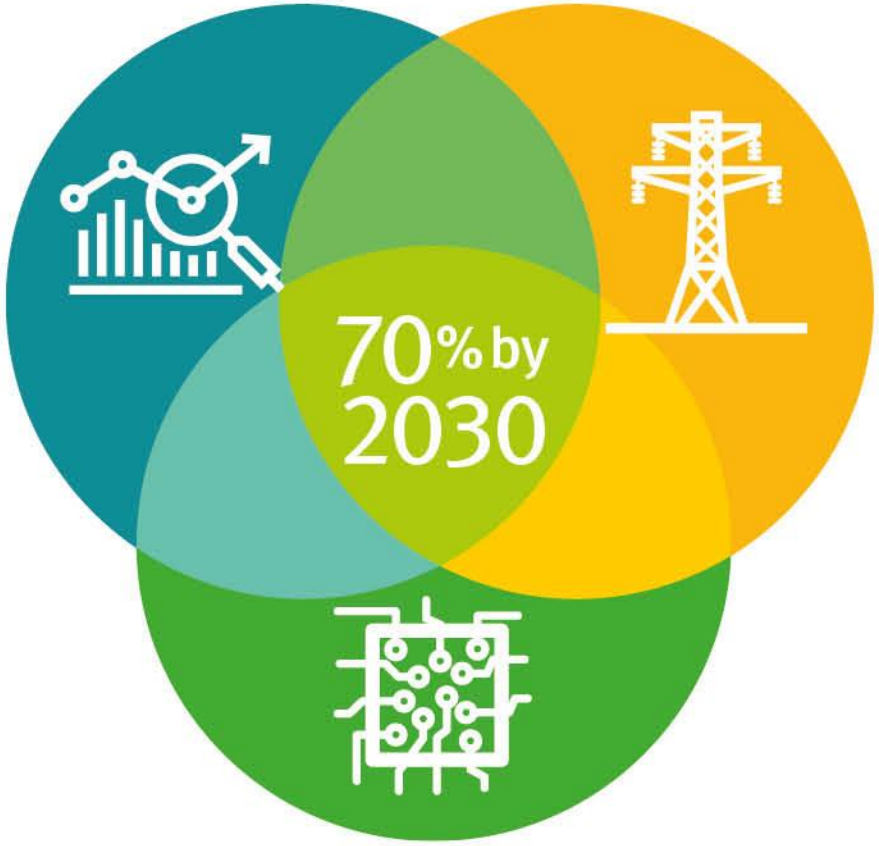
What must change to reach at least 70% by 2030?



How we operate the electricity system

- Many technical issues to run the grid when most power comes from renewable sources.
- Principal challenge: electricity generated from renewable sources has a different frequency to electricity generated from burning fossil fuels.
- Overriding goal is to ensure your supply of electricity remains secure and stable.
- New technical solutions, policies and tools needed.
- Consulting with electricity sector to find the best response.

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We are committed to a collective and collaborative form of decision-making. We want to hear from you to shape our final plans.
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Engaging with our stakeholders

Society

- Academia
- Agriculture
- Community
- Environment
- Lobby Groups
- NGO
- Public / Consumer

Industry

- Partners
- Generators
- Customers
- Providers
- Storage
- Developers

Statutory

- Governments
- Regulators
- Agencies
- Politicians
- UK and EU

Targeted, meaningful and collaborative engagement experience.

Irish Rural Link
Nasc Tuaithe na hÉireann

national youth council of ireland
COMHAIRLE NÁISIÚNTA NA NÓG

Chambers Ireland
Advancing business together

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- With your help, we can continue to lead the world in how much of our electricity comes from clean, renewable sources.
- Ireland can make a meaningful difference to a global crisis, but it will mean embracing and accepting change. There may be local impacts, but they will benefit us all for generations.
- We are committed to a collective and collaborative form of decision-making. We want to hear from you to shape our final plans.

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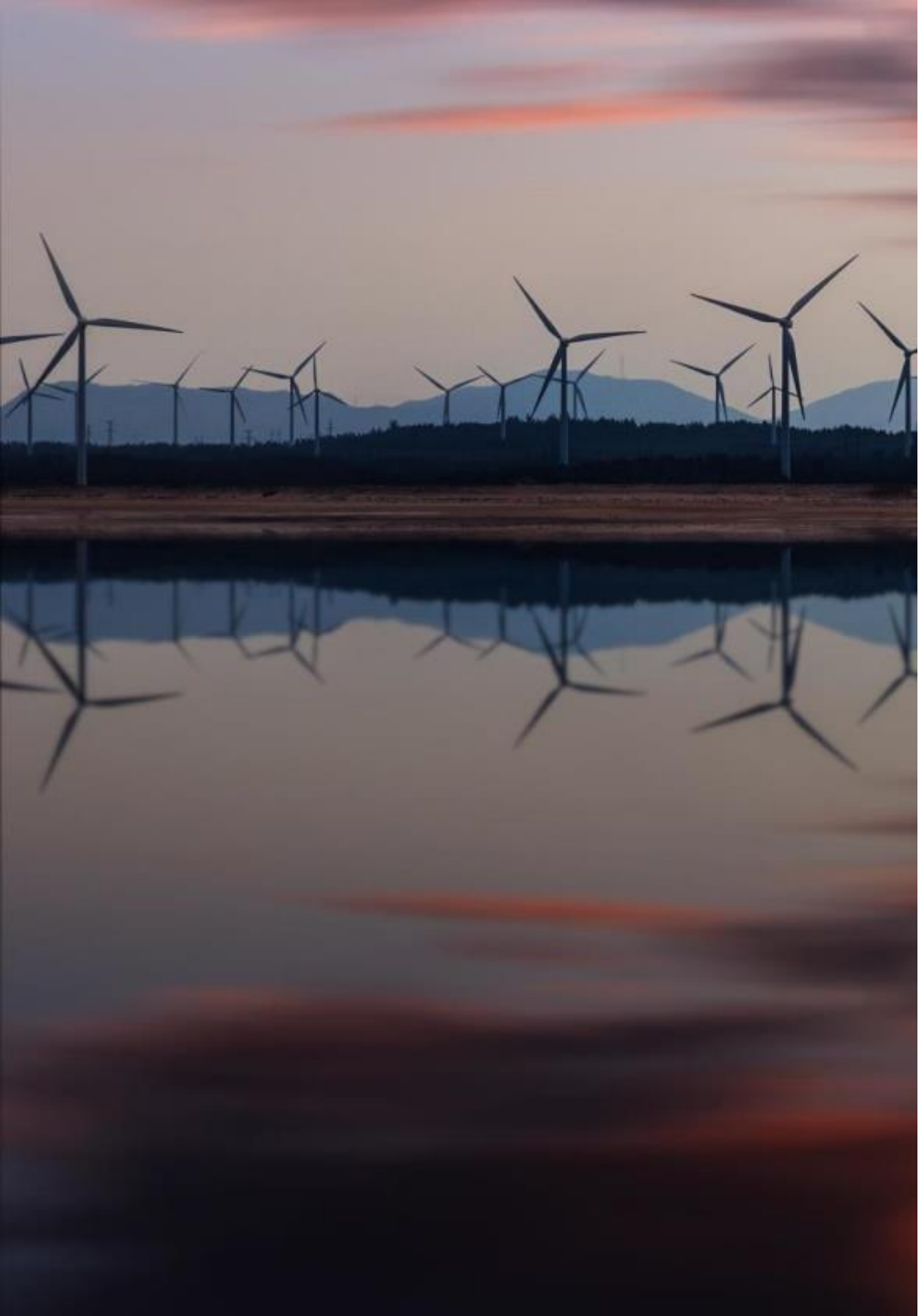
Questions



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Discussion Feedback

Submit your views

- Complete the survey or make a submission to the Public Consultation at: https://consult.eirgrid.ie/
- Send an email to consult@eirgrid.ie
- Send your submission by post:
  Shaping our Electricity Future
  EirGrid, Freepost FDN 5312
  160 Shelbourne Road
  Ballsbridge, D04 FW28
- Deadline is 12 noon on
  14 June 2021

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Thank You
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