



Shaping our electricity future

Preparing for at least 70% clean electricity by 2030



What does EirGrid do?

EirGrid plans for the future of Ireland's electricity grid and operates it every minute of every day. This includes interconnecting to neighbouring grids and running the wholesale electricity market. We ensure that everyone has power when they need it at the most economic price possible. The grid safely brings power from generators to the ESB network that supplies every home, farm, community and business in Ireland. It also brings power directly to large energy users like high-tech manufacturing and data centres.

Why is electricity a solution to climate change?

Electricity can be generated from renewable sources like wind and the sun. These sources of clean energy will reduce our reliance on fossil fuels like coal and oil. Because of this, electricity will increasingly be used for more reasons, like transport and heating. To prepare for this future, the Irish Government has asked us to make the grid ready so that at least 70% of Ireland's electricity can come from renewable sources by 2030. At present, around 40% of electricity used throughout the year comes from renewable generation. The 70% target is a step towards the ultimate goal of achieving net zero carbon emissions by 2050. This is climate action – which is essential to reduce the life-threatening risks of the climate crisis.

How will the grid prepare for clean electricity?

To prepare for this change, EirGrid must make the electricity grid stronger and more flexible. The grid will need to carry more power, and most of this power will come from renewable generation that varies depending on the weather. Where we can, we will use the existing grid to meet this goal. However, given the scale of change, we will also need to plan for a great deal of new grid infrastructure – such as underground cables, pylons and substations.

How can you help?

We want to hear your thoughts on our four draft approaches, so we can agree on an approach to reach the 2030 targets. The move to clean electricity will affect everyone in Ireland – we want to work with the public to find the best way of shaping our electricity future.

What are we asking you to consider?

This document explains proposed changes that will affect the future of electricity in Ireland. We need to add a lot of new sources of clean electricity, and these are typically far away from where electricity is used. This document suggests four draft approaches in response. We want to hear your views to help shape our final strategy.

Please read the information we've provided on our four draft approaches on pages 14-21. Then tell us what you think, using any of the contact methods listed on page 27.

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



How does the electricity grid work?

Moving large amounts of electricity around Ireland requires over 6,600km of overhead lines and underground cables. This is the grid – and it’s been safely bringing power from generators to users for decades. The map on page 7 shows where Ireland gets its electricity, and the transmission network that moves this power to where it’s needed.



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 to everyone who needs it.



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

Why are we talking about Ireland's electricity future?

The grid will require unprecedented change in the next ten years. We project that Ireland and Northern Ireland will need at least another 10 gigawatts (GW) of electricity from clean sources – if not more.

That's roughly twice as much clean electricity compared to what was available in 2020. This power will have to be generated, connected to the grid, and delivered throughout the island.

Ireland's transition to clean electricity will be challenging, but will help deliver investment and jobs. It will also make Ireland more energy-independent, and will significantly reduce air pollution caused by electricity generation.



Electricity grid – January 2021

Every line and cable on the grid operates at a certain voltage, indicated in kilovolts (kV). The higher the voltage, the more power it can carry.

High-voltage alternating current (HVAC)

- 400 kV lines
- 275 kV lines
- 220 kV lines
- 110 kV lines
- - - 220 kV cables
- - - 110 kV cables
- 400 kV station
- 275 kV station
- 220 kV station
- 110 kV station

High-voltage direct current (HVDC)

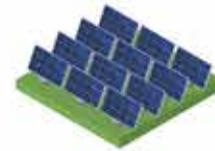
- - - Undersea interconnectors

Electricity generation connected to the grid

- Hydro generation
- Fossil-fuel generation
- ▼ Pumped storage generation
- Wind generation

This map does not show smaller-scale renewable generation connected to the ESB Networks distribution system.





How will this consultation process work?

This document is a summary of our initial thinking on how the grid could change so Ireland can have at least 70% clean electricity by 2030. There are several ways to approach this challenge, and they each have different outcomes.

This consultation is about finding a balance between the benefits and potential impacts of each approach. We want to hear what you think – to help us make decisions that reflect your views.

At the end of 2021, we aim to publish our final strategy. This will shape the next nine years of specific changes across individual projects. Each of these projects will then have extensive public consultation and will follow the normal planning process. But by talking to us now, you can affect how the electricity grid evolves in the next decade.

Why will we all be using more clean electricity in future?

After generations of burning fossil fuels, we must now work together in response to the resulting climate crisis. Without action, the changes in our weather systems will threaten how we live.

In response, governments are taking collective action to reduce carbon emissions. This means we have to find new ways to meet Ireland’s increasing need for energy without relying mainly on burning fossil fuels.

Electricity helps make this possible, as it can be generated from clean and renewable sources like the wind or the sun. These sources of energy will never run out, and they don’t have carbon emissions that cause climate change. This means renewable electricity will increasingly replace fossil fuels like coal and oil. Natural gas will still be used to generate some electricity as a backup when we can’t rely on the sun or the wind.

What does this mean for the electricity grid?

This creates several challenges for Ireland’s electricity grid.

Meeting a greater need for power

The grid will need to carry much more power. In 2020, the demand for electricity was twice the amount used in 1990. Yet that demand will increase again – and substantially – in the next ten years.

These projections are based on the increasing use of electricity for transport and heating. But they also reflect the increasing demand for electricity from high-demand users. These include pharmaceutical plants, high-tech manufacturing and data centres.

Coping with variable sources in remote locations

By 2030, most of the electricity on the grid will need to be generated from clean, renewable sources – like the wind or the sun. However, the amount of electricity from these sources depends on the weather. We can’t easily or economically store large amounts of electricity, so we have to allow for this variability. Also, Irish sources of renewable electricity have typically been far away from where most power is used.

Integrating complex forms of generation

Generating electricity from the wind or sun is technically very different from burning fossil fuels to create power. The main challenge is that renewable electricity is generated at a different frequency to the rest of the power on the grid. Adding this much electricity from renewable sources is a significant technical challenge.

The grid we have today cannot carry this much extra power, let alone move this much power cross-country from renewable sources. To prepare for this future, the electricity grid needs to be made stronger and more flexible.

Managing a decade of grid upgrades

These challenges need a decade of new projects to upgrade and add to the grid. Without this work, Ireland won’t be able to rely on a secure supply of electricity, and we won’t have at least 70% of this power coming from clean sources by 2030.

Finally, this consultation presumes that existing grid upgrades – such as the North South Interconnector – will go ahead as planned and on schedule. Without these existing projects, it will be difficult if not impossible to achieve 2030 goals.

Building and improving partnerships

All our draft approaches depend on support and flexibility from our partners and stakeholders. This includes Government, regulators, and from all those who work with us on Ireland’s electricity system.



What are the challenges of clean electricity?

EirGrid does not generate electricity – we transport it from generators across the grid. We use the grid to supply power directly to large energy users and to ESB Networks. They then distribute electricity to every user in the country, including hospitals, schools and homes.

We know that there will be enough new sources of renewable electricity to meet 2030 targets. But we don't know if the electricity grid will be ready to carry this power. As a result, the electricity grid – including the regulations and policy that affect the grid – needs to change.

The changes we discuss in this consultation are so the grid can meet the unique challenges of renewable electricity. This form of energy:

- is generated far from where it's needed;
- comes from variable sources; and
- has a different frequency to the rest of the power on the grid, and so is technically harder to work with.

Dealing with remote locations

We are obliged to connect new generators to the grid, no matter where they choose to locate. Ireland's greatest source of renewable energy is wind, and the strongest and most reliable source of inland wind power is in the west of Ireland. Similarly, the greatest potential for solar power is in the south of the country. However, most of Ireland's electricity is used on the east coast.

Moving this much power across the country is a huge challenge. We need to make the grid strong enough where we're connecting renewable generators, then build or strengthen our network to move their power. This would require a huge number of projects to upgrade or add to the grid.

Upgrading the grid without disrupting your supply of electricity

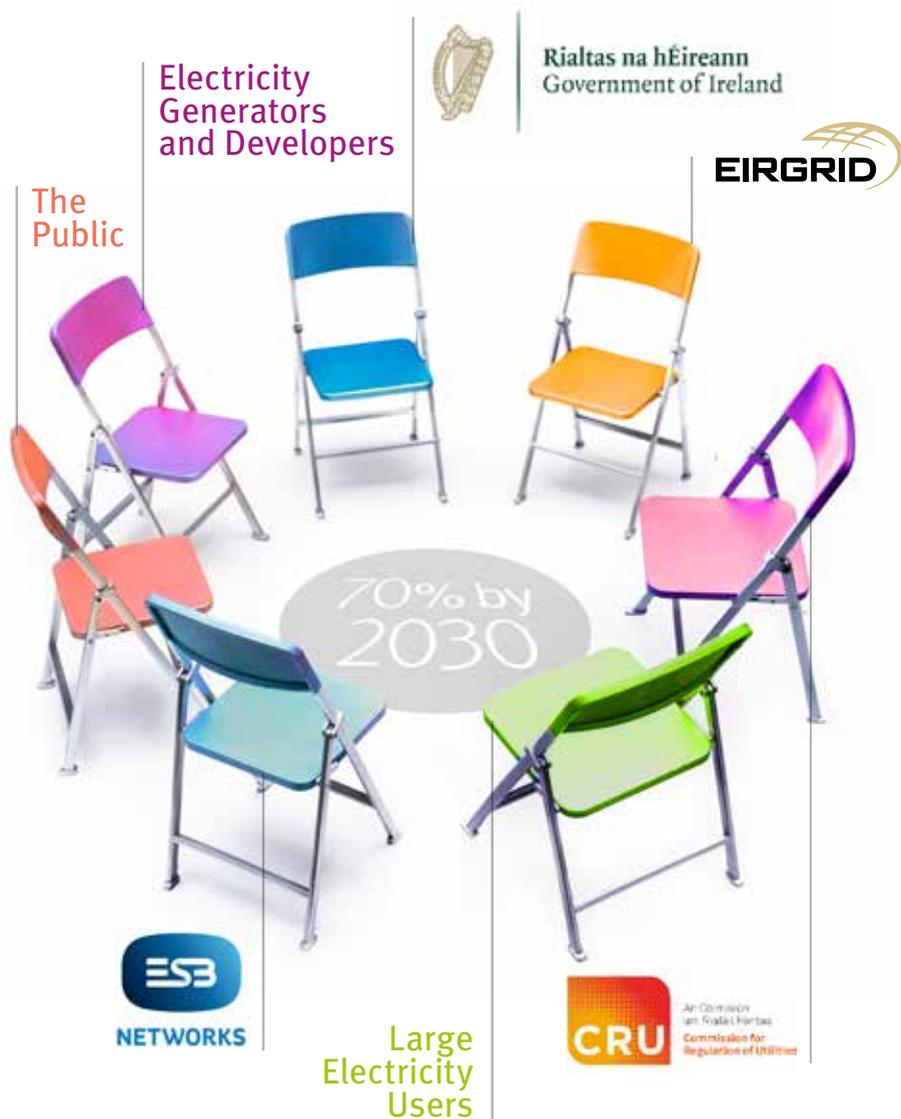
We can't make major changes to the grid while power is flowing – and neither can we turn it all off to get work done. If we are to keep Ireland's electricity secure, we have to carefully sequence the timing of grid projects to ensure we keep the lights on. This limits how many projects we can complete at any one time.

Informing the public and responding to their concerns

We know that new grid infrastructure projects lead to robust and emotive debates. Communities expect compelling and persuasive reasons for disruptive change. That's why we offer the public an opportunity to influence our decision-making process. We aim to build trust by clearly explaining our goals and our limitations, and then asking for your response. Where possible, we aim to propose final solutions that reflect your views – and so are more likely to be accepted.

Responding to these challenges

All these factors influenced our thinking – and informed the four draft approaches that we now offer for consultation.



What do we need to achieve?

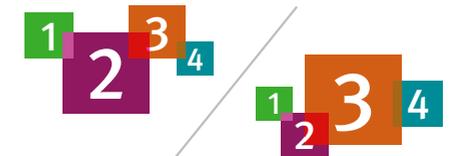
EirGrid has been set a task by government – to get the electricity system ready for a future with much less fossil fuels like coal, oil and gas. Specifically, we have been asked to prepare for at least 70% of Ireland’s electricity coming from renewable sources by 2030. This is a key step towards the ultimate aim of Ireland having net-zero carbon emissions by 2050.

Who do we need to work with to achieve this?

EirGrid, as the operators of the grid, will play a key role, but we cannot deliver this goal on our own. This is a target that will require change across the entire electricity sector. There needs to be action from electricity generators and developers, from regulators, from government, from ESB Networks, and from large-scale energy users. All key players will need to work together, and there will be a need for flexibility and innovation from all.

This consultation is based on what EirGrid can do, but it also considers how others in the electricity sector can help reach the 2030 target. In fact, some of the four draft approaches we propose are dependent on what other organisations can do to make this target possible.

Because of this, and of the complexity of this ten year transition, the four draft approaches are not standalone solutions. There are some foundation projects that are common to all four approaches – and the final plan is likely to include elements of all approaches, strongly led by one of them.



Is it possible to reach the 2030 target with all four draft approaches?

No. It’s important to be open about how hard it is to reach the 2030 target. One of our four draft approaches will achieve at least 70% – but not by 2030. Another of the draft approaches also has a high risk of missing this deadline. We have included these approaches so you understand the scale, cost and impact of moving towards clean electricity. We need to hear your views so we can make the best possible decision.

What do we need you to do?

You will now learn more about each of our four draft approaches to prepare Ireland’s grid for clean electricity. We then need your feedback (see page 27) so we can create a final strategy. This strategy will then lead to specific plans for each of the individual projects that need to be delivered before 2030. All of these projects will be put to public consultation and will be subject to planning permission, as usual.

Generation-led

Put clean electricity generation close to where most power is used

Currently, EirGrid must connect new electricity generators to the grid wherever they request. This applies even where the grid is weak or the local demand for electricity is low. Given that many developers plan to build new sources of clean electricity in remote locations, this creates a need for significant additions to the grid.

With this approach, new renewable generation would be located based on existing strengths and weaknesses of the electricity grid. The current model for locating renewable generation would be replaced by one that is led by government policy.

This approach would lead to more wind farms being developed near more densely populated areas – as this is where there is greatest demand for electricity.

With this approach, the vast majority of new clean electricity that Ireland needs would come from offshore wind farms on the east coast. This would then be balanced with some new wind and solar farms inland in other areas.

What work will be needed, and how much might it cost?

With this approach, we estimate we would need around 38 projects to add to or upgrade the electricity grid.

We estimate this approach is a less expensive way to prepare the grid for 2030 targets. It would cost approximately €0.7 billion for related grid upgrades across the 38 projects. It presumes that 4.5 GW of the renewable electricity target comes from offshore wind off the east coast. This will be supported by less than 1 GW of new solar energy and inland wind farms.

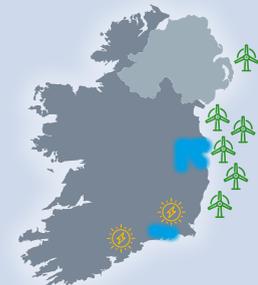
This approach would see wind farms locating near more populated areas of the country. This would need a change in government and regulatory policy. This approach would also need the full cooperation of the generation sector to be most effective.

This approach is highly likely to result in a grid that allows at least 70% of Ireland's electricity to come from renewable sources by 2030.



What might this draft approach look like?

The most likely consequence of this approach would be more wind farms off the east coast. However, connecting them to the grid would not require much visually-intrusive grid infrastructure. There would also need to be some new lines or cables.



Developer-led

Let developers decide where to locate clean electricity generation

This is the current policy for Ireland's electricity grid. Ireland has a successful track record in adding renewable electricity – 40% of our electricity already comes from wind generation. This was due to many factors, one of which was the incentivising of renewable generation. This was the goal of government and regulatory policies over the past decade or more. As a result, EirGrid must connect new sources of renewable electricity, regardless of the local strength of the grid. If this approach continues, we forecast that developers can build enough generation to meet the demands of the 2030 target. However, our studies show that it will not be possible to expand the grid in time for Ireland to use all of this power. We estimate that developer-led locations will need over 77 projects to add to or upgrade the grid. These will see new overhead lines or underground cables as well as upgrades to existing infrastructure – across the country. These projects will be necessary to strengthen the grid near new sources of renewable generation. They will also be needed to bring power from the remote sites of renewable generation to densely-populated areas where power is used.

The challenge with this approach is the number of projects and the time it will take to complete them. For reasons of safety and security of supply, there are practical limits to the number of major projects we can work on at the same time. We have extensive experience on how long it takes to plan, manage – and particularly gain public support – for grid projects. Given this, we forecast that the necessary projects would not be completed for many years after 2030. In the meantime, due to a lack of capacity on the grid, there would be excess power produced that can neither be exported nor used. This means that on a very windy or sunny day we would have to ask wind and solar farms to stop generating electricity.

What work will be needed, and how much might it cost?

This approach is based on 4 GW of new renewable generation coming from inland wind farms, 2 GW from solar, and 2 GW from offshore wind. This option is both expensive and disruptive – with over 77 projects and a likely bill of €1.9 billion for grid upgrades and additions.

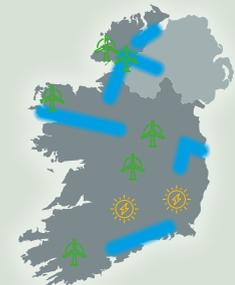
More importantly, taking this approach means the grid won't be ready to take 70% of Ireland's electricity from renewable sources by 2030.

Draft Approach 2



What might this draft approach look like?

At least 10 of the required projects needed to make the grid ready for this approach will be significant additions. These will need to move large amounts of power over long distances. There will also need to be several substantial new substations.



Technology-led

Try new ways to move clean electricity across the country

One of the challenges of clean electricity is how to move large amounts of power from source to use. Rather than put generation near demand, or demand near generation, this approach considers innovative ways to move the power itself.

The purpose of the grid is to move power in bulk over long distances, while also integrating this power throughout the entire network. Achieving these goals typically requires overhead lines carrying alternating current (AC) – as they are reliable and robust. But, as noted in Approach 2, we can't complete the required amount of new AC lines before 2030.

As an alternative, this approach uses high-capacity underground direct-current (DC) cables. These cables would exclusively move power from wind and solar farms in the west of Ireland to east coast cities where more power is needed.

High-voltage DC cables like these are typically used in long-distance connections between separate grids. They are rarely used as an integrated part of any national electricity grid. This is because DC electricity is hard to integrate with existing AC grid infrastructure. For instance, DC cables like this need large, expensive and complex converter stations at both ends of every cable.

For these reasons, these DC cables would not form an integrated part of the grid. They would be isolated, one-way connections between renewable generation and urban centres.

To enable this approach, we will also need to install sophisticated electronic devices on existing AC lines – to change how power flows on the rest of the grid.

Although EirGrid plans for the future of the grid, ESB Networks builds and owns the actual grid infrastructure. To deliver this approach, we would need to work together to implement these technologies at an unprecedented scale.

What work will be needed, and how much might it cost?

This draft approach is based on 4 GW of new renewable generation coming from inland wind farms, 2 GW from solar, and 2 GW from offshore wind.

We estimate it would lead to over 46 projects costing approximately €1.5 billion to upgrade and add to the grid. There is also a high degree of technical uncertainty in this draft approach.

For this reason, we believe it would be very challenging to complete all the necessary work in time. This means this approach is unlikely to make the grid ready for at least 70% clean electricity by 2030.

Draft Approach

3



What might this draft approach look like?

This approach uses several high-voltage DC underground electricity cables moving power from the west to the east. Each cable would need large-scale converter stations at either end of the cables so power can reconnect to the grid. Converter stations are substantial buildings, but their visual impact can be reduced with careful landscaping.

Demand-led

Put large electricity users close to sources of clean electricity generation

The amount of electricity carried by the grid will significantly grow in the next ten years. As has always been the case, a small percentage of electricity users will use a lot of the power on the grid.

In the past, these were cement factories or metal smelting plants. Today, high-demand users are typically from the pharmaceutical, high-tech and computing sectors. In particular, we forecast that data centres will use 27% of all electricity on the grid as we near 2030.

At present, EirGrid has no say on where high-demand users locate. As a regulated utility, we are obliged to connect them to the grid wherever they choose, regardless of existing demand for power in the area.

Most existing and proposed high-demand users are choosing to locate on the east coast. This is placing pressure on the local demand for electricity, and on existing grid infrastructure in this area. In contrast, most developers of new renewable electricity want to locate in remote areas of the country, where the grid is weaker.

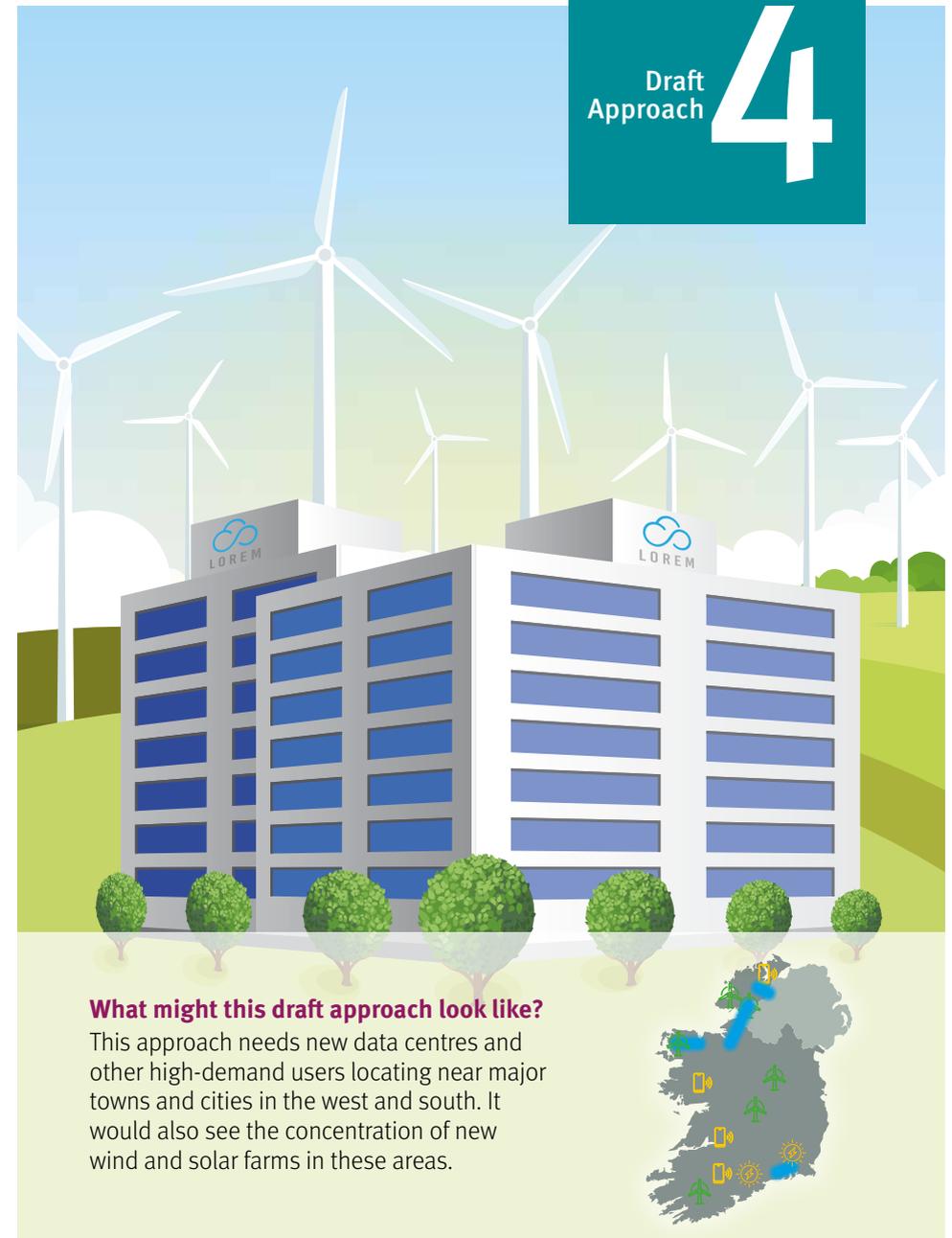
With this draft approach, changes to government policy would see new high-demand users locate closer to sources of clean power. To make the most of existing grid infrastructure, they would be sited near major towns and cities in the west and south of the country.

What work will be needed, and how much might it cost?

This draft approach is based on 4 GW of new inland wind farms, 2 GW of solar farms, and 2 GW of offshore wind. It is also one of the least expensive approaches. We estimate it would lead to approximately 41 projects to upgrade or add to the grid at a cost of over €0.5 billion.

However, this approach would need a change in government and regulatory policy.

This approach would make the grid ready for 2030 clean electricity targets. But this success requires large electricity users to locate in the preferred regions of the grid going forward.



What might this draft approach look like?

This approach needs new data centres and other high-demand users locating near major towns and cities in the west and south. It would also see the concentration of new wind and solar farms in these areas.

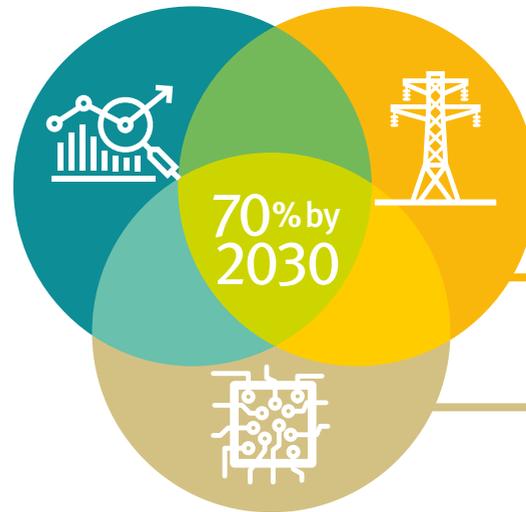


How do these different approaches compare?

This is a complicated issue that needs detailed, technical solutions – which makes them difficult to assess. For comparison purposes, we have created a summary table that shows our views on the strengths and weaknesses of each approach. This is a high-level overview, and it reflects our informed opinion. You can give your views on the impact of each approach in your response to this consultation.

	1 Generation led	2 Developer led	3 Technology led	4 Demand led
Impact on at least 70% clean electricity by 2030	Positive	Negative	Positive	Positive
Secure supply of electricity	Positive	Neutral	Neutral	Neutral
Need for more grid infrastructure	Neutral	Negative	Positive	Positive
Developers of renewable generation	Positive	Positive	Neutral	Neutral
High-demand electricity users	Neutral	Neutral	Neutral	Positive
Technical difficulty	Neutral	Positive	Negative	Neutral

Highly Negative	Negative	Neutral	Positive	Highly Positive
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How we run the electricity market

How we plan the electricity grid

How we operate the electricity grid

What does EirGrid need to change so at least 70% of Ireland's power can come from renewable sources?

EirGrid carries out three connected roles in the electricity system.

- We run the electricity market.
- We plan for the future of the grid.
- We operate the grid - including interconnection with neighbouring grids.

The public consultation you're now reading focuses on preparing the grid for more renewable electricity. This is because changes or additions to the grid have more potential to impact communities and individuals.

But the grid is just one aspect of the electricity system. Achieving 70% renewable electricity by 2030 will also see considerable change in how the grid is operated – every minute of every day. Our proposals, if adopted, will also lead to changes in how the wholesale electricity market works.

Changes to how we operate the grid

There are many technical challenges to running the grid when most electricity comes from renewable sources. Our goal is to ensure the electricity system remains stable and supply is secure.

Our operational response to these challenges will lead to a range of new technical solutions, policies and tools. Consultation with the electricity sector will help us find the best set of solutions.

Changes to the wholesale electricity market

We do not generate electricity – we operate a set of all-island markets. These give generation companies a chance to compete to supply power. They also allow specialist providers to offer solutions that keep the electricity system strong and stable.

The markets are operated using a series of regulatory rules. At present, these rules are largely driven by the price paid for energy. These rules were designed to ensure consumers pay the lowest costs possible when generators use fossil fuels like oil and gas.

However, a market dominated by renewable generation creates new financial and technical challenges. In particular, renewable generation costs more to develop, but then has lower operating costs.

The markets also need to fund investment in new technical solutions to maintain the resilience of the electricity system. For example, how do you run the power system when there is no wind for a long period of time?

For these reasons, a market dominated by renewable generators will need new rules. Our consultation on the energy markets aims to suggest and agree these rules.

Do you want to know more about these changes?

Both of these aspects of the clean energy transition are also open to separate consultations. These are mainly technical, procedural and regulatory changes. If you want to learn more about them, please visit

consult.eirgrid.ie



How can you influence our thinking?

This content summarises our four draft approaches in early 2021. We now want to hear your views, so we can refine and improve our approaches in a final strategy by the end of the year. We will be running a range of initiatives to allow the public to make their views known on our draft approaches.

Public response: Submitting your views

This consultation period is open until 12 noon on 14 June 2021. You can submit your views several ways:

Our consultation portal

EirGrid have launched a new consultation portal to make it easier for you to give your feedback. You can access the portal at: consult.eirgrid.ie

Here you can access more information about the project, fill out a survey or make a detailed submission.

Email

consult@eirgrid.ie

Post

Shaping Our Electricity Future
EirGrid, Freepost FDN 5312
160 Shelbourne Road
Ballsbridge, D04 FW28

What happens next?

When we have received all feedback, we will then consider how best to respond. Our goal is to publish a plan for Our Electricity Future before the end of 2021.

Our plans to learn the views of stakeholders on our draft approaches

We are working with a range of partners to help stakeholders have their say and engage directly with us. These include:

- Working with Irish Rural Link to host workshops for communities across Ireland.
- Working with Chambers Ireland to host workshops for businesses across Ireland.
- Working with the National Youth Council of Ireland to host a Youth Assembly for future electricity consumers.
- Hosting an Industry Forum. This will bring together generation companies and developers, large energy users and suppliers.
- Hosting a Civic Society Forum. This will bring together representatives from a wide range of disciplines. These include academia, agriculture, community, environment, sustainable development and social justice.
- We will also be hosting a public forum, like the Citizens' Assemblies run by the Government. This will allow members of the public – independently recruited by a research company – to take part in a group discussion.

Each of these initiatives will produce outcome reports which we will publish on our website. If you would like to participate in one of these events, please get in touch with us or find out more on how to get involved on consult.eirgrid.ie

Questions to consider



We want to hear your views on our four draft approaches to ensuring at least 70% of Ireland's electricity comes from renewable sources by 2030.

If you visit our consultation portal at consult.eirgrid.ie you can answer an easy-to-use online questionnaire. This raises the key issues we want you to consider.

We've listed these questions here so you can consider your answers first.

If you would prefer to send us your views in another way or in a more open format, we welcome that too. Just use the contact details shown on page 27.

On our consultation portal, we'll ask for your opinion on a series of statements. For each statement, we'll ask you to tell us what you think by picking one of the following answers:

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- Don't know

We'll then give you the space to provide more information. This could include the reasons for your answer, or anything else that gives some context for your views.

Here are the five statements where we need your response – and a concluding question we ask at the end of our online questionnaire.

Introduction

Ireland should do everything possible so that by 2030, at least 70% of its electricity comes from renewable sources like wind turbines or solar panels.

What do you think?

Draft Approach 1: Generation-led

When connecting new sources of renewable electricity, locations should be guided by the strength of the grid and demand for power near the proposed site.

What do you think?

Draft Approach 2: Developer-led

Companies that develop renewable electricity should decide where to locate new wind or solar farms.

What do you think?

Draft Approach 3: Technology-led

Renewable electricity needs to be moved from remote locations to where most power is used. To achieve this, we should use new technology like high-voltage direct current underground cables.

What do you think?

Draft Approach 4: Demand-led

Companies that use a huge amount of power should locate new facilities near sources of renewable electricity and where the grid is strong.

What do you think?

Conclusion

Do you have any other feedback or is there anything that you feel we have not considered?

Shaping our electricity future

The next decade has the potential to be revolutionary for Ireland's electricity system. With your help, we can build on the results already achieved in the last ten years. We can continue to lead the world in how much of our electricity comes from clean, renewable sources. We have the potential to meet the challenge of the climate crisis with innovation and cooperation that will be an example for others.

Ireland can make a meaningful difference to a global crisis, but it will mean embracing and accepting change. Some of these changes may have local impacts, but they will benefit all of Irish society for generations to come.

EirGrid is committed to a collective and collaborative form of decision-making. We want to hear your concerns and listen to ideas that you may not see in our draft approaches.

If we can reassure you, we will. If we can use your suggestions to improve our draft approaches, we will. We are genuinely open to workable ideas that can prepare the grid to take at least 70% of Ireland's electricity from renewable sources by 2030.

The first step is to tell us what you think, or to ask any questions you may have about these draft approaches. We want to hear from you – so please get in touch.





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