THE IRISH ACADEMY OF ENGINEERING

ENGINEERING & TECHNOLOGY

THOUGHT LEADERSHIP IN A TIME OF GREAT CHANGE

Climate Change Won't Wait

Delivery of Renewable Energy Urgent

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THE IRISH ACADEMY OF ENGINEERING

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EXECUTIVE SUMMARY

The world's climate is changing rapidly with temperatures increasing faster since 1970 than in any other 50-year period over at least the last 2,000 years. Climate change has been described by the Government as the defining challenge of our time. Ireland, as an EU Member State, has committed to achieving a 51% reduction in greenhouse gas emissions by 2030, and to achieving net-zero emissions by 2050. Successive Climate Action Plans have highlighted the essential role of renewable energy in achieving these targets, particularly in decarbonising the electricity sector which in turn supports the decarbonising of other sectors such as transport, heating and industry.

The 2024 Climate Action Plan specified that electricity from renewable sources should meet 80% of demand by 2030. However, achieving that target looks increasingly challenging. The renewable electricity targets are shown in the table below.

Capacity	2030 targets	Installed capacity, end 2023
Onshore wind	9 GW	4.7 GW
Offshore wind	5 GW	25MW
Solar photovoltaic	8 GW	1.1 GW

While there is a reasonable pipeline of onshore wind and solar projects, some are awaiting grid connections, and four recent planning permissions have been subject to judicial reviews. Six offshore wind projects, with a combined capacity of about 4.2GW, have been granted marine area consents, allowing them to apply to An Bord Pleanála for planning permission. Four of the projects, with a combined capacity of circa 3GW, will be supported under the Offshore Renewable Energy Support Scheme. Given the time needed to go through the planning, procurement and construction stages, it is unlikely that any of the offshore projects will be fully operational by 2030. There have also been delays in designating further potential sites for offshore wind generation off the south coast.

The scale of new renewable energy capacity needed by 2030 – and even more so by 2050 – is extremely challenging and also requires major upgrades to the national grid. Unfortunately, EirGrid has experienced significant public opposition in delivering such projects, especially long-distance high-voltage transmission lines.

Our central conclusion is that greater political commitment at the heart of Government is essential. Our key recommendations are set out below. Detailed recommendations are provided at the end of each section.

1. Delivery of the Climate Action Plan targets needs to be driven by the Department of the Taoiseach, in order to:
   - Demonstrate high-level political support,
   - Monitor progress and eliminate obstacles (such as shortages of skilled staff or capital resources),
   - Ensure effective co-ordination between the wide range of public sector bodies responsible for delivery.
2. The Government as a whole needs to explain to the public why improving the national grid is essential if 80%+ of our electricity is to be generated from renewable sources by 2030.

3. The number and complexity of projects that An Bord Pleanála has to assess means that the range of skills required will need to be appraised by the Government on an ongoing basis. A regular and formal monitoring programme should be established to ensure that the necessary resources are always in place. A similar process is required for the Planning and Environmental Division of the High Court.

4. The target of 5GW of offshore wind generation by 2030 is unlikely if not impossible. This means that an increased focus is necessary to achieve the maximum capacity possible in onshore renewables. To facilitate this, updated guidelines for onshore wind are urgently required from the Department of Housing, Local Government and Heritage. Guidelines for solar energy projects must be provided and the guidelines for good practice recently issued by the Irish Solar Energy association provide a good basis on which to work.

5. The Commission for Regulation of Utilities' ECP process for assessing and awarding grid connections must be expedited and made less costly.

6. EU Directive 2023/2413 on the promotion of the use of energy from renewable sources should be transposed fully into Irish law as soon as possible to facilitate the achievement of the 2030 targets.

7. Irrespective of our progress on renewable energy generation, the success of our renewable energy programmes will depend entirely on the proposed transformation of the National Electricity Grid. The Government, with the support of opposition parties, must drive the grid upgrade programme to ensure it is completed as a matter of urgency.

1. INTRODUCTION

1.1 General

The world's climate is changing rapidly with temperatures increasing faster since 1970 than in any other 50-year period over at least the last 2,000 years. Met Éireann data show that 2023 was the warmest year on record, with 2022 as the previous warmest year (GoI 2023a). Warming is being propelled by increases in greenhouse gases (GHGs) in the atmosphere mainly produced by burning fossil fuels and powering industrial processes, together with emissions associated with land-use. Continued emissions of greenhouse gases will cause further warming and changes to our climate leading to increased risks to people and nature.

The United Nations via the Paris Agreement, the EU and the Irish Government view climate change as a global challenge that requires a global response. Climate change been described by the Irish Government as "the defining challenge of our time".

The European Green Deal commits to delivering net-zero greenhouse gas emissions at EU level by 2050. Ireland has committed to achieving a 51% reduction in emissions (relative to 2018 levels) from 2021 to 2030, and to achieving net-zero emissions no later than 2050.

Successive Climate Action Plans have set overall and sector-specific emissions reduction targets to achieve the 51% reduction and net-zero objectives for 2030 and 2050, respectively. Based on the measures currently implemented, and actions committed to by the Government (modelled in the EPA's With Existing Measures scenario), 2030 emissions are projected to be 11% lower than 2018 levels. However, the EPA's predictions are that, even With Additional Measures, the emissions reduction will be 9% short of the Climate Action Plan 2023 target for 2030 (GoI 2023a).

1.2 Decarbonisation of the electricity sector

The Irish Government, through successive Climate Action Plans, has determined that, through electrification, electricity will play a key role in the decarbonisation of other sectors of the economy, including transport, heating, and industry. At a time when the energy system is under severe pressure to ensure security of supply, and amid projections of rapid electricity demand growth over the coming decade, the electricity sector has been set one of the smallest carbon budget allocations and the steepest emission reduction trajectory (-75%) across all sectors. Renewable energy development on a large scale is seen as key to achieving the reduction target. The deployment rates of renewable energy and grid infrastructure required to meet the carbon budget programme is unprecedented and requires urgent action across all actors to align with the national targets (GoI 2023b).

Considerable progress has been made in decarbonising the electricity sector, resulting in electricity emissions falling by 45% between 2001 and 2022. However, with the current measures in place, emissions from the sector are not reducing quickly enough. The EPA's current projections are that the electricity sector will exceed the sector emission ceilings for 2025 and 2030. The EPA forecasts that the emissions from the sector will exceed the sector emission ceiling by circa 13% in the period 2021 to 2025. The sector emission ceiling for 2026 to 2030 is less than 50% of the 2025 ceiling. The EPA's current emissions projection is that the 2026 to 2030 ceiling will be exceeded by circa 43% in the period.

Climate Action Plan 24 sets out 30 key actions to be taken in 2024 and 8 key actions for 2025 to get the electricity sector emission reductions back on target.

1.3 Scope of this Report

This report, in Section 2, presents a summary of current international, EU and Irish policy on climate change and the EU and Ireland's commitments to meet the urgent need to reduce greenhouse gases, focusing on the electricity sector and renewable energy.

Section 3 provides an overview of the planning regime which currently applies to renewable energy, and which would apply under the Planning and Development Bill 2023. The key obstacles to delivery of the necessary infrastructure to implement the Government's plans for the electricity sector are highlighted. As delays in the planning and consenting regime were identified as a major obstacle to developing the renewable energy infrastructure, recommendations are made on how to improve the regime and accelerate the development of renewable energy generation to meet the targets for 2030 and beyond.

The current status of development of onshore and offshore renewable energy generation, and associated infrastructure, is addressed in sections 4 and 5, respectively, and strengthening the electricity grid is covered in section 6.

The executive summary contains the key recommendations. Detailed recommendations are provided at the end of sections 2 to 6.

2. POLICY CONTEXT

2.1 General

The policy context for renewable energy, particularly renewable electricity, in Ireland is set out in this chapter.

2.2 International Climate Change Policy

The *United Nations Framework Convention on Climate Change* (UN 1992) (UNFCCC) was agreed in 1992 and has been in force since 1994. Article 2 of the Convention sets out the ultimate objective of the UNFCCC, which is the stabilisation of greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. The UNFCCC put the onus on developed countries and 12 countries from central and eastern Europe, to reduce emissions to 1990 levels by the year 2000.

The *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (UN 1997) was adopted in 1997 and has been in force since 2005. Annex B of the Kyoto Protocol set binding emission reduction targets for 38 industrialized countries and economies in transition, and the European Union. The targets added up to an average 5% emission reduction compared to 1990 levels over the five-year period 2008–2012 and at least an 18% reduction below 1990 levels in the eight-year period from 2013 to 2020.

The parties to the UNFCCC, at the 21st session of the Conference of the Parties in 2015 (UN 2015), adopted the *Paris Agreement*. The agreement came into force in 2016. In Article 2, the agreement set three objectives including:

a. *"Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;"*

Article 4 of the Agreement committed the parties to the agreement to reach peak global greenhouse gas emissions as soon as possible, recognising that this would take longer for developing countries, and to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of the century. The agreement established binding commitments by all Parties to prepare, communicate and maintain a nationally determined contribution and to pursue domestic measures to achieve it. The Parties are required to communicate their nationally determined contribution every five years. Each successive nationally determined contribution should represent a progression beyond the previous one and reflect the highest possible ambition.

Article 7 established the goal of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change in the context of the temperature goal of the Agreement.

Article 8 recognised the importance of averting, minimising and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss or damage.

2.3 EU Climate Change Policy and Legislation

Following on from its commitments under the UNFCCC and *Kyoto Protocol,* over the years the EU has proposed progressively more ambitious targets (EC 2015) for the reduction of greenhouse gas emissions and the increased use of renewable energy. *Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources* (EU 2018a) and *Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action* (EU 2018b) imposed requirements on the member states in order to achieve the targets.

The European Commission published the *European Green Deal* (EC 2019) climate change strategy in December 2019. The main elements of the Green Deal include increasing the EU's climate ambition for 2030 and 2050 and supplying clean, affordable and secure energy. The EU aims to be climate neutral in 2050. Because the production and use of energy account for more than 75% of the EU's greenhouse gas emissions, decarbonising the EU's energy system is considered critical to achieving the 2030 and 2050 targets. The Green Deal targets for renewable energy and renewable electricity are summarised in Table 1 below.

Table 1. Summary of EU Green Deal Climate and Energy Targets (EC 2020)

	EU Green Deal Targets 2030
Cut in greenhouse gas emissions (from 1990 levels)	>55%
Share for renewable energy in total energy mix	38% - 40%
Renewable electricity as % of electricity generation	65%
Improvement in energy efficiency	36%

Regulation (EU) 2021/1119 'European Climate Law' (EU 2021) imposes the binding objective of climate neutrality, i.e., net zero greenhouse gas emissions, in the EU by 2050 and a net reduction in greenhouse gas emissions for 2030 of 55%. To ensure that sufficient mitigation efforts are deployed up to 2030, the contribution of net removals to the EU's 2030 climate target is limited to 225 million tonnes of CO_2 equivalent.

In 2020, the EU launched its *Strategy for Offshore Renewable Energy* (EC 2020b). The aim of the strategy is to make offshore renewable energy a core component of Europe's energy system by 2050 and, consequently, the scaling up of offshore renewable energy and its use is recognised as an EU priority. The challenges to achieving an installed capacity of 300 – 400GW by 2050 in the EU are addressed in the strategy.

Presented in July 2021, the *'Fit for 55' : delivering the EU's 2030 Climate Target on the way to climate neutrality* (EC 2021) package is a set of proposals by the European Commission to revise and update EU legislation and to put in place new initiatives with the aim of ensuring that EU policies are in line with the European Green Deal and the climate goals agreed by the Council and the European Parliament.

In May 2022 the EU issued the *REPowerEU Plan* (EU 2022) to respond to the disruption in the global energy market caused by Russia's invasion of Ukraine. The plan seeks to rapidly reduce the EU's dependence on Russian fossil fuels and speed up the transition to low and zero carbon energy. The targets set in the *REPowerEU Plan* are summarised in Table 2.

Table 2 REPowerEU Targets

	REPowerEU Target 2025	REPowerEU Target 2030
Cut in greenhouse gas emissions (from 1990 levels)		>55%
Share for renewable energy in total energy mix		45% by 2030
Renewable electricity generation		1236GW by 2030
Solar photovoltaic	320GW by 2025	600GW by 2030
Hydrogen		10m tonnes domestic renewable + 10m tonnes imported renewable

Directive (EU) 2023/2413 (EU 2023b), on the promotion of the use of energy from renewable sources, amends Directive (EU) 2018/2001. The amended directive sets a binding overall renewable energy target in the EU of 42.5% by 2030.

In February 2024 the European Commission announced that the EU's recommended climate target for 2040 is a 90% reduction compared to 1990 levels (EC 2024). To deliver a reduction of net GHG emissions of 90%, the level of remaining EU GHG emissions in 2040 should be less than 850 $MtCO_2eq$ (excluding emissions from the Land Use, Land Use Change and Forestry sector) and carbon removals (from the atmosphere through land-based and industrial carbon removals) should reach up to 400 $MtCO_2eq$. All zero and low carbon energy solutions will be required to achieve the target, with *"solar and wind will make up the vast majority of renewable energy solutions."* Electrification with a fully decarbonised power system by 2040 will be the main driver of the energy transition. The share of electricity in the final energy consumption will double from 25% today to about 50% in 2040.

2.4 Irish Legislation on Climate Action

The Irish Government has introduced the *Climate Action and Low Carbon Development Act 2015* (GoI 1015) to create a statutory basis in Ireland for the preparation and approval of climate action plans and the setting of targets on emission reduction, as required by EU legislation and Article 2 of the UNFCCC.

The *Climate Action and Low Carbon Development (Amendment) Act 2021* (GoI 2021a) amended the 2015 Act. The "national climate objective" defined in the amended Act, commits Ireland to the legally binding target of net-zero emissions no later than 2050. The Act provides for the preparation, approval and revision of five-year carbon budgets. The first two carbon budgets must lead to a reduction in greenhouse gas emissions such that the total amount of annual greenhouse gas emissions in the year ending on 31 December 2030 is 51% per cent less than the annual greenhouse gas emissions reported for the year ending on 31 December 2018, as set out in the national greenhouse gas emissions inventory prepared by the EPA.

The Act requires sectoral emission ceilings to be set and local authorities to prepare local climate action plans and deliver emissions savings in line with the national targets.

2.5 Irish Climate Change Policy

Irish national policy on climate action is derived from the UNFCCC's objectives and from EU legislation and policies in relation to climate change, the reduction of greenhouse gas emissions, the decarbonisation of energy supply and the switch to renewable energy.

The Department of Environment, Climate and Communications has a statement of the *National Policy Position on Climate Action and Low Carbon Development* (GoI 2013) on its website.

The long-term vision expressed in the policy position is for a *"low-carbon transition based on:*

- *an aggregate reduction in carbon dioxide (CO_2) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors; and*
- *in parallel, an approach to carbon neutrality in the agriculture and land-use sector, including forestry, which does not compromise capacity for sustainable food production."*

The Department of Housing, Planning and Local Government published *Project Ireland 2040: National Planning Framework* (GoI 2018a) in 2018. The *National Planning Framework* is the overarching policy and

planning framework for the social, economic and cultural development of the Country. The Framework reiterates the *National Policy Position* of an 80% reduction in CO_2 emissions, compared to 1990 levels, by 2050 across the electricity generation, built environment and transport sectors. The Framework has a series of national policy objectives on reducing Ireland's carbon footprint, promoting renewable energy use and generation, and supporting the progressive development of Ireland's offshore renewable energy potential.

The *National Development Plan 2018 – 2027* was published together with the *National Planning Framework* in 2018. A revised plan, *National Development Plan 2021 – 2030* (GoI 2021c), was published in 2021. The plan sets out investment priorities to guide national, regional and local planning and investment decisions, which will underpin the implementation of the *National Planning Framework*. The plan addresses the 10 national strategic outcomes which were identified in the *National Planning Framework*, and which the Government intends to achieve in the lifetime of the plan. The outcomes include "Transition to a Climate-Neutral and Climate-Resilient Society". To achieve this outcome the plan identifies a number of strategic investment priorities and investment actions. Decarbonising the energy sector is one such priority.

2.6 Climate Action Plans

The *National Energy and Climate Plan 2021 – 2030* (GoI 2019) was published in 2019 to comply with the requirement of *Regulation (EU) 2018/1999*, referred to above.

The Government also published more detailed climate action plans for the years 2019, 2021, 2023 and 2024 to comply with the requirements of the *Climate Action and Low Carbon Development Act 2015*, as amended. *The Climate Action Plan 2024* (GoI 2023b), published in December 2023, is the most recent national climate action plan. The Plan is accompanied by an *Annex of Actions* (GoI 2023c), in which the high impact actions for 2024 are listed.

In Section 1.7, the Plan reiterates the national climate targets of carbon neutrality by 2050 and a 51% reduction in greenhouse gas emissions by 2030, relative to 2018 levels.

Box 2.1 - Ireland's EU Climate Targets, provides further detail. The large energy users in the Emissions Trading System (ETS) sector must achieve an EU-wide target of a 62% GHG emissions reduction by 2030, relative to 2005 levels. Ireland has 109 installations in the ETS sector. For the non-emissions trading scheme sector, Ireland is required to reduce its emissions by 42% by 2030, relative to 2005 levels. Together, the ETS and ESR will facilitate achievement of the EU-wide target of at least a 55% GHG emissions reduction by 2030 as set in the *European Climate Law.*

Projections for Ireland's emissions are presented in Section 2.3 of the Plan. With implementation of all the greenhouse gas emission reduction measures proposed in the previous plans, the EPA's projections are that Ireland's emissions reduction by 2030 would be 42%, which is 9% below the 2030 target. Consequently, the Plan proposes further measures for the different sectors - agriculture, built environment, electricity, industry and transport - to close the gap.

Electricity is addressed in Chapter 12 of the plan. The deployment of renewable electricity generation over the period 2001 to 2022 enabled emissions reduction of 45%, even though demand increased. Electricity accounted for just 14.4% of Ireland's greenhouse gas emissions in 2022. However, the EPA forecasts that the electricity sector emissions will exceed the sector emissions ceiling by circa 5.2 million tonnes CO_2 equivalent ($MtCO_2eq.$) in the period 2021 to 2025, and circa 8.2 $MtCO_2eq.$ in the period 2026 to 2030.

The key metrics to deliver further abatement in emissions from electricity generation, and how this may be achieved, are indicated in Table 12.5 of the Plan. The table is summarised in Table 3 below.

Table 3. Potential Metrics to Deliver Further Abatement in Electricity

2025 KPI	2030 KPI	2031 – 2035 measures
50% renewable electricity share of demand 6GW onshore wind capacity 5GW solar PV capacity, including at least 1GW of new non-utility solar	80% renewable electricity share of demand 9GW onshore wind capacity At least 5GW indicative offshore wind capacity 8GW solar PV capacity, including at least 2.5GW of new non-utility solar Green hydrogen from surplus renewable generation	Decarbonisation roadmap for net-zero power system Green hydrogen production via 2GW offshore wind
Maximum level of renewables at any one time on the grid: 85% Dispatch down (excluding surplus generation) of renewables below 7% Minimise surplus generation Required long term storage (4 hour plus) in place	Maximum level of renewables at any one time on the grid: 95-100% Dispatch down (excluding surplus generation) of renewables below 7% Minimise surplus generation Required additional long-term storage (4 hour plus) in place At least 2 GW of new flexible gas-fired generation Zero-emission gas-fired generation from biomethane and hydrogen commencing by 2030	Required additional long duration storage technologies in place Increased zero emission gas-fired generation to enable a net zero power system
Demand side flexibility 15-20% Zero carbon demand growth	Demand side flexibility 20-30% Zero carbon demand growth	Demand side flexibility 30% Zero carbon demand growth

In Section 12.4.1 of the Plan, three key measures are identified to achieve further emission reduction:

- *"Accelerate and increase the deployment of renewable energy to replace fossil fuels;*
- *Deliver a flexible system to support renewables and demand;*
- *Manage demand."*

Forty measures required to accelerate renewable energy generation to reach the 80% are listed. The specific actions required in 2024 and 2025, to achieve the emission reduction targets, are set out in Tables 12.6 and 12.7 of the Plan. One hundred and twenty-six high impact actions for 2024 are listed in the *Annex of Actions*.

2.7 Irish Offshore Renewable Energy Policy

2.7.1 National Marine Planning Framework

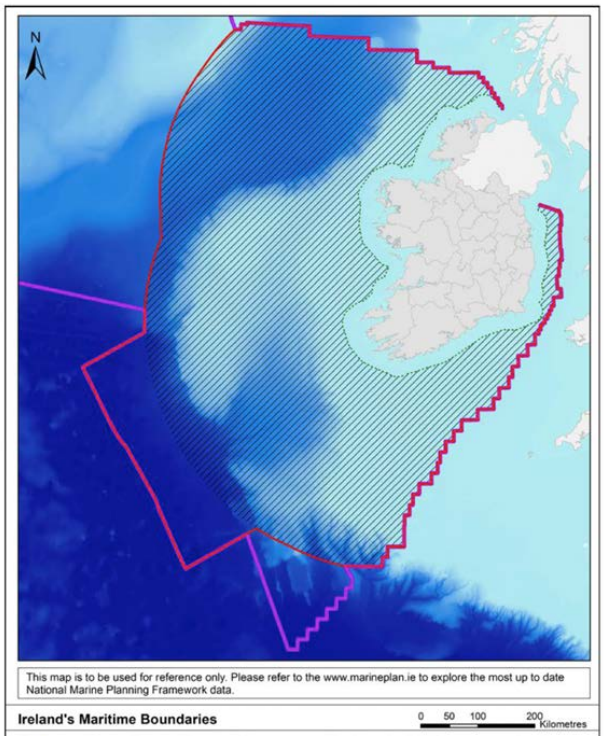
The EU Maritime Spatial Planning Directive 2014/89/EU, adopted in July 2014, obliged all coastal Member States to establish maritime spatial plans by March 2021. Ireland transposed the Directive through the Planning and Development (Amendment) Act 2018, which established the legal basis for the development of a maritime spatial plan (or plans) on a 10-year cycle. Under the Act, the Minister for Housing, Local Government and Heritage is the competent authority for purposes of preparing Ireland's first marine spatial plan *National Marine Planning Framework (NMPF)* (GoI 2021b).

The NMPF was published in 2021. The NMPF sits at the top of the hierarchy of plans and sectoral policies for the marine area. Its status is equivalent to the *National Planning Framework*.

The NMPF sets out the marine planning framework within which Ireland's ORE targets will be realised. The key sectoral policies for ORE are set out in chapter 13. The objectives include *"Support the development of ORE in Ireland as a driver to significantly reduce greenhouse gas emissions and accelerate the move to cleaner energy in line with national and EU policy"* and *"Support Ireland's decarbonisation journey through increased use of ORE while delivering significant and sustained benefits, import substitution, fiscal return, national and local economic development and technology learning."*

ORE Policy 1 is *"Proposals that assist the State in meeting the Government's offshore renewable energy targets, including the target of achieving 5GW of capacity in offshore wind by 2030 and proposals that maximise the long-term shift from use of fossil fuels to renewable electricity energy, in line with decarbonisation targets, should be supported. All proposals will be rigorously assessed to ensure compliance with environmental standards and seek to minimise impacts on the marine environment, marine ecology and other maritime users."* (Policy ORE 1).

The NMPF does not set out spatial designation or marine zonings for specific activities.



Irelands Maritime Boundaries (Source NMPF, p. 12)

Appendix D of the NMPF addresses the future development of a system for the designation or zoning of the marine area for specific activities. The Government proposes to make Designated Marine Area Plans (DMAPs). *"All DMAPs, when made, will form part of the NMPF, thereby becoming a binding consideration for marine decision makers."*

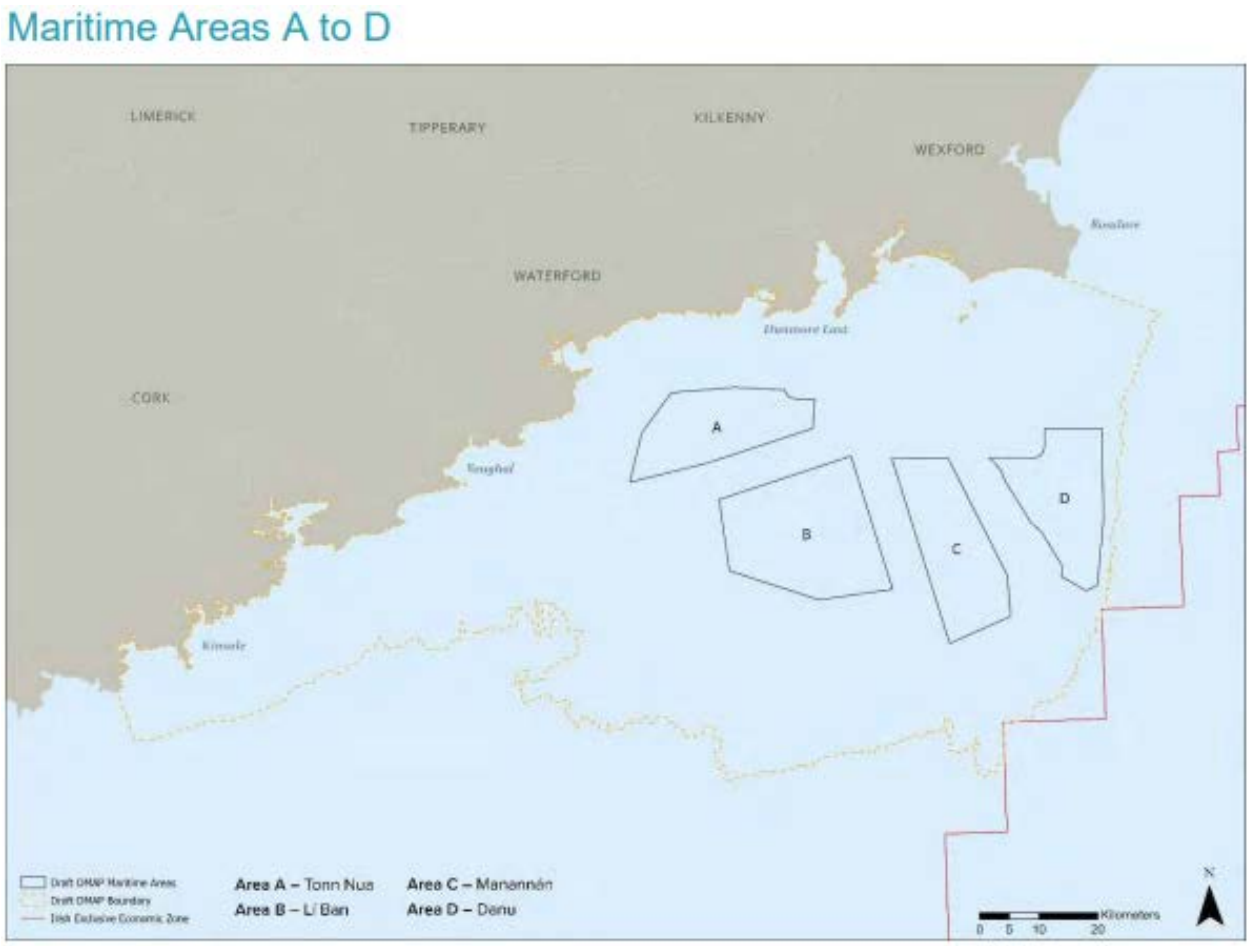
The first DMAP, a draft for public consultation for the south coast, was publish in May 2024. Refer to Section 2.7.2 below.

2.7.2 Offshore Renewable Energy Development Plan

The Government published the *Offshore Renewable Energy Development Plan* (OREDP1) in 2014 (GoI 2014). An interim review of the Plan was undertaken in 2018. In 2023 the Department of the Environment, Climate Action and Communications published a *Draft Offshore Renewable Energy Development Plan II a National Spatial Strategy for the Transition to the Enduring Regime* (OREDP2) (GoI 2023d).

OREDP2 is also a national spatial plan, dealing with offshore renewable energy and specifically with the transition from the 2030 climate change targets to the targets up to 2050 ('the enduring regime'). OREDP2 replaces OREDP I. OREDP II provides a framework and evidence base to facilitate the future identification of 'Broad Areas' most suited for the development of fixed wind, floating wind, wave and tidal energy as part of the enduring plan-led regime. The draft plan is accompanied by a Strategic Environmental Assessment and a Natura Impact Statement, and following a public consultation will be adopted by the Government.

One of the 'Broad Areas' for ORE development is off the south coast, for which a draft designated marine area plan, the SC-DMAP, has been published for consultation. The draft SC-DMAP identifies four maritime areas for proposed future deployment of both grid-connected and non-grid connected ORE. Area A on the draft SC-DMAP relates to the area for which the ORESS 2.1 auction will seek to deliver 900 MW of offshore renewable electricity.



South Coast DMAP Draft for Public Consultation (Source: Government of Ireland *https://www.gov.ie/pdf/?file=https://assets.gov.ie/292285/920df81d-7a78-4da5-ba3c-d6c480a21bd6.pdf#page=null)*

2.7.3 Ireland's Offshore Wind Industrial Strategy

In March 2024, the Government published *Powering Prosperity Ireland's Offshore Wind Industrial Strategy* (GoI 2024a). The strategy set out a series of actions to be taken with the aim of maximising the economic impact of future offshore renewable energy development, required to meet Ireland's 2030 and 2050 targets.

2.8 Recommendations

2.8.1 The Academy recommends that the Government takes more active ownership of the Climate Action Plan and decarbonisation objectives and policies. The Government must drive the actions and projects which further these objectives and policies, as required by ORE Policy 1 of the NMPF.

2.8.2 A well-coordinated whole of Government response is required if we are serious about achieving the targets agreed in our international commitments on Climate Change. The Government should form a Climate Change Task Force led by the Taoiseach's Department to ensure that all Government Departments and State Agencies are fully aligned and that progress is monitored regularly. Other related cross-departmental taskforces could be subsumed into it.

2.8.3 It is essential that the action items for 2024 and 2025 listed in Climate Action Plan 2024 are scrutinised and the actions most likely to make a significant difference, prioritised. The delivery of these actions must be progressed with urgency.

3. PERMITTING PROCESS FOR RENEWABLE ENERGY PROJECTS

3.1 Current Process - under Planning and Development Act, 2000, as amended

Currently, the *Planning and Development Act No 30 of 2000*, as amended, (the Act) (GoI 2000) is the relevant legislation covering development of renewable energy in Ireland.

3.1.1 Onshore Renewable Energy Projects

Under Section 37A in Part III of the Act, the planning application for a strategic infrastructure development is made to An Bord Pleanála (the Board). Strategic infrastructure developments are the developments listed in the Seventh Schedule of the Act, where the Board is satisfied that the development also meets at least one of the following conditions:

> *"(a) the development would be of strategic economic or social importance to the State or the region in which it would be situate,*
>
> *"(b) the development would contribute substantially to the fulfilment of any of the objectives in the National Planning Framework or in any regional spatial and economic strategy in force in respect of the area or areas in which it would be situated,*
>
> *"(c) the development would have a significant effect on the area of more than one planning authority."*

The projects listed in Class 1, energy infrastructure, in the Seventh Schedule include the *"transmission of electrical energy by overhead cables, where the voltage would be 220 kilovolts or more, but excluding any proposed development referred to in section 182A (1)"*, and *"An installation for the harnessing of wind power for energy production (a wind farm) with more than 25 turb*ines or *having a total output greater than 50 megawatts"*.

Under Section 182A in Part XI of the Act, high voltage power lines of 110kV or more or interconnectors are also strategic infrastructure developments and the planning application for these must also be made to the Board.

Solar PV projects and grid storage projects are not listed in the Seventh Schedule and are only classed as strategic infrastructure development if they are part of a high voltage transmission project of at least 110kV. If not classed as strategic infrastructure, an application for permission for such a project would be made to the local authority under Section 34 of the Act.

3.1.2 Offshore Renewable Energy projects

The *Maritime Area Planning Act, Number 50 of 2021,* as amended (the 2021 Act) (LRC 2023) introduced a new system for permitting maritime development.

Maritime Area Regulatory Authority

Part 3 of the 2021 Act provided for the establishment of the Maritime Area Regulatory Authority (MARA). The functions of the MARA include granting marine area consents (MAC) and licensing certain activities in the maritime area.

Marine Area Consents

Under Part 4 of the 2021 Act all maritime usages, except those listed in Schedules 3 and 4 of the 2021 Act, require a MAC for the purposes of such a usage. Schedule 3 includes Schedule 7 activities, i.e. a MAC is not required for Schedule 7 activities.

An applicant for a MAC must demonstrate that they are a *"fit and proper person"* in accordance with the criteria listed in Schedule 2 of the 2021 Act.

The MARA *"to the extent that is practicable to do so,"* must determine a MAC application not later than 90 days after the day on which the MARA is satisfied that the applicant has complied with all the requirements of the application process.

The Enablers Task Force on marine spatial planning (GoI 2015) recommended that, in streamlining the consent / licensing system in Ireland, some useful experience could be learned from Marine Scotland's Licensing Operations Team. The Team, which administers the licensing system on behalf of the Scottish Government, may request a pre-meeting with applicants and will offer expert advice about the process. It may also be able to share access to specialist marine datasets.

Marine Usage Licence under Schedule 7

The usages in the maritime area, listed in Schedule 7 of the 2021 Act, which do not require an environmental impact statement, require a licence under Part 5 of the 2021 Act and are exempted from the requirement to obtain planning permission. These usages include dredging, marine environmental surveys for scientific research or for a site investigation to support a consent application, installation of aids to navigation and laying or maintenance of telecommunications cables. An application for a licence is made to the MARA.

"To the extent that it is practicable to do so", the MARA must issue a licence not later than 30 days after the day on which is satisfied that the applicant has complied with all the requirements of the Act relating to making the application.

Chapter II of Part XXI - Coastal Planning Authority

Part 8 Section 171 of the 2021 Act inserted a new Part XXI into the Planning and Development Act 2000. Under Chapter II of Part XXI, certain developments in the maritime area require planning permission. Development wholly in the nearshore area of a coastal planning authority, or partly in the nearshore area of a coastal planning authority and partly on land, excluding development of a class listed in the Eighth Schedule, requires permission from the coastal planning authority. The applicant for permission for a Chapter II development must hold a MAC or a Licence or lease under the Foreshore Act 1933, as amended, or own the land, or be acting on behalf of or with the consent of the owner. The consent of the coastal planning authority can be appealed to the Board. If the decision by the MARA to grant a MAC is challenged by a third party by judicial review, this will not prevent the holder of the MAC from making a planning application under Chapter II or appealing a refusal to grant permission to the Board. However, any permission will not come into effect until the final judgement is given in the judicial review proceedings.

Chapter III of Part XXI – An Bord Pleanála

Chapter III of Part XXI applies to developments in the maritime area listed in the Eight Schedule and to maritime development, which is not wholly in the nearshore area of a coastal planning authority, or partly in the nearshore area of a coastal planning authority and partly on land.

Schedule 8 includes:

- Development listed in the Seventh Schedule (i.e. strategic infrastructure development),
- Development consisting of the construction of an electrical power line that has a voltage of not less than 220 kilovolts and a length of not less than 15 kilometres,
- An installation for the production of energy by harnessing the power of the wind that has (a) more than 5 turbines, or (b) a total output of more than 5 megawatts.
- Any floating or fixed installation (either temporary or permanent) for the production of energy by harnessing the power of the sun.
- An installation for the production of energy by harnessing wave or tidal power that has a total output greater than 5 generating units or 5 megawatts.

Offshore grid storage projects are not listed in the Eight Schedule and only come under Chapter III if they are part of high voltage power line projects of at least 220kV or are not located wholly in the nearshore area of a coastal planning authority.

An application for a Chapter III development is made to the Board. Pre-application consultation is mandatory. The applicant for pre-application consultation must hold a MAC or a licence or lease under the Foreshore Act 1933 as amended, or own the land, or be acting on behalf of or with the consent of the owner. The applicant for permission to carry out development consisting of port infrastructure to facilitate offshore renewable energy may consult with the Board without a MAC. The applicant for permission must hold a MAC. If the decision by MARA to grant a MAC is challenged by a third party by judicial review, this will not prevent the holder of the MAC from making a planning application under Chapter III. However, any permission will not come into effect until the final judgement is given in the judicial review proceedings.

3.1.3 Appropriate Assessment and Environmental Impact Assessment

Part XAB of the Act provides for the appropriate assessment of plans or projects which have the potential to have a significant adverse effect on the integrity of a European site, i.e. a site designated under Directive 92/43/EEC, "the Habitats Directive". Under Section 177V

and 177AA, a competent authority, having undertaken an appropriate assessment, shall not give consent to a development which is likely to have an adverse effect on the integrity of a European site unless, in the absence of alternatives, it considers that consent should be given for imperative reasons of overriding public interest. That imperative reasons of overriding public interest exist must be justified for each project.

The applicant for a Schedule 7 development must submit an Environmental Impact Assessment Report with the application and the Board must carry out an Environmental Impact Assessment (EIA). For other developments on land and for developments in the maritime area, the competent authority must undertake screening for the need for an EIA and undertake an EIA if one is required.

3.1.4 Project Flexibility

Because of the rapid development of renewable energy technology, and the long delays in obtaining permission, there can be significant advancements in the technology between the submission of a planning application and the construction of the proposed development. For example, wind turbine models have become progressively larger, with greater output per turbine. Production of the smaller, lower output wind turbine models may cease once larger models become available.

The 2021 Act inserted new sections (37CC, 37CD, 182F and 182G) into the Planning and Development Act 2000. These sections, which were commenced in December 2023, provide for pre-application consultation, the making of an application and the Board granting permission for a strategic infrastructure project and an electrical transmission project, for which certain details are not confirmed at the time of making the application. Chapter 3 of Part XXI makes a similar provision for projects in the maritime area.

New sections 32H and 32I allow for project flexibility for onshore projects, such as solar PV projects, which are not strategic infrastructure.

3.1.5 Timelines

Strategic Infrastructure Development

The strategic infrastructure development application procedure involves mandatory pre-application consultation by the applicant with the Board. Once the Board confirms that the project is a strategic infrastructure development an application can be made. There is no mandatory time limit for the Board to determine an application for a strategic infrastructure development on land or a Section 182A development. Under Section 37J, the Board has the objective to ensure that a decision is made "*within a period of 18 weeks beginning on the last day for making submissions or observations ….., or (b) within such other period as the Minister may prescribe either generally or in respect of a particular class or classes of matter.*"

However, the experience of renewable energy developers has been that decisions from the Board can take years and that the 18-week objective is rarely met.

A decision for an application for a Chapter III maritime development must be made within 18 weeks of the last day for public submissions, or the conclusion of any oral hearing or the date the applicant furnishes additional information. However, a procedure is provided under Section 295 of the Act where the Board considers that this time limit cannot be met.

Marine Usage Licence for Schedule 7 Activity

The MARA "*To the extent that it is practicable to do so*" must issue a licence for a Schedule 7 activity not later than 30 days after the day on which is satisfied that the applicant, in making the application has complied with all the requirements of the Act.

However, the MARA is required, *"as soon as is practicable after it receives a licence application and if it considers it necessary to do so"* carry out screening for appropriate assessment. If a licence application requires screening for an appropriate assessment and an appropriate assessment, the MARA has interpreted the 30-day time limit as coming into effect on completion of the screening or the appropriate assessment, if one is required.

There is no time limit for the MARA to undertake the screening, or to undertake the appropriate assessment. There is no sanction of any kind if the MARA fails to meet the 30-day time limit.

3.1.6 Judicial Review

Almost invariably, permissions for large scale renewable energy developments are subject to judicial review. Currently it is a two-step process. The prospective plaintiff must first apply for leave for a judicial review within eight weeks from the date notice of the planning decision is given. The second step is the judicial review proceedings itself. The court may combine the two steps. The applicant for judicial review must have "sufficient interest" in the matter. The respondent in the proceedings may be Ireland, on the basis that some aspect of EU environmental law has not been transposed correctly. More often the respondent is the Board or other competent authority, on the basis that it has made an error by failing to implement some aspect of Irish planning law or EU environmental law.

If the judicial review determines that the competent authority has made an error even in a small matter, the permission is quashed. The applicants have to submit a new application. If, due to the length of time taken by the Board to give its decision and by the High Court to determine the judicial review, the environmental studies are out of date, they have to be redone before the new application can be made.

Judicial review proceedings have no mandatory time limit and have led to long delays.

In December 2023, a separate Planning and Environmental division of the High Court (CSI 2024) was established with new procedures, rules, and dedicated judges. This new division should facilitate a build-up of expertise and more efficient case management and throughput of cases.

3.2 Planning and Development Bill 2023

3.2.1 Procedure in 2023 Bill for Renewable Energy projects

Under the Planning and Development Bill 2023 (GoI 2023e) the Board will be replaced by the An Coimisiún Pleanála (the Commission).

Chapter 3 of Part 4 of the Bill provides for "*standard development",* for which an application is made to the planning authority.

Chapter 4 of Part 4 of the Bill provides for an application to be made directly to the Commission for a *"Chapter 4 development"* and a *"Chapter 4 maritime development".* Defined in Section 79, Chapter 4 developments include strategic infrastructure developments and electricity transmission infrastructure developments, if situated wholly outside an urban area.

Strategic infrastructure is specified in Schedule 1 of the Bill. It includes *"an installation for the harnessing of wind power for energy production (a wind farm) with not less than 25 turbines or having a total output not less than 50 megawatts."* Electricity transmission infrastructure development is defined in Section 79 as "*(a) development consisting of infrastructure for transmission within the meaning of Directive 96/92/EC"* or "*(b) development for the purposes of such transmission, and includes an interconnector within such meaning".*

Chapter 4 maritime development is development wholly in the outer maritime area, or partly in the outer maritime area and partly in the nearshore area of one or more coastal planning authorities, or partly in the outer maritime area, partly in the nearshore area of one or more coastal planning authorities and partly on land, or partly in the nearshore area of one or more coastal planning authorities and partly on land, and development of a class specified in Schedule 2, situated wholly in the nearshore shore area of one or more coastal planning authorities, or partly in the nearshore shore area of one or more coastal planning authorities and partly on land.

Schedule 2 includes:

- Developments referred to in Schedule 1 (i.e. strategic infrastructure development)
- Construction of an electrical power line that has a voltage of not less than 220 kilovolts and a length of not less than 15 kilometres,
- An installation for the production of energy by harnessing the power of the wind that has (a) more than 5 turbines, or (b) a total output of more than 5 megawatts.
- Any floating or fixed installation (either temporary or permanent) for the production of energy by harnessing the power of the sun.
- An installation for the production of energy by harnessing wave or tidal power that has a total output greater than 5 generating units or 5 megawatts.
- A harbour or port installation of a certain size.

Onshore solar PV projects and onshore or offshore grid scale storage projects are not listed in the Schedule 1 or 2 and are only classed as strategic infrastructure development if they are part of electricity transmission infrastructure development. If not classed as strategic infrastructure, an application for permission for such a project would be made to the local authority.

Under Sections 114 and 115 of the Bill, pre-application consultation with the Commission is mandatory for a Chapter 4 development, other than for a state authority emergency development, and the Commission must carry out the consultation *"as expeditiously as is practicable".* Once the Commission confirms that the development is a Chapter 4 development, an application for permission can be made.

3.2.2 Appropriate Assessment and Environmental Impact Assessment

Chapter 3 of Part 6 of the Bill provides for appropriate assessment of development and proposed development. The competent authority must carry out appropriate assessment screening of a project and must undertake an appropriate assessment, if screening determines that one is required, before it makes a decision on application for a Chapter 3 or 4 development. A competent authority, having undertaken an appropriate assessment, shall not give consent to a development which is likely to have an adverse effect on the integrity of a European site unless, in the absence of alternatives, it considers that consent should be given for imperative reasons of overriding public interest and that the proposed compensatory measures are adequate to ensure the overall coherence of the Natura 2000 network. That imperative reasons of overriding public interest exist must be justified for each project. However, for certain projects and for European sites which do not have priority habitat or species present, Sections 199 (4) and 200 (4) of the Bill respectively makes provision for imperative reasons of overriding public interest to be deemed to exist:

> *"(4) Where a development concerned or any part thereof consists of—*
>
> *(a) the construction or operation of plants producing energy from renewable sources,*
>
> *(b) the storage of energy produced by such plants, or*
>
> *(c) the connection of such plants to electricity, gas or heat grids,*
>
> *imperative reasons of overriding public interest shall, in accordance with Article 3 of Council Regulation (EU) 2022/2577 of 22 December 2022 laying down a framework to accelerate the deployment of renewable energy is in force, be deemed to exist in relation to that development concerned or that part, as the case may be."*

Chapter 4 of Part 6 of the Bill provides for EIA. The competent authority must carry out EIA screening of a project, if an EIAR has not been submitted with the application, and must undertake an EIA, if screening determines that one is required, before it makes a decision on application for a Chapter 3 or 4 development.

3.2.3 Project Flexibility

For developments where certain aspects of proposed development are not confirmed at the time of making an application, Sections 116, 117 and 121 of the Bill provide for pre-application consultation, the making of an application and the Commission granting permission.

3.2.4 Timelines in 2023 Bill

Mandatory time limits for the Commission to make a decision on an application are set down in the Bill in Section 124. For Schedule 1 and 2 development (strategic infrastructure development) and electricity transmission infrastructure development there is a time limit of 48 weeks from the end of the public consultation period. The guide to the Bill (GoI 2023f) explains *"A system of proportionately escalating measures are set out in the Bill outlining the obligations in place if the Commission does not make decisions within the mandatory time limits, including mutually agreed time extensions, public notification and reporting, fines and intervention by the Minister in the form of review."*

3.2.5 Judicial Review

Part 9 of the Bill 2023 modifies the provisions of the sections 50, 50A and 50B of the Act of 2000 in relation to judicial review of a planning decision. As stated in the guide to the Bill:

> *"All applicants must provide evidence of sufficient grounds and sufficient interest (see below) in order to proceed."*

> *"Presently a Judicial Review applicant may bring amended grounds beyond those originally filed in their applications. This can cause significant delays as the Court and defendant consider the merits of each new amended ground. The new Bill reforms this by requiring that that an application for judicial review may only be made on the grounds of challenge raised by the applicant in the statement of grounds filed with their application and sets out limited criteria by which the Court may allow subsequent amendments to that statement of grounds."*

> *"Except in the case of specified bodies, for example Environmental NGOs, the new Bill requires all JR applicants to have exhausted any available appeal procedures or any other administrative remedy available in respect of the decision or act concerned."*

Unincorporated organisations such as Resident's Associations will be able to take judicial review cases in matters that materially affect their neighbourhood, in certain circumstances.

Section 259 limits the appeal of a judicial review decision to a higher court. Under Section 260, if the High Court decides that the relevant body has made an error in its decision, instead of striking out the decision, the High Court can order the relevant body to correct the error and can stay the proceedings until the error is corrected and then strike out the grounds. Section 261 provides that the High Court can declare part of a decision invalid, without declaring the rest of the decision invalid and can remit a matter to the relevant body with directions to that body.

While there is no mandatory time limit for a judicial review decision, under Section 262 *"Part 9 judicial review proceedings, and an appeal from such proceedings, shall be determined by a court dealing with such matters as expeditiously as possible consistent with the administration of justice."*

3.2.6 Likely Impacts of 2023 Bill

Time limits

The mandatory time limits for the Commission to make a decision for a Schedule 1 and 2 development (strategic infrastructure development) and an electricity transmission infrastructure development are longer in the Bill than in the current Act. However, the statutory objective in the Act was rarely achieved in recent years. The provision of sufficient resources for the Commission will be key to ensuring that the decisions are made within the mandatory time limits.

Appropriate Assessment

The fact that a renewable energy project, and any associated energy storage and grid project, will automatically be determined to be necessary for imperative reasons of overriding public interest will be helpful. However, it will still be necessary to demonstrate that there is no alternative to such a project.

Judicial Review

The changes to judicial review procedures should speed up the process. Providing for the competent authority to be able to correct errors or review parts of a decision, without striking out the entire decision, should reduce delays. The provision of sufficient resources for the Planning and Environment Division of the High Court will be key to ensuring that judicial review decisions are made in a timely manner.

3.3 Regulation (EU) 2022/2577 and Regulation (EU) 2024/223

Regulation (EU) 2022/2577 laying down a framework to accelerate the deployment of renewable energy (EU 2022) was published in December 2022. This temporary regulation applies for 18 months from the date it came into force on 23 December 2022. The Commission was required to review the regulation by 31 December 2023. In December 2023, the EU Council published *Regulation 2024/223* (EU 2023a) which amended some provisions of the *Regulation (EU) 2022/2577* and extended some of its provisions to 30 June 2025.

The subject matter of the *Regulation 2022/202577* is set out in Article 1:

> *"This Regulation establishes temporary rules of an emergency nature to accelerate the permit-granting process applicable to the production of energy from renewable energy sources, with a particular focus on specific renewable energy technologies or types of projects which are capable of achieving a short term acceleration of the pace of deployment of renewables in the Union."*

In Article 3 (1) the regulation provides for the planning, construction and operation of plants and installations for the production of energy from renewable sources, and their connection to the grid, the related grid itself and storage assets, to be presumed to be in the overriding public interest and serving public health and safety, for the purposes of the relevant articles of Directive 92/43/EEC, the Habitats Directive, Directive 2000/60/EC, the Water Framework Directive, and Directive 2009/147/EC, the Birds Directive. The application of Article 3(1) was not extended beyond 30 June 2024 as this provision is contained in Directive (EU) 2023/2413, amending the Renewable Energy Directive.

Articles 4, 5 and 7 contain provisions to accelerate the permit-granting, with fixed time limits, for solar energy equipment, repowering renewable energy plants and the deployment of heat pumps, respectively. The application of Article 5(1) was extended to 30 June 2025.

Article 6 gives member states the option to exempt renewable energy projects, grid projects and storage projects from environmental impact assessment under the environmental impact assessment Directive 2011/92/EU and certain provisions of the Habitats and Birds Directives, subject to certain requirements. The application of Article 6 was extended to 30 June 2025. The Irish Government chose not to adopt this option.

3.4 Renewable Energy Directive

In addition to setting a binding overall renewable energy target for the EU for 2030, *Directive (EU) 2023/2413, on the promotion of the use of energy from renewable sources, amending Directive (EU) 2018/2001* (EU 2023b), introduces a permitting regime for renewable energy projects and makes other changes to facilitate permitting.

The Member states must bring into force the laws, regulations and administrative provisions necessary to comply with the Directive by 21 May 2025.

3.4.1 Mapping of Areas for Renewable Energy

Article 15b (1), inserted into the amended Directive, requires member states by 21 May 2025 to map on land, inland waters and at sea areas necessary for national contributions towards the overall Union renewable energy target for 2030.

3.4.2 Renewables Acceleration Areas

Article 15c (1) (a) requires member states to identify by 21 February 2026 renewables acceleration areas for one or more types of renewable energy sources. These must be areas where the deployment of a specific type or specific types of renewable energy sources is not expected to have a significant environmental impact. Natura 2000 sites and other areas with environmental designations must be excluded. The member states must establish rules, under Article 15c (1) (b), for mitigation measures to avoid or, if that is not possible, minimise adverse environmental impacts, and ensure compliance with the relevant provisions of the Water Framework Directive, the Habitats Directive and Birds Directive. Compliance with the mitigation rules: "shall result in the presumption that projects are not in breach of those provisions".

Under Article 15c (2), the renewables acceleration areas must be subject to strategic environmental assessment in accordance with Directive 2001/42/EC, the Strategic Environmental Assessment Directive, and an appropriate assessment under the Habitats Directive, if one is required.

Article 15c (3) provides that member states can decide on the size of the renewables acceleration areas, but the size must be significant and contribute to achieving the objectives of the amended Directive.

By 21 May 2024, under Article 15c (4), member states may declare as renewables acceleration areas which they have already been designated for accelerated deployment of renewable energy subject to certain requirements.

Article 15e (1) provides for member states to designate dedicated areas for the development of the grid infrastructure and storage projects that are necessary to integrate renewable energy into the energy system, subject to certain conditions. Such areas must avoid Natura 2000 sites and Natural Heritage Areas and be subject to a strategic environmental assessment and an appropriate assessment, if one is required.

Under Article 15e (2) member states may, under justified circumstances, including where needed to accelerate the deployment of renewable energy in order to achieve the climate and renewable energy targets, exempt grid and storage projects which are necessary to integrate renewable energy into the electricity system, from certain requirements of the EIA, Habitats and Birds directives, provided the grid and storage projects are

located in a designated dedicated area and comply with the mitigation rules. The exemptions include from the requirement to undertake an EIA and an appropriate assessment.

3.4.3 Permitting Renewable Energy Projects

Article 16 of Directive (EU) 2018/1999 is replaced. The new Article 16 sets out a procedure to cover the permitting of renewable energy projects including storage projects and grid connections.

Under Article 16 (1), the permitting procedure covers *"all relevant administrative permits to build, repower and operate renewable energy plants, ….. as well as assets necessary for the connection of such plants, heat pumps and storage to the grid, and to integrate renewable energy into heating and cooling networks, including grid-connection permits and, where required, environmental assessments. The permit-granting procedure shall comprise all administrative stages..."*

Article 16 (2) imposes time limits for the acknowledgement by the competent authority of the completeness of an application for permission.

Article 16 (3) requires member states to designate one or more contact points, whose function will be to guide and facilitate an applicant during the entire application and permit granting process. The contact point will also ensure that the deadlines for the permit-granting procedures set out in the Directive are met.

Under Article 16 (4) the contact point must make available a manual of procedures.

Under Article 16 (5), the applicants and the general public must have easy access to simple procedures for the settlement of disputes concerning the permit-granting procedure and the issuance of permits for renewable energy projects.

Article 16 (6) imposes the requirement that administrative and judicial appeals in relation to renewable energy projects including appeals related to environmental aspects, *"are subject to the most expeditious administrative and judicial procedure that is available at the relevant national, regional and local level."*

Article 16 (7) requires member states to *"provide adequate resources to ensure qualified staff, upskilling and reskilling of their competent authorities in line with the planned installed renewable energy generation capacity"* and *"shall assist regional and local authorities in order to facilitate the permit-granting procedure."*

3.4.4 Permitting Renewable Energy Projects in Renewables Acceleration Areas

Article 16a addresses permit-granting procedure in renewables acceleration areas.

Article 16a (1) sets firm durations for the permit-granting procedure for renewable energy projects in renewables acceleration areas. The duration for onshore projects is one year and for offshore projects is two years. However, *"Where duly justified on the ground of extraordinary circumstances, Member States may extend either of those periods by up to six months."*

In renewables acceleration areas, a six-month time limit is set out in Article 16a (2) for the permitting procedure for repowering renewable energy plants and for certain new onshore projects and a twelve-month time limit for the permitting procedure for offshore wind energy projects.

Article 16a (3) exempts renewable energy repowering projects and new renewable energy projects in renewables acceleration areas from the requirements of the EIA Directive, unless the project is likely to have significant effects on the environment in another member state. Such projects are also exempted from the requirement to carry out an appropriate assessment provided they comply with the mitigation measures, established under Article 15c (1) (b) to avoid or, if that is not possible, minimise adverse environmental impacts.

Article 16a (4) requires member states to screen projects, availing of the exemptions under Article 16a (3), for significant unforeseen effects not identified when the renewables acceleration areas were designated. If the screening determines that such effects are likely, under Article 16a (5) the project must be subject to EIA and an appropriate assessment, if required, and these assessments must be carried out within six months. However, where a wind or solar project is needed to accelerate the deployment of renewable energy to achieve its climate and renewable energy targets, subject to certain conditions, the member state may exempt the project from such assessments.

3.4.5 Permitting Renewable Energy Projects outside Renewables Acceleration Areas

Article 16b addresses permit-granting procedure outside renewables acceleration areas.

For the permit-granting procedure for renewable energy projects, located outside renewables acceleration areas, Article 16b (1) sets a two-year duration for onshore projects and three years for offshore projects. In extraordinary circumstances, a member state may extend the period by up to six months.

Outside renewables acceleration areas, a twelve-month time limit is set out in Article 16b (2) for the permitting procedure for repowering renewable energy plants and for certain new onshore projects and a two-year time limit for the permitting procedure for offshore wind energy projects.

3.4.6 Accelerating the Permit-Granting Procedure for Repowering

Article 16c imposes a time limit of three months on the permitting procedure for repowering of a renewable energy power plant in renewables acceleration areas, subject to certain conditions. If the repowering project is subject to screening for EIA or to an EIA, the screening or EIA shall be limited to the effects of the change or extension to the original project. Subject to certain conditions, a solar repowering project is exempted from the requirement to screen for or carry out an EIA.

3.4.7 Permit-Granting Procedure for The Installation of Solar Energy Equipment and Heat Pumps

Under Article 16d, the permit granting procedure for the installation of solar equipment and co-located energy storage on buildings or artificial structures or surfaces shall not exceed three months and such installation shall be exempt from the requirement to carry out an EIA. Member states may limit the exemption in certain circumstances. For solar installations less than 100kW the permit granting procedure shall not exceed one month. In certain circumstances, member states may apply a lower limit.

A one-month time limit must apply to the permit granting procedure for installation of heat pumps below 50MW capacity, except for ground source heat pumps where the time limit shall be three months. For certain capacity heat pumps and subject to certain conditions, the connections to the transmission or distribution grid shall be permitted within two weeks of the notification to the relevant entity.

3.4.8 Appropriate Assessment - Overriding Public Interest

Article 16f defines renewable energy projects as projects of overriding public interest:

"By 21 February 2024, until climate neutrality is achieved, Member States shall ensure that, in the permit-granting procedure, the planning, construction and operation of renewable energy plants, the connection of such plants to the grid, the related grid itself, and storage assets are presumed as being in the overriding public interest and serving public health and safety when balancing legal interests in individual cases for the purposes of Article 6(4) and Article 16(1), point (c), of Directive 92/43/EEC, Article 4(7) of Directive 2000/60/EC and Article 9(1), point (a), of Directive 2009/147/EC. Member States may, in duly justified and specific circumstances, restrict the application of this Article to certain parts of their territory, to certain types of technology or to projects with certain technical characteristics in accordance with the priorities set out in their integrated national energy and climate plans submitted pursuant to Articles 3 and 14 of Regulation (EU) 2018/1999. Member States shall inform the Commission of such restrictions, together with the reasons therefor.';"

(Directive 92/43/EEC = Habitats Directive; Directive 2000/60/EC = Water Framework Directive; Directive 2009/147/EC = Birds Directive.)

3.4.9 Likely Impacts of Renewable Energy Directive

Implementation of the Directive should accelerate the development of renewable energy projects by:

- Providing mandatory time limits for permitting procedures, to include all relevant administrative permits to build, repower and operate renewable energy plants, and grid and energy storage projects,
- Providing a designated contact point to guide and facilitate applicants and co-ordinate the response of the various competent authorities,

- Exempting certain projects from the requirement to carry out EIA and appropriate assessment. This will remove many of the grounds for judicial review of projects and thus avoid delays.

3.5 Recommendations

3.5.1 EU Directive 2023/2413 on the promotion of the use of energy from renewable sources provides for the acceleration of the permitting of renewable energy projects, including associated grid and energy storage. As permitting is one of the most significant causes of delay and uncertainty to the achievement of the 2025 and 2030 targets, full transposition of the provisions of the Directive will be necessary as soon as possible. The renewables acceleration zones must be identified and the exemptions from the requirements of the Environmental Impact Assessment and Habitats Directives, provided for in the Directive must be availed of.

3.5.2 Firm and accelerated timelines are essential for all consents and sanctions must be imposed if the competent authority does not achieve them. This includes Planning and Development Bill 2023 chapter 3 and chapter 4 planning permissions, and licences and marine area consents for projects which support onshore and offshore renewable energy, but which are not covered by the Directive (EU) 2023/2413, such as ports.

3.5.3 The recent strengthening of An Bord Pleanála is very welcome. However, the increase in the number and complexity of projects that the Board is required to assess means that the extent and range of skills required will need to be appraised by Government on an ongoing basis. The Government should establish a regular and formal monitoring programme to ensure that the necessary resources are always in place.

3.5.4 The establishment of the Planning and Environmental Division of the High Court is a very positive development. As in the case of the Board it is important that the adequacy of resources is kept under review by Government so that any looming shortfall can be rectified in a timely manner.

3.5.5 MARA needs to be resourced adequately so that it can take a pro-active approach with applicants, in offering expert advice about the MAC process, sharing access to specialist marine datasets, and adhering strictly to the timelines in the 2021 Act for the grant of MACs and marine usage licences.

4. ONSHORE RENEWABLE ENERGY

4.1 Onshore Renewable Energy

In 2022, 42% of the electricity generated indigenously in Ireland came from gas, 38.9% from renewables, 7% from coal, and 3.2 % from oil. Of renewables, 85.7% came from wind, mainly onshore, and 1.1% came from solar (SEAI 2023a).

The Government's Climate Action Plan targets a transformative increase in the renewable energy electricity share of demand, as presented in Table 2, Section 2.6. The renewable targets are 50% in 2025, rising to 80% in 2030. The installed generating capacity targets are 9GW for onshore wind and 8GW for solar which are very challenging targets as discussed in sections 4.2 and 4.3.

4.2 Onshore Wind

The Wind Energy Ireland (WEI) assessment of the current onshore wind energy pipeline is as shown in Table 4.

Table 4 Onshore Wind Energy Pipeline

Onshore Wind Energy Pipeline (end of 2023)					
Installed Capacity	**Pre - planning**	**In planning**	**Planning and grid**	**Route t o market**	**2030 Target**
4,671MW	7915MW (Land agreements in place and environmental surveys complete or underway)	1,000MW (350MW have been in planning since 2020 or before)	1,905MW Planning permission and grid connection achieved	1,070MW (RESS or CPPA route to market)	9,000MW

RESS = Renewable energy support scheme

CPPA = Corporate power purchase agreement

WEI estimates that there are over 11GW of onshore wind projects in development and competing for 2030 delivery.

In summary, to meet the Government's Climate Action Plan target for onshore wind, the installed capacity must increase from approximately 4.7GW to 9GW in 7 years. The largest onshore wind farm in Ireland is at Oweninny, Co Mayo, with 60 turbines and an installed capacity of 192MW. As a guide, over 20 Oweninny size wind farms are required by 2030, a difficult challenge but one that must be addressed with urgency. As no offshore wind generating capacity is likely to be delivered by 2030, delivery of onshore renewables is even more critical.

4.3 Solar

The Irish Solar Energy Association (ISEA) assessment of the current status of solar energy generation projects is presented in Table 5 below.

Table 5 Solar Energy Generation Projects

Onshore Solar Energy Q1 2024				
Installed Capacity	**In planning**	**With planning consent**	**Route to market**	**2030 Target**
1,090.5MW Utility scale 512MW Microgen - 316MW (82,000 homes) Commercial and industrial - 262.5MW	1,721MW	6,822MW, of which: 1083MW have a contract, not built yet 4681MW in ECP* (either getting a grid offer, or will get a grid offer) 1058MW not in EPC process	1,998MW with secured route to market via RESS, not built yet	8GW

*ECP = Enduring Connection Policy process

The Commission for Regulation of Utilities' ECP process facilitates grid connection applications for generators, storage, and other system services technology projects. The process is open for applications for a short period once per year. The applications are analysed, the applicant receives confirmation that its project is in the batch, then a grid offer is made. From the applicant's viewpoint the process is lengthy, costly and lacks certainty.

In summary, to meet the Government's Climate Action Plan target for solar, the installed capacity must increase from approximately 1.1GW to 8GW in 7 years, which appears to be achievable. However, the focus must be on the urgent delivery of the maximum installed capacity over the next 7 years and beyond.

4.4 Challenges

There are considerable challenges in achieving the target of 9GW for onshore wind and 8GW solar electricity generation by 2030. Many of these challenges, and potential solutions, are presented in the (KPMG 2023) report commissioned by WEI. Two key challenges are:

- Grid connections and strengthening the transmission and distribution grids, including introduction of new technology. The development of the transmission grid is discussed in Section 6.
- Planning process/system. However, with increased resources, ABP has processed 10 project applications, approving 8 projects with a combined capacity of 600MW, recently.

Other challenges include:

- Commission for Regulation of Utilities' (CRU) ECP process is only open for application once per year. This can impact project schedule, if for example, a planning decision is delayed.
- There are no Government guidelines to assist the planning authorities on good practice in the development of solar projects. The ISEA has issued its own guidelines on good practice, but they have no statutory status.
- No industry input to Government cross-departmental taskforces, which would support and expedite delivery of onshore wind and solar projects, as there is to the cross-departmental offshore wind taskforce (Refer to Section 5.5).
- Lack of political support at a local level for onshore wind and solar projects and for strengthening grid infrastructure.

4.5 Recommendations

4.5.1 Implement the Eirgrid and SONI plan *'Shaping our electricity future, a roadmap'* (EirGrid and SONI 2023) as a matter of urgency.

4.5.2 Implement ESB *'Networks for Net Zero'* strategy (ESB 2023) as a matter of urgency.

4.5.3 Increase the scale of individual onshore renewable energy projects.

4.5.4 Continue to resource An Bord Pleanála, local authorities and other agencies (such as the National Parks and Wildlife Service), which are involved in the planning process, adding planning, technical and other qualified staff in a timely manner where this broad range of expertise is required.

4.5.5 Expedite the CRU ECP process for assessment and awarding of grid connections and reduce the cost associated with the process.

4.5.6 Issue updated Government 2006 guidelines for onshore wind projects. The update of the guidelines has been with the Department of Housing, Local Government and Heritage for consideration for some time.

4.5.7 Issue Government guidelines for solar projects. Alternatively, endorse the guidelines for good practice published by ISEA.

4.5.8 Provide a forum for the onshore wind and solar industry to input to Government plans for onshore renewable energy. This forum should be led by the Department of the Taoiseach for maximum effectiveness.

4.5.9 Engage local politicians to encourage support for renewable energy projects in their area.

5. OFFSHORE WIND ENERGY

5.1 General

Ireland's coast could be one of the most energy-productive in Europe, with a long-term potential of 70 GW of ocean energy opportunities (wind, wave and tidal) within 100 km of the Irish coastline (GoI 2021b). In the short-term, the Government has set an objective of installing at least 5 GW of offshore wind generation by 2030, to help Ireland meet its target of providing 80% of electricity from renewable sources by that year.

This chapter looks at three main issues which may impede delivery progress, particularly between now and 2030:

1. Grid connections for offshore wind farms
2. The maritime development consent process
3. The need for offshore renewable energy ports.

5.2 Grid connections for offshore wind farms

Connecting an offshore wind farm to the national electricity grid involves laying a power cable from the wind farm to the shore and seeking consent from EirGrid, the grid operator, to connect the cable to the grid. Access to the grid is constrained because of the need for new grid infrastructure; more electricity is required to supply the transport and heating sectors as they decarbonise, and renewable electricity brings its own technical challenges as back-up supplies will be called when weather (sun or wind) creates unfavourable variations in power generation. The Climate Action Plan 2024 requires 9GW of onshore wind generation and 8GW of solar generation to be connected to the national grid by 2030, in addition to at least 5GW of offshore wind generation.

To manage access to the grid, and to incentivise capital investment in offshore renewable electricity, the Government has created the Offshore Renewable Energy Support Scheme (ORESS). This is a competitive auction process whereby the Government allocates access to the grid, and electricity price supports for 20 years, in response to bids from generators to deliver specific development projects. The results of the first ORESS auction in June 2023 were as follows:

	Capacity
North Irish Sea Array	500MW
Dublin Array	824MW
Codling Wind Park	1,300MW
Sceirde Rocks Offshore Wind Farm	450MW
Total	**3074MW**

The first three projects are located in the Irish Sea, while the Sceirde Rocks project is sited off Co. Galway, with the developers being responsible for providing the undersea connections to the grid. The successful bidders will now prepare planning applications to An Bord Pleanála by June 2024[1], and their projects will account for over 60% of the target of 5GW of offshore renewable electricity by 2030, if delivered on time.

The next phase of ORESS auctions will exclusively procure a set volume of offshore wind capacity within areas designated for Offshore Renewable Energy by Designated Maritime Area Plans (DMAPs), which are provided for in the Maritime Area Planning Act 2021 (see Section 2.7.2 above). The first ORESS auction in Phase Two, ORESS 2.1, will procure from projects in the planned South Coast DMAP, 900MW of fully grid-connected capacity across two separate offshore connections points, delivered by a single successful participant. In accordance with the Phase Two policy and plan-led approach to site selection and auction, EirGrid will proactively develop the grid transmission infrastructure for ORESS 2. In ORESS 2.1, this will include the planning and construction by EirGrid of the offshore substation infrastructure, as well as the undersea and terrestrial transmission cables connecting offshore substations to existing onshore substations. Work on identifying and developing these offshore connection platforms for the ORESS 2.1 auction has already commenced by EirGrid.

As with ORESS 1, successful bidders under ORESS 2 will be required to establish a Community Benefit Fund[2] payable for the lifetime of the project.

1 The two unsuccessful projects, both in the Irish Sea, will be offered a limited period to see if an alternative route to market (such as sale of power to companies) is feasible.

2 'Local Community' includes, but is not limited to, local fishers, seafood culture, tourism, the wider blue economy, and maritime heritage communities.

5.3 ORE Projects and the Consent Process

The Maritime Area Planning Act 2021 established a new development consent process for major offshore developments such as wind farms. This process is summarised in Section 3. All the successful bidders in the ORESS 1 auction obtained a MAC and must now lodge planning applications with An Bord Pleanála.

Even assuming that each of the four ORESS 1 projects is ultimately granted development consent, the possibility of judicial reviews cannot be ruled out, and, while a new planning and environmental court has just been established to speed up the processing of such cases, as described in Section 3.1.6 developers face great uncertainty in determining if or when construction can go ahead. This has implications for the delivery of Ireland's 2030 climate change and carbon budget targets. A typical timeline of an offshore wind farm, from design to operation, suggests that the design and consent stages can take up to 5 years, with a similar time being required for pre-construction, construction and commissioning stages. This implies that the provision of new offshore windfarms by 2030 will be extremely challenging.

Expedited development consent procedures for renewable energy plants will be required from 2025 under EU Directive 2023/2413. Refer to Section 3.4 above.

5.4 The need for offshore renewable energy ports

Irish ports suitable for construction, deployment, supply and maintenance of ORE projects will play a vital role in meeting the ORE targets and facilitating floating wind turbines in the deeper waters off the south and west coasts in the period 2030 to 2050. ORE ports can also promote regional development by fostering local supply chain firms.

However, recent assessments of the state of readiness of potential ORE ports have highlighted challenges which will need to be overcome. A 2023 study (WEI 2023) found that only Belfast's D1 facility is entirely suitable to support fixed-bottom construction, with limited infrastructure to support the deployment of floating wind. A recent report (SEAI 2023) concluded that in order to facilitate the installation and maintenance of floating offshore wind turbines at Cork Harbour, significant upgrades to the infrastructure are required. These include suitable quayside space with sufficient water depth where such turbines can be assembled and sufficient storage space where turbine substructures and other components can be stored before assembly. Cork Harbour is a busy commercial port with scheduled traffic and large tankers/bulk carriers requiring regular entry. Some of these vessels will compete for access at high tide with floating turbines being towed from the quayside to beyond the harbour entrance at Roches Point or vice versa when coming in for maintenance/repair. Bantry Bay provides an excellent sheltered deep-water area for a port capable of assembling/servicing floating turbines and has significant scope for wet storage of units. However, a final design, planning permission and construction of an extended new quay at Leahill would be required.

According to a 2018 survey (IMDO 2018), a clear and coherent policy and legislative framework is needed to attract the investment from industry that will result in job creation and the construction of new facilities and port infrastructure. The supply chain in Ireland is still poor compared to competitors in the UK. Following the completion of the IMDO assessment, the Minister for Transport decided on a multi-port approach to the provision of the necessary port facilities. Ireland will potentially need to build, on a phased basis, around four to five standard ORE port facilities (each capable of building 500MW of ORE annually) which will act as construction and deployment ports over the next 25–30 years.

The Dept of Transport is currently undertaking a review of the National Ports Policy 2013. In a submission to the Dept, the Academy raised the real risk that there might not be capacity within Irish Ports to support ORE projects when required within the next few years. With the single exception of the consented project to expand port capacity at Ringakiddy, there is no other ORE port project yet in planning, let alone ready to be constructed. As things stand, ORE developers cannot commit and give any revenue certainty to ORE port projects.

5.5 Cross-departmental Offshore Wind Delivery Taskforce

In April 2022, the Minister for Environment, Climate and Communications established a cross-departmental Offshore Wind Delivery Taskforce (GoI 2024b) to accelerate and drive delivery and capture the wider and longer term economic and business opportunities associated with the development of offshore renewables

in Ireland. The taskforce is chaired by the Department of the Environment, Climate and Communications (DECC), and its membership comprises senior officials from Government Departments and agencies with offshore wind related actions under the Climate Action Plan. The member organisations are:

- DECC
- Department of Housing, Local Government and Heritage (DHLGH)
- Department of Transport
- Department of Enterprise, Trade and Employment (DETE)
- Department of Further and Higher Education, Research, Innovation and Science (DFHERIS)
- Department of Public Expenditure and Reform (DPER)
- Department of Rural and Community Development (DRCD)
- Enterprise Ireland
- CRU
- EirGrid
- MARA
- Sustainable Energy Authority of Ireland (SEAI)
- Marine Institute

The Department of Defence and the Department of Agriculture, Food and the Marine (DAFM) also attend Taskforce meetings in an observer capacity.

It is noted that the Department of the Taoiseach is not represented on the taskforce.

5.6 Recommendations

5.6.1 The Academy is encouraged to see that seven MACs have been issued to six ORE projects and that four of these projects have a route to market arising from ORESS1. Every effort should be made to ensure that the two Phase 1 projects, which were not successful in ORESS1, can also be progressed further at an early stage.

5.6.2 As ORESS2 is to be plan-led, it is essential for the Government to ensure that the making of the plans is accelerated, as no applications can be made until the plans are finalised.

5.6.3 As far as possible, the data required by bidders, such as the geotechnical, metocean and ecological conditions, to enable them to prepare realistic tenders, is obtained and made available to all bidders in a timely manner, prior to seeking tenders.

5.6.4 To address the lateness in developing ORE port projects, State backed funding mechanisms need to be provided to support the planning and development of these port projects as a matter of urgency.

6. STRENGTHENING THE ELECTRICITY GRID

6.1 General

The EirGrid transmission system consists of a high voltage network, predominantly assets that operate at 110kV, 220kV and 440kV. The network is supported by a lower voltage distribution system. Together, they supply electricity to customers throughout Ireland. The high voltage network was mainly developed in the 1970s and 1980s and connected the fossil fuel generating stations, generally located on the coast, with commercial and domestic customers at large commercial sites and in urban areas.

While development of elements of the transmission grid continues, e.g., transmission lines and substations, few cross-country high voltage transmission lines have been constructed since the Arklow - Carrickmines 220kV line was commissioned in 1988. A 55km Flagford- Srananagh 220kV Line took 20 years to deliver (2012), and a double circuit 110kV line to Balbriggan was completed nearly twenty years after the development of a substation at Balbriggan was originally proposed. Landowner, community and political opposition contributed substantially to these delays. More positively, but 20 years ago, a 400/220kV substation at Oldstreet and a 220kV line connection to Cashla 220kV substation was completed by December 2003, a year ahead of schedule.

Several major high voltage transmission interconnector projects are at planning or under construction. The North - South 400kV interconnection project has been planned since 2008 but it appears to be at land acquisition negotiation stage, a long way from construction. The Greenlink Interconnector, Wales/Ireland, being developed by Greenlink Interconnector Ltd is under construction and is due to be commissioned by the end of 2024. The Celtic Interconnector, France/Ireland, a joint venture between EirGrid and Réseau de Transport d'Electricité is under construction and is due to be commissioned in 2026.

6.2 Existing and Projected Electricity Demand

In 2024 the generating capacity required in Ireland is approximately 6GW. This is anticipated to increase to between 6GW and 8GW, depending on growth assumptions, in 2032 (Eirgrid and SONI 2023). The Government net zero strategy projects that 80% of electricity will be generated by renewable sources, onshore and offshore wind, and solar. Currently, onshore wind generating capacity is 4.7GW, offshore wind capacity is 25MW and solar is 1.1 GW and growing. Government renewable generation targets for 2030 are 9GW onshore wind, 5GW offshore wind and 8GW solar. While challenging, if not impossible, to achieve these targets, major upgrades to the grid will be required due to the increased load and the diverse locations of the renewable energy generation.

6.3 Transmission Grid Development

6.3.1 Introduction

EirGrid is responsible for operating and ensuring the maintenance and development of a safe, secure and reliable electricity transmission system - now and in the future. To achieve this, EirGrid continues to develop, manage and operate the electricity transmission grid. ESB Networks is responsible for building works and carrying out the physical maintenance as identified by EirGrid. They work together in the development and construction of grid infrastructure. EirGrid collaborates with SONI Ltd (transmission system operator for Northern Ireland) in the planning of the all-island transmission grid.

6.3.2 Transmission Grid Planning

In Nov 2021, EirGrid and SONI published 'Shaping our electricity future, a roadmap to achieve our renewable ambition'(Eirgrid and SONI 2021) Its stated ambition was *"'to provide an outline of the key developments from a networks, engagement, operations and market perspective needed to support a secure transition to at least 70% renewables on the electricity grid by 2030 – an important step on the journey to 80% and to net zero by 2050. Inherent in this is a secure transition to 2030 whereby we continue to operate, develop and maintain a safe, secure, reliable, economical and efficient electricity transmission system with a view to ensuring that all reasonable demands for electricity are met".*

In July 2023 a revised version 1.1 of the Shaping Our Future Roadmap was published (Eirgrid and SONI 2023), reflecting what the report calls *"the paradigm shift in market dynamics due to the war in Ukraine"*. Figure 5 in the Roadmap presents the networks analysis candidate network projects. These are four large-scale renewable hubs and 16 networks projects (four 110 kV uprates, two 220 kV uprates and 10 smart devices). No new

above ground transmission lines are proposed. All high voltage transmission lines are proposed as underground infrastructure (maximum 50km in length), located in public rights of way where possible.

6.3.3 Transmission Grid Delivery Challenges and Initiatives

Scale of the Challenge

EirGrid anticipates over 350 projects being completed to reinforce the grid at a cost of over €3 billion between 2021 and 2030.

HV Forum

The construction of high voltage transmission lines along public rights of way, such as national primary roads, presents physical challenges not encountered when constructing overhead cross-country lines. These include obstructions such as underbridges, overbridges and culverts and a restricted corridor width limiting the space for large cable joint boxes. Detailed routing and design of the cables are required at an early stage of an underground transmission line project. The impact of construction on the existing road structure and any additional maintenance requirements need to be addressed and agreed before construction commences. A HV Forum has been established, bringing the electricity and road sectors together with stakeholders to address these issues on the 45km Kildare - Meath 400kV line and the 110kV North Connaught line. The HV Forum is making progress in resolving issues and the Academy commends the active participants, EirGrid, TII and the local authorities.

Dublin Infrastructure Forum

Eirgrid is coordinating with other state-owned utilities, transport providers and local authorities through the Dublin Infrastructure Forum to deliver Powering Up Dublin, a programme to transform and modernise the City's ageing electricity infrastructure. The programme includes underground cable routes from North Wall to Poolbeg, Finglas to North Wall, Carrickmines to Poolbeg, and two cables linking Inchicore and Poolbeg. Several routes have agreed alignments. Poolbeg to Inchicore does not yet have an agreed route.

6.4 Private initiatives to contribute to renewable energy capacity

A 'Private Wire' is electricity infrastructure, installed and owned by parties other than the ESB, crossing third party land between an electricity generator and an end user. A private wire crossing third party land is currently not permitted in Ireland. Private Wire is an off-grid solution that could overcome current and possibly future grid constraints. It could also facilitate 'off-grid' energy generation, storage and usage models such as energy parks and the co-location of generation and demand. In Aug 2023 a consultation process was initiated by DECC (GoI 2023g) to get stakeholder feedback on what role Private Wires could play in the generation of renewable energy, asking stakeholders to identify the challenges and opportunities a policy change might present. Submissions were due by 27 Oct 2023 and they are being considered in developing a Private Wires policy, to be launched in 2024.

6.5 Progress reporting

EirGrid has a six-step process, with six associated 'gateways', for project delivery. Eirgrid publishes a quarterly Network Delivery Portfolio report on the progress of its capital projects at three key stages in project development and delivery. The stages are Gateway 3 - capital approval, Gateway 6 - project agreement, when the project is handed over to ESB Networks, and gateway 6 - energisation, when the project is substantially complete. The Portfolio report for Quarter 3 of 2023 lists many individual projects and provides information on their status at the three stages. For projects at Gateway 3 - capital approval, 83% achieved the milestone, at Gateway 6 - project agreement, 52% of projects achieved the milestone, and at energisation, just 20% achieved the milestone. This indicates very significant delays in delivering grid related projects and this must be addressed urgently.

6.6 Landowner, Community and political support

A significant issue in the delay in project delivery, summarised in section 3.5, is landowner, community and public representative opposition to projects in their 'backyard', some of which might be justified. Pro-active public consultation and negotiation by appropriately experienced project representatives can often resolve these issues. It also requires responsible leadership by public representatives, taking a balanced view on

projects and not contradicting Government policy on net zero by 2050 for political gain.

6.7 Recommendations

6.7.1 Irrespective of our progress on renewable energy generation, the success of our renewable energy programmes will depend entirely on the proposed transformation of the National Electricity Grid. This programme of work is vital and must be treated with the utmost urgency in order to meet the timelines outlined by EirGrid. This applies to both onshore and offshore elements of the grid. The Academy believes that the Government, with the support of opposition parties, must drive the programme to ensure it is completed as a matter of urgency.

6.7.2 Standards and protocols need to be established so that experience gained in the HV forums for the Kildare – Meath and North Connaught lines can be quickly and efficiently applied to similar upcoming projects. This type of coordination and collaboration between state agencies should be mandatory for all similar projects and be subject to strict timelines.

6.7.3 The Dublin Infrastructure Forum is a positive initiative that the Academy supports. However, these individual projects need to be expedited if commissioning by 2030, or anytime soon after, is to be achieved.

6.7.4 The Academy supports private wires as one of many approaches to meeting our net zero targets. However, appropriate principles, standards and protocols will be required to ensure that private wires do not impact on the existing transmission and distribution systems. A positive decision is urgently required to allow private wires and the associated sustainable energy projects to proceed.

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Disclaimer

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