EirGrid
An tUbhchruth,
160 Bóthar Shíol Bhroin,
Droichead na Dothra,
Baile Átha Cliath 4,
D04 FW28
Éire

EirGrid
The Oval,
160 Shelbourne Road,
Ballsbridge,
Dublin 4,
D04 FW28
Ireland

T +353 1 677 1700
E info@EirGrid.com
EirGrid.com

Department of the Environment, Climate and Communications
29 – 31 Adelaide Road,
Dublin 2, D02 X285

30 June 2023

EirGrid response to Ireland's Long-term Strategy on Greenhouse Gas Emissions Reduction

Dear Sir/Madam,

We write in response to the Department for the Environment Climate and Communications (DECC) public consultation on Ireland's Long-term Strategy on Greenhouse Gas Emissions Reduction. As Transmission System Operator (TSO), EirGrid develops, manages and operates the electricity transmission system in Ireland. More recently, as per the Policy Statement on the Framework for Ireland's Offshore Electricity Transmission System, EirGrid has been designated as the system operator and transmission asset owner (TAO) of Ireland's offshore electricity transmission system. EirGrid has a significant and central part to play in the facilitation and delivery of Ireland's carbon neutral ambitions in its role as onshore TSO and offshore TSO and TAO.

EirGrid welcomes the publication of this Strategy and the opportunity to respond via public consultation. Through the Climate Action and Low Carbon Development (Amendment) Act 2021, the State has a long term commitment to a climate resilient, biodiversity rich and climate neutral economy by no later than the end of the year 2050. The Strategy will aid the transformation required across multiple sectors of the economy to achieve the Government's ambition of carbon neutrality by 2050 as set out in the Programme for Government - Our Shared Future.

A plan-led approach and a balanced portfolio

There are a number of key factors which are critical for Ireland in order to meet its climate ambitions and EirGrid have a key role to play in driving and facilitating them. Firstly, we must recognise the different realities of the electricity system, the needs of society and the wishes of communities, as we transition to much higher and higher levels of renewables. As well as continuing to focus on cost competitiveness and

Stiúrthóirí: Brendan Tuohy **Cathaoirleach**, Mark Foley **Príomhfheidhmeannach**, an Dr Theresa Donaldson **Leaschathaoirleach**, Shane Brennan, Tom Coughlan, Michael Hand, Rosa M Sanz García (An Spáinn), James Nyhan.

Directors: Brendan Tuohy **Chair**, Mark Foley **Chief Executive**, Dr Theresa Donaldson **Deputy Chair**, Shane Brennan, Tom Coughlan, Michael Hand, Rosa M Sanz García (Spain), James Nyhan.

Uimhir Chláraithe na Cuideachta | Company Reg No. 338522

innovation, we must factor in macro level constraints and in particular grid capacity as we plan for our carbon neutral future.

An approach whereby tens of additional gigawatts of offshore renewable connections are all working separately and individually towards connecting to an island power system is not an optimal solution and is unlikely to achieve Ireland's climate ambitions. A plan-led approach will co-ordinate the onshore and offshore transmission system with the potential to reduce infrastructure and minimise the associated environmental impact. It will allow us to take advantage of the whole of system synergies, e.g. locating renewable generation adjacent to load centres and locations with realisable grid capacity for renewable generation. It will also lead to a reduction in end-consumer costs as well as providing the opportunity for a co-ordinated and consistent public acceptance strategy covering multiple projects.

Secondly, we will need a balanced portfolio of different technologies in the right locations to enable us to operate this transformed electricity system. The analysis from EirGrid's *Shaping Our Electricity Future 1.1* makes it clear that a plan-led, balanced portfolio is critical for Ireland's electricity system to help achieve both our 2030 targets and our carbon budgets. These findings cross reference with those coming out of studies that have been carried out by other parties (at both domestic & international levels).

Please see below for an overview of the work that EirGrid is leading which is highly relevant to Ireland's Long-term Strategy on Greenhouse Gas Emissions Reduction as well as observations on some particular aspects of the strategy. Our feedback is focused on the proposed Pathways to Climate Neutrality and the Pathway to 2050 for the Electricity Sector. We support the core and further measures for electricity but acknowledge that at this stage they are at high level and provide a useful boundary for long term strategic targets.

Tomorrows Energy Scenarios

As part of EirGrid's analysis for Tomorrow's Energy Scenarios 2023 (TES 2023), our technical experts are currently undertaking research into long term scenarios that target a net zero power system. TES 2023 builds on EirGrid's analysis for Shaping Our Electricity Future (SOEF) v1.1 which focuses on the period to 2030 to evaluate how electricity demand and supply might evolve from 2035 to 2050 as we progress through the energy transition.

For TES 2023 we have developed four distinct plausible scenarios. Each scenario considers a different pathway for decarbonisation of our power system outlining the pace of change and how we might achieve the energy transition in terms of energy demand, transmission and supply. EirGrid is currently analysing the scenarios using economic expansion modelling software. While our analysis is still ongoing – EirGrid is planning to consult stakeholders this summer with a final report by end of 2023 -

our initial findings indicate the significant opportunities and challenges as the power system transitions towards net zero.

We will use the findings from TES 2023 to guide further more detailed technical, economic and operational assessments of the electricity system. These TES System Needs Assessments will be critical to help plan and prioritise the further development of the power system. In parallel with the TES System Needs Assessment EirGrid are continuing to explore further dimensions and critical enablers of a sustainable, affordable and secure decarbonised power system.

Offshore Networks and Interconnection

EirGrid are working with colleagues around Europe on the evolution of both onshore and offshore energy systems to 2050. EU countries have agreed on new, ambitious long-term goals for the deployment of offshore renewable energy up to 2050 in each of the EU's five sea basins, with intermediate objectives to be achieved by 2030 and 2040. These agreements build on strong regional cooperation instruments and tools established by the revised Regulation on trans-European energy networks (TEN-E Regulation). By going beyond national approaches, EU countries are laying the framework for a trans-European method which allows for a cost-effective expansion of grids needed to incorporate the expected offshore renewable generation with least environmental impacts and tackle internal bottlenecks. EirGrid, along with colleagues in ENTSO-E are combining this with information on maritime spatial planning and will propose strategic integrated offshore network development plans. This will give visibility to grid promoters, investors, and the supply chain on what offshore grids to expect for each sea basin by 2050. The first ENTSO-E Offshore Network Development Plan will be published in January 2024 and, subsequently, the plan will be updated as part of ENTSO-E's biannual TYNDP process.

Ireland's Long-term Strategy on Greenhouse Gas Emissions Reduction

Considering the proposed Pathways to Climate Neutrality and the Pathway to 2050 for the Electricity Sector, we support the areas of policy and opportunities identified. They will all be critical and EirGrid look forward to collaborating with DECC and other stakeholders in development of these. We would emphasise the following areas of focus to be taken forward:

- The strategy outlines the requirement for an industrial spatial strategy to locate new industrial development with renewable generation opportunities. EirGrid suggests that a broader description of our enduring centralised plan-led approach is outlined here. E.g. as well as locating industrial development with renewable generation, we are also locating renewable generation in the most suitable areas from a grid capacity perspective and that the development of the electrcicty grid and the location of both generation and

new demand are considered together. The advantages of this plan-led approach are a reduction in infrastructure and minimising the associated environmental impact. It will allow us to take advantage of the whole of system synergies and will also lead to a reduction in end-consumer costs. It will also provide the opportunity for a co-ordinated and consistent public acceptance strategy covering multiple projects.

- Wholesale energy markets are key investment enablers for infrastructure which is needed to reach Ireland's climate neutral target and EirGrid suggests that additional reference be made to this. Electricity market design and the regulatory frameworks required to incentivise the range of investments required by a decarbonised power system and the transition pathway is a key consideration. This should explore how the case for investment in new infrastructure may change as the volume of installed renewable generation capacity grows and traditional fossil fuel generators are decommissioned. We also note learnings from events like the invasion of Ukraine – that gas, electricity and fossil fuel markets are extremely risk averse and so react very quickly. This has implications for industry, consumers and the wider society.
- Exploring the case for investment for further electricity interconnection with other jurisdictions, including both for conventional and hybrid interconnector projects. Understanding the potential for Ireland's electricity export and how this value can be captured for the benefit of the Irish economy. We also suggest that the development of strategic integrated offshore network development plans with other jurisdictions could be referenced in the electricity sector section.
- Innovation and research into new development and deployment of the technologies required to support effective operation of a decarbonised power system. These should include for renewable generation (onshore and offshore), increasing interconnection with other jurisdictions, decarbonised system services for transmission, energy storage for short medium and long durations and operational control systems for distributed renewable sources
- Complementary policy measures to ensure increasing demand efficiency and flexibility to balance against the availability of renewable electricity and help reduce peak load on the transmission and distribution systems. The strategy outlined the requirement for continued delivery of demand flexibility, to incentivise demand when low carbon variable renewable electricity is available. EirGrid suggests that an additional opportunity should be referenced in this section, specifically the potential for the demand side to provide significant levels of system services to support the resilience of the grid.

- EirGrid suggests that the importance of continuing to evolve our power system operational capabilities be referenced with the requirement for additional system services, new and enhanced control centre tools and modelling capabilities, integration of new technologies and the evolution of operational policy being key enablers of the energy transition.
- Measures to incentivise development of utility scale energy storage infrastructure best suited to Ireland's energy needs.
- Exploring the potential for renewable gas and Bioenergy with Carbon Capture and Storage (BECCS) within a decarbonised power system
- Measures to address barriers to the rollout of the energy infrastructure Ireland needs. This should include streamlining the planning and consenting process and proactively building the industrial and logistical capacity and capability necessary to support sustained investment in Ireland's energy infrastructure over the next 30 years

Conclusion

To conclude we would like to emphasise that all pathways should be consistent and complementary whilst considering every aspect of the energy ecosystem that can be impacted by each of them - e.g. spatial and industrial strategies need to be aligned with a balanced portfolio, grid development in a plan-led approach as well as energy market design strategies. In order to realise the overall pathway ambitions, the key policies highlighted in the strategy and noted above will need to be developed and realised very quickly to enable the foundations of the energy transition to be put in place.

We value the opportunity to continue working with DECC and other key stakeholders in the development and enhancement of the plans to meet our carbon neutral ambitions. We will continue to keep DECC updated on the related work that we are progressing as referenced above and we look forward to other elements of work being developed by the DECC such as the updated Interconnector Policy and the Hydrogen Strategy which will serve as additional building blocks on our journey towards realising our ambitions.

Should you have any further comments in regard of this submission please contact the undersigned. We look forward to the outcome of this consultation and are available for further engagement as required.

Yours faithfully,
Doireann Barry
Head of Strategy and Sustainability
(Sent electronically)