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1. INTRODUCTION

Electricity Supply Board (ESB) is a statutory corporation established under the Electricity (Supply) Act 1927. Its responsibilities include electricity generation, electricity supply to end use customers and electricity networks - ESB owns the high voltage Transmission System and owns and operates the medium to low voltage electricity Distribution System.

ESB has technical assets of strategic national significance, therefore we welcome the opportunity to make a submission to the National Marine Planning Framework Baseline Report. We recognise that the focus of the National Marine Planning Framework (NMPF) is on providing a national plan for Ireland’s seas, setting out, over a 20 year horizon, how we want to use, protect and enjoy our seas.

ESB fully supports policies which align with meeting Government targets for emissions reduction, energy efficiency and increased renewable energy sources. Renewable electricity is a key enabler in the transition to a low carbon economy, and ESB expects offshore wind and other offshore technologies such as tidal and wave energy to play a pivotal role in this transition.

To assist with the preparation of a new NMPF and the overarching objective of adapting to a low carbon and climate resilient sustainable Ireland by 2050, ESB has set out a number of issues below in respect of the protection, provision and facilitation of strategic energy generation, transmission and distribution infrastructure.

2. OVERVIEW OF ESB ACTIVITIES

As a strong, diversified, vertically integrated utility, ESB operates right across the electricity market; from generation, through transmission and distribution to supply of customers. In addition, we extract further value from our assets through supplying gas, using our networks to carry fibre for telecommunications and to provide charging infrastructure for electric vehicles. ESB is a leading Irish utility, with 47% of generation in the all-island market and supplier of electricity to approximately 1.5 million customers throughout the island of Ireland.

2.1 Electricity Generation

ESB, is building a truly sustainable company by investing in smart networks, renewable energy and modernising the generation portfolio. Sustainability, both within the company and in the services we provide are integral to our corporate strategy. We are committed to reducing carbon emissions and addressing long-term concerns over future fuel supplies. We reached our 2012 target of reducing carbon emissions by 30%.

ESB power generation has been a model of sustainability since its inception - it was first based on hydro power at Ardnacrusha (1929). This was followed by hydro power schemes on rivers Liffey (1937), Erne (1950), Lee (1957), Clady (1959) and Turlough Hill Pumped Storage Station (1973). The demands of economic development soon led to the familiar dominance of fossil fuel thermal stations (peat, oil and coal).

ESB is divesting much of our older inefficient thermal plants and replacing them with high-efficiency, combined cycle gas turbines. We're also making rapid progress in building our renewables portfolio based on wind. ESB is Ireland’s foremost energy company, and the largest supplier of renewable electricity in Ireland. Through innovation, expertise and investment, ESB is leading the way in developing a modern, efficient electricity system, capable of delivering sustainable and competitive energy supplies to customers in the ‘all-island market’ - the Republic of Ireland, Northern Ireland, England, Wales and Scotland. ESB operates a renewable energy portfolio that has the capacity to
supply over 830 MW of green energy to the homes, farms, hospitals, schools and businesses of Ireland and the United Kingdom. There are a number of offshore opportunities at early stage development off the coast of Ireland and the UK. In early 2018, in a major move into offshore electricity generation, ESB acquired a share in the 353MW Galloper Offshore Windfarm in the UK.

Our goal is to reduce ESB’s carbon emissions 40% by 2025, and towards becoming carbon-neutral by 2050. ESB aims to achieve this through expanding its wind portfolio, and continually investing in other renewable energy technologies that take advantage of the natural resources available to us. By 2020, ESB will be delivering one-third of its electricity from renewable generation as it progresses towards achieving carbon net-zero operations which is consistent with Energy Policy and Planning objectives (NPO's 56 and 57) outlined in the National Framework Plan (NFP).

ESB is embracing new technologies that are revolutionising the energy industry with our networks becoming smarter. We are investing in exciting energy solutions that harnesses the power of solar, wind, wave and storage to provide a cleaner future.

2.2 Transmission & Distribution

ESB Networks builds, manages and maintains a transmission and distribution network of over 180,000 km in the Republic of Ireland. It is responsible for constructing all the sub-transmission, medium and low voltage electricity network infrastructure in the country and for managing this infrastructure which is owned by ESB. The focus of recent investment in the network was on continuing the reinforcement of the system to facilitate the connection of new renewable electricity generation. ESB Networks is unique in that all electricity users are in contact with ESB Networks and in 2017 over 25,000 new residential and business connections were completed and 443MW of new renewables were also connected.

2.3 ESB Telecoms & ICT Infrastructure

ESB Telecoms has grown from its original function of providing a communications system for ESB to become Ireland’s leading independent telecommunications infrastructure provider. ESB Telecoms now provides network solutions for the wide variety of mobile network operators, wireless broadband providers and public sector business activities. All sites developed by ESB Telecoms are made available to third party mobile phone and wireless broadband operators as points for co-location. Our open policy of sharing infrastructure limits the overall number of telecoms structures appearing in urban and rural landscapes.

In addition, a joint venture between ESB and Vodafone called SIRO - is bringing 100% fibre-to-the-building to 50 towns across Ireland. Powered by Light, SIRO is the only network in Ireland that uses the existing electricity network to provide 100% fibre broadband directly to the home or business, enabling speeds of 1 Gigabit per second. SIRO will continue to accelerate this roll-out in 2017.

In the context of international connectivity and maritime environments, ESB Telecoms Ltd. owns and operates the newest subsea dark fibre route from Ireland to the UK. Emerald Bridge Fibres Limited (EBFL) is the gateway that interconnects all major telecommunications hubs between Ireland and the UK. EBFL is a joint venture between ESB Telecoms and Zayo, and it operates the most advanced subsea optical cable between Ireland and the UK. At 116km, it’s the shortest subsea cable, delivering the lowest latency.
2.4 ESB Electric Vehicle (EV) Infrastructure

ESB, as the owner/operator of the electricity Distribution System, is responsible for providing the EV charging infrastructure in Ireland.

To date, ESB has rolled out over 1,000 publicly accessible charge points, including 70 fast chargers along all major inter urban routes. Currently, the charge point infrastructure is building to become a comprehensive network of public and domestic charge points with open systems and platforms accessible to all supply companies and all types of electric cars. ESB targets are to install 2,000 home charge points, 1,500 public charge points and 60 fast charge points nationwide. 95% of all major towns and cities already have electric vehicle recharging infrastructure in place.

According to the 3rd National Energy Efficiency Action Plan (NEEAP), it is now estimated that approximately 50,000 electric vehicles will form part of the national transport fleet by 2020.

3. NMPF BASELINE REPORT

Energy infrastructure, including grid infrastructure and electricity generation, is critical to support Ireland’s future growth and to maintain international competitiveness. The NMPF should positively contribute to the sustainable development of energy and communication sectors at sea. We submit that, energy should be a significant issue within the NMPF and sustainability, energy security and policy on renewable energy sources should be considered central to the final plan.

3.1 Policy Impacting on Energy Infrastructure

Although the Ireland 2040 - National Planning Framework (NPF) is principally a land-based plan, Chapter 6 recognises the requirement for the development of a Marine Spatial Plan.

The NPF highlights that over the period to 2040, it is likely that technological advances will accelerate the commercial application, development and deployment of a marine renewable energy sector including offshore floating windfarms, tidal turbine devices and wave energy convertors. However, there is a recognition that the development of offshore renewable energy will be critically dependent on the development of enabling infrastructure including grid facilities to bring energy ashore and connect to major sources of energy demand. Given potential for renewable generation in the western part of the island, this may necessitate reinforcing the existing transmission network in the west to facilitate the transfer of renewable energy generated to the major demand centres in the east.

The NMPF will need to be flexible to allow for changing dynamics across sectors over its 20-year horizon. The effectiveness of the plan should be monitored from the onset, and the plan should be subject to periodical review. The plan can then be refined and updated to allow for better sustainable development of the marine space. Other national marine plans, such as the Scottish Marine Spatial Plan, have a periodical review to improve and adapt the plan in response to new polices and other developments. As set out in Section 1.8 of the NMPF Baseline Report, a key benefit of the new framework is finding a system that will reduce the regulatory burden on regulators and applicants for consent by giving them more certainty regarding what can happen where and thereby speed up the licensing process.

3.2 Linkage with Land Planning

ESB welcome that the NMPF will run parallel to the NPF and all regional, county and local plans shall be aligned accordingly. ESB fully appreciate that many activities and uses taking place on land or at sea can have impacts on both the land and maritime area.
The NMFP and the NPF should complement one another, enabling the best use of both maritime and terrestrial space. There will be overlap in terms of action and the requirement for consistency between maritime and terrestrial planning in areas of common interest. In particular, the Project Ireland 2040 Delivery Board, tasked with the implementation of the NPF should seek to promote the objectives set out in the NMFP. Terrestrial planning will be central to maximising the marine space, and should support marine activities through facilitating the development of suitable grid and port infrastructure.

The Offshore Renewable Energy Development Plan (OREDP) Interim Review of May 2018 recommends an elevation of the Maritime Area and Foreshore (Amendment) Bill to priority legislation and calls for the acceleration of its enactment. In the absence of the Bill and implementing Regulations there is no regulatory regime in place for ORE projects beyond the foreshore, resulting in uncertainty and challenges in attracting investment for ORE projects in Irish Waters.

ESB strongly support the recommendations R21, R22 & R23 set out in the OREDP Interim Review, including the enactment of the legislation, the identification of development zones and a process & timeline for decisions to be made that will provide a degree of certainty to applicants.

It should be made clear from the onset how the NMFP links in with Maritime Area Foreshore (Amendment) Bill and the NPF. The key players and their roles and responsibilities should be clearly defined. The NMFP should provide the policy basis for offshore renewable energy, specifying designation of renewable energy zones, offshore grid connection corridors and setting out exclusion zones.

A streamlining of the consent process will be an important foundation to encourage investment in the offshore renewable energy sector. The Maritime Area Foreshore (Amendment) Bill should provide a clear roadmap for the consenting of developments of varying size and scale, including the process by which both Foreshore leasing or Marine leasing (outside the Foreshore area) and how terrestrial planning requirements will be handled. The roadmap should show the interrelationship between terrestrial development plans and marine spatial plans. Consenting requirements based on both terrestrial and marine planning should be provided to facilitate marine developments. The following areas are considered important in this regard;

- The Environmental Assessment process must be aligned for both marine and terrestrial Development Plans.
- The development and use of the marine environment will result in visual impact of both the sea and landscape. It would be more effective for this impact to be considered and debated at a plan level, including its acceptability, rather than leaving the developer to champion this issue.
- Live updates of new and existing marine planning applications/decisions and mapped areas should be provided in the same manner as terrestrial planning.

The provision for a clear consenting process for projects will augment a coherent mechanism to facilitate and manage offshore renewable energy projects in the Exclusive Economic Zone (EEZ) and on the continental shelf.

3.3 National Policy Objectives

It is recognised that Ireland benefits from some of the greatest offshore renewable energy resource in the world. Harnessing this resource will be critical in meeting future climate change mitigation targets. According to the recent interim review of the Offshore Renewable Development Plan, there is potential to develop between 9,200MW and 12,000MW from fixed wind and at least 27,000MW from
floating wind. This is much higher than the level currently stated in the NMPF Baseline Report. Every effort should be made in the plan to unlock the highest level of sustainable development of offshore renewables. The cross-Government Offshore Renewable Energy Steering Group (ORESG) should meet to map out requirements of offshore renewable energy under the NMPF. Ireland will need all options available at its disposal in order to adhere to climate change targets.

Ten key policy actions are outlined in S. 9.13 of the NMPF Baseline Report which enable Ireland’s renewable energy ambitions post 2020. Total decarbonisation of the electricity sector will not be delivered through more ambitious renewable energy policies or energy efficiency policies alone. There will be a requirement for some low carbon synchronous dispatchable generation which can provide adequate back up and enable further build out of intermittent renewables. Ireland has limited options for zero carbon synchronous dispatchable generation, particularly given its current moratorium on nuclear generation. A combination of biomass and biogas-fired generation, and natural gas-fired generation with Carbon Capture Storage (CCS) will need to deliver this type of generation moving forward. This leaves CCS as a very strategically important technology for Ireland’s energy future and should be reflected accordingly within Section 11 ‘Energy - Carbon Capture and Storage’. Research carried out by University College Cork on future scenarios for Ireland suggest that pathways without deployment of CCS have increased costs and increased technical challenges to overcome. Safeguarding an option on this technology could help provide future security to the grid, deliver the lowest cost overall system, and reduce the burden of the transition to the consumer. The importance of this technology should be strengthened in the baseline report.

All geological carbon storage options currently considered in Ireland are offshore. Potential sites (especially the most suitable sites) should be kept free from any conflicting developments or activity in that area that could hamper future use. The Government’s Interdepartmental Committee on CCS should be re-established to review the technology from the context of Ireland’s low carbon energy future, including identifying requirements under the marine planning framework.

All marine space users will be impacted with the increasing effects of global warming and will have to allow for this risk and adapt accordingly. Climate adaptation measures should be implemented across marine space users equally to ensure each sector knows how to mitigate or adapt to climate change. Given the interdependence of many sectors, resilience of all users in the face of climate change will be central to sustainable development of the marine space.

3.4 Sustainable Potential of Ireland’s Ocean Resource

The NMPF should provide a balanced approach with clear guidance for all marine users and take a strategic long-term view encompassing development policies relating to different sectors (energy, sea fisheries, tourism and leisure, transport etc.).

One of the key findings of the Sustainable Energy Authority Ireland (SEAI) report was that Ireland had the potential to deploy 30GW of offshore wind by 2050. This reflects the opportunities to contribute to our indigenous energy needs, the benefits of enhanced employment creation and investment potential, and the ability to significantly abate carbon emissions to 2050. Furthermore, a comparison of electricity demand and wind electricity generation shows a great capacity for Ireland to export excess wind energy. Floating offshore wind has emerged as a technology with significantly greater potential than previously thought and more recent studies indicate circa 40GW with approximately two-thirds from floating wind sources.

It may be appropriate to exclude areas for sustainable development by virtue of hard constraints such as shipping lanes etc. In this context, consideration should be given to offshore renewable projects in areas adjacent to strong grid infrastructure on the shoreline and the zoning applied to this marine space. Providing priority to renewable energy developments in these areas will provide the best value
offshore projects, and allow for better integration of the projects to the electricity system. Such an approach will allow Ireland to make the most of this offshore resource, limit grid reinforcement requirements and in turn reduce the overall cost borne by the consumer.

3.5 Cross Border Interconnection Infrastructure

EU energy policy supports electricity interconnection between Member States. Interconnection is intended to help the EU achieve its energy policy and climate objectives: affordable, secure and sustainable energy for all citizens, and the long-term decarbonisation of the economy in accordance with the Paris Agreement (COP 21). Irish energy policy is fundamentally intertwined with European energy policy. The National Policy Statement - Electricity Interconnection states that “Ireland is committed to the examination of electricity interconnection opportunities if it is demonstrated that their benefits – not just financial - outweigh their costs to Irish society”.

Project Ireland 2040, the National Planning Framework (NPF), sets out a number of priorities for policy in the energy sector, including commitments around decarbonising the energy system, increasing renewable energy and reinforcements of the distribution and transmission network to facilitate planned economic growth, to strengthen energy security. The NPF outlines that electricity interconnection is strategically important to Ireland and states It helps support economic and population growth and impacts positively on each of the three pillars of Ireland’s energy policy – sustainability, security of supply and competitiveness. Interconnection also supports the energy transition, delivering a variety of wide-ranging benefits to the Irish consumer, including lower long term costs of electricity through connection to a larger market and diversity of electricity supply.

ESB support National Planning Objective (NPO) 49 - Strengthen all-island energy infrastructure and interconnection capacity to enhance security of electricity supply. The proposed North South interconnector will increase capacity of the grids North and South, helping to facilitate the connection of more renewable electricity generation. This is essential to achieve sustainable energy targets set by the EU. The introduction of the second North South interconnector will improve the security of electricity supply and enhance the efficiency of the system in both jurisdictions.

There will be implications from Brexit that may well impact on planning across the border with Northern Ireland. However, there is an opportunity to ensure a joined-up approach to strategic infrastructure and investment decisions that have a cross-border dimension and how to co-ordinate mutually beneficial ways to address common environmental challenges across shared catchments.

We welcome the development of the cross-jurisdiction marine planning group initiative and recommend it continues to meet on an ongoing basis. Irrespective of developments regarding Brexit, this forum should be maintained to support transboundary cooperation on marine planning. A clear vision should be set out to make the best use of the all island marine space and align the NMPF with neighbouring plans to encourage better transboundary cooperation and to facilitate inter-governmental agreements post Brexit for marine planning if required.

Recent scenario planning by EirGrid (Tomorrow’s Energy Scenarios - 2017) outlines that Ireland requires interconnection in order to deliver on its renewable energy ambitions and the greater the scale of renewable energy sources for electricity (RES-E) the higher the level of interconnection needed. In section 10 two existing electricity interconnector project proposals are referenced; the Celtic Interconnector linking Ireland and France and the Greenlink linking Ireland and Wales. Substantial preparatory work has been carried out for the Celtic Interconnector which will enable the movement of electricity between Ireland and France and will be the first direct energy link between Ireland and continental Europe. The proposed Celtic Interconnector project consists of a High Voltage
Direct Current (HVDC) link, rated at a capacity of 700 MW. The main elements of the interconnector include:

- A submarine circuit, approximately 500km in length placed on or beneath the seabed between France and Ireland.
- Landfall points in each country where the submarine circuit comes onshore with associated connectivity works including:
  - A High Voltage Direct Current (HVDC) land circuit between the landfall point and a converter station. This circuit is proposed as an underground cable;
  - A converter station, to convert the electricity from HVDC to High Voltage Alternating Current (HVAC), which is used on the transmission grid;
  - A HVAC land circuit between the converter station and the connection point to the grid. This circuit is proposed as underground cable;
  - A connection point to an existing substation on the transmission grid.

Therefore, development is required at sea, foreshore and land. To deliver greater efficiencies in implementing and monitoring telecommunications and energy interconnector projects requires that project which span both marine and terrestrial planning should have a streamlined one stop consent process that will allow for timely processing that will not hinder development.

### 3.6 Delivery of National Strategic Outcomes

Existing policies that support the delivery of strategic infrastructure should be reflected in the NMFP thereby limit the possibility for Local Plans to include policies that could potentially hinder the delivery of NPO’s. For example, the Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure (July, 2012) emphasises the strategic and economic importance of investment in networks and energy infrastructure. Under this policy the Government has mandated the State owned Networks Companies to deliver the State’s network investment programmes in the most cost efficient and timely way possible in the interests of all energy consumers who need the investment and who also pay for it.

Government policy recognises that public acceptability is required for the delivery of key networks projects and that to achieve public confidence project proposals must adhere to the highest international standards of safety, health and environmental and visual impact, and technology choice. The Government affirms that EirGrid and ESB Networks and Bord Gáis are obligated to adhere to all relevant guidelines and standards and they act in the national interest, and on behalf of all electricity consumers.

It is recognised that concerns about visual, amenity, health and safety need to be mitigated through the consultation process. The Irish Planning System comprising the National Planning Framework, Regional Planning Guidelines, Local Development Plans and the Strategic Infrastructure Act provides the necessary framework for ensuring that all necessary standards are met and that extensive statutory and non statutory consultation is an intrinsic part of the planning process. This ensures that there is ongoing consultation with local communities and local authorities regarding the construction of new networks. Including unnecessarily restrictive policies in Plans lower in the hierarchy can only hinder the achievement of the projected National Strategic Outcomes. The provision of infrastructure can be planned to match future demand and the NMFP policies should reflect that, in principle, they are supportive of infrastructure development where there is a clear requirement.
4. CONCLUSION

ESB welcome the Draft NMFP and its ambitions to provide a balanced approach for all marine users. Ireland has enormous potential for offshore energy developments. Investment in this infrastructure is crucial to the economic and social well-being of our country. Such investment creates jobs, stimulates economic activity and provides modern, efficient facilities to provide the services that people need including healthcare, education and community services amongst others. There is a significant multiplier effect from investment in infrastructure which means that it stimulates growth in the local economy. It is also necessary to support EU and national policy on Climate Change adaptation and mitigation.

We request that due consideration is given to the issues raised in this submission, most particularly:

- The Maritime Area and Foreshore (Amendment) Bill, the legislation to align the foreshore consenting of projects with the territorial planning system, has been subject to a series of delays. Projects that have already been granted foreshore licences should be allow to continue in order to not delay this sector any further.

- The recent interim review of the Offshore Renewable Development Plan indicated a higher offshore renewable energy resource than the level currently stated in the NMFP report. This element of the plan should be reviewed as the highest level of sustainable development of offshore renewables may be required for Ireland to adhere to climate change targets.

- ESB strongly support the recommendations R21, R22 & R23 set out in the OREDP Interim Review, including the enactment of the legislation, the identification of development zones and a process & timeline for decisions to be made that will provide a degree of certainty to applicants.

- A key objective of the new NMFP should be to find a system the will reduce the regulatory burden on interested parties by giving them more certainty regarding what can happen where and thereby speed up the licensing process.

- To deliver greater efficiencies in implementing and monitoring projects requires that project which span both marine and terrestrial planning should have a streamlined one stop consent process that will allow for timely processing that will not hinder development.

- Locate offshore renewable projects in areas adjacent to strong grid infrastructure on the shoreline when zoning this marine space. Renewable energy developments in these areas will provide the best value offshore projects, and allow for better integration of the projects to the electricity system. Such an approach will allow Ireland to make the most of this offshore resource, limit grid reinforcement requirements and in turn reduce the overall cost borne by the consumer.

- The policies and objectives of the NMFP should reflect existing planning policies that are supportive of infrastructure development where there is a clear requirement. Many activities and uses take place and have impact on both land and the maritime area. Therefore, it is critical that national, regional and local terrestrial plans are consistent with the NMFP.

- The effectiveness of the plan should be monitored from the onset, and the plan should be subject to periodical review. The plan can then be refined and updated to allow for better sustainable development of the marine space.
There are several wide-ranging and cross-departmental objectives contained in the NPF and the NMPF relating to electricity infrastructure, renewable energy sources for electricity, off shore development etc. The Department may consider convening a working group to develop the strategy and policy content that will deliver these objectives. ESB would be delighted to participate in any such group to help further develop integrated policy and themes relating to the future provision of infrastructure.

If we can be of any further assistance, or if you wish to clarify any of the issues raised in this submission, please contact the undersigned.

Yours sincerely,

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