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Shaping Our Electricity Future,
Eirgrid,
Shelbourne Road,
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D04 FW28

14th, June 2021

A Chara,

Re: Submission to Eirgrid Consultation: Shaping our Electricity Future

SRA Ref: 21/GD004

The Southern Regional Assembly (SRA) welcome the publication of Eirgrid's *Shaping our Electricity Future* and the opportunity to make a submission on this important strategy to achieve a renewables-based power system while maintaining an affordable, secure and reliable power system.

The development of the strategy is highly relevant to the SRA in terms of:

- The Regional Spatial and Economic Strategy for the Southern Region (RSES) adopted in January 2020, and
- ensuring the delivery of investment through the NDP and the European Regional Development Fund (ERDF) co-financed programmes, including the 2021-2027 programme for the Southern and Eastern & Midland Regions, for which the Southern Regional Assembly is the Managing Authority.

The scale of the transition to achieve 70% renewable energy in less than 10 years is a significant challenge which will require unprecedented changes to the whole energy system.

Grid Development Objectives

The Regional Assembly notes the inter-linked objectives which Eirgrid are required to address in particular, (i) Meeting a growing demand for electricity, much of which is generated far from where it's needed, (ii) Delivery of an electricity grid system that will maximise use of Renewable Energy & (iii) Meeting the legal obligations for 70% of electric supply to be from Renewable Energy sources by 2030.

The Regional Assemblies observations are guided by the **RSES primarily in terms of:**

- The achievement of the structural change set out in the National Planning Framework and the RSES, i.e. to support the high-level goals of Project Ireland 2040/ the NPF to enable a 50:50

distribution of growth between the Eastern and Midland Region, and the Southern and Northern and Western Regions and deliver balanced regional growth for the Southern Region., and

- the prioritisation of action on climate change including Strategic Energy Grid. (Chapter 8) **Grid Development and Transition to a Low Carbon Economy and Low Carbon Society** (chapter 5)

1.0 Regional Policy Context

The RSES provides a critical statutory policy context for the Eirgrid Roadmap, guiding strategic regional spatial and economic policy for the Southern Region. It is important to note that the RSES, was made with and supported by all Local Authorities in the Region and endorsed by Government as the regional policy implementation of *Project Ireland 2040* – the NPF.

The RSES Strategy is ‘to build the Region as one of Europe’s most **Creative and Innovative, Greenest and Liveable Regions**.

11 *Strategy Statements* form the core of the RSES Strategy and are summarised below.



Key RSES Strategy statements for the development of the Eirgrid Roadmap are:



5. A Strong Economy

‘Building a competitive, innovative and productive economy’.



8. Low Carbon,
Climate Resilient and
Sustainable Society

‘Safeguarding and enhancing our environment through sustainable development, prioritising action on climate change across the Region, driving the transition to a low carbon and climate resilient society’.



9. Sustainable, Planned
and Infrastructure-led
Development

‘Providing infrastructure and services in a sustainable, planned and infrastructure-led manner to ensure the sustainable management of water waste and other environmental resources.

1.1 Grid Development supporting the Settlement Strategy for the Region.

The primary objective of the RSES is to implement the programme for transformative change set out in the National Development Plan, Project Ireland 2040, the National Planning Framework (NPF) and to enable a 50:50 distribution of growth between the Eastern and Midland Region, and the Southern and Northern and Western Regions, with 75% of the growth to be outside of Dublin and its suburbs.

A dual track strategy is pursued that builds on our Metropolitan Areas; Cork, Limerick - Shannon and Waterford as significantly scaled (over 50% growth) economic drivers and supports the Region (and each constituent Local Authority) as a strong network of economic corridors (Atlantic Economic Corridor and Eastern Corridor), Key Towns, Towns, villages, and rural areas. The RSES contains a comprehensive set of policies and objectives to achieve this including the three statutory Metropolitan Area Strategic Plans (MASPs) for Cork, Limerick-Shannon, and Waterford

By 2040, the population of the Region is projected to rise to almost two million, requiring new homes and jobs. RSES Appendix 1, page 347 sets out Local Authority population projections to 2031, which combined deliver a projected uplift between 280,000 to 343,500 in the Region to 2031.

These are extremely ambitious targets which have never been accomplished in the State’s history. Their achievement requires a structural change in the scale and nature of investment to the Regions and the **Metropolitan Areas of Cork, Limerick- Shannon, Waterford and Galway**. It is essential that the development of the grid network facilitates this structural change.

At least 50% of all new homes in the region’s three metropolitan areas are to be delivered within their existing built-up footprints and a corresponding target of at least 30% within all other settlements in accordance with NPF National Policy Objective 3b and 3c.

The settlement strategy builds on the Region’s three cities and metropolitan areas of Cork, Limerick - Shannon and Waterford as engines of growth supported by a network of 14 strategically located **Key Towns** namely Kilkenny, Ennis, Carlow, Tralee, Wexford, Clonmel, Killarney, Mallow, Nenagh, Thurles, Newcastle West, Clonakilty, Dungarvan and Gorey. Regeneration and growth across our Region’s Cities, Key Towns and further through its network of towns, villages and rural communities are

supported to build an economically resilient, competitive and growing region. Under RSES Section 3.2 Sustainable Place Framework and Table 3.2 Settlement Typology, the role and attributes of different locations in the settlement hierarchy of the Region are defined. The RSES sets specific targets for cities and metropolitan areas (50-60% to 2040) in line with the NPF, with projections to 2031 set in each MASP). Refer to the population projection tables in Cork MASP page 244, Limerick-Shannon MASP page 286 and Waterford MASP page 323 for the breakdown of these targets and headroom allowances.

For **Key Towns**, Local Authorities are supported in targeting growth of more than 30% subject to capacity analysis and sustainable criteria under *Section 3.3 A Tailored Approach*. The appropriate level of growth is to be determined by the Core Strategies of Development Plans. Regeneration and growth are supported through towns, villages and rural communities as determined through the Core Strategies of Development Plans.

Achieving such ambitious targets will require an equally ambitious alignment in funding priorities and service delivery. Energy infrastructure is fundamental to service this growth. The Development of the Grid Network should be explicit in recognising the national and regional imperative for Balanced Regional Development (BRD) and the achievement of a 50:50 distribution of growth between the Eastern and Midland Region, and the Southern and Northern and Western Regions, with 75% of the growth to be outside of Dublin and its suburbs. and the population targets as outlined above.

Support for Grid Development.

As outlined above it is critical that the Eirgrid Strategy is aligned with the NPF and RSES for the Southern Region and that Grid Development is Plan-led and not developer led.

Section 8.2 of the RSES addresses the Strategic Energy Grid and states that ‘The RSES supports a safe, secure and reliable system of transmission and distribution of electricity’ and that ‘The RSES supports renewable industries and requirements for transmission and distribution infrastructure.

The following Regional Policy Objectives (RPOs) are relevant to the consultation process (see Appendix 1 for full text):

- RPO 219 New Energy Infrastructure
- RPO 222 Electricity Infrastructure
- RPO 223 International Energy Interconnection Infrastructure
- RPO 224 Delivery of Energy Networks
- RPO 220 Integrated Single Electricity Market (I-SEM)

Low Carbon Economy and Low Carbon Society

Implementation of the NPF and RSES will be in line with the equally important national and regional imperative to develop a Low Carbon Economy and Low Carbon Society.

The RSES seeks to develop a **Low Carbon Economy and Low Carbon Society**, where ‘the transition to a low carbon future will also see entire sectors of the economy undergo radical changes and create new types of enterprises and jobs’ (RSES, page 116). Chapter 5 states that ‘To achieve national and EU targets will require investment in measures to develop alternative renewable energies with greater interconnection to energy resources, increased capacity in biomass/ biofuels and reconfiguration of power generation facilities from use of fossil fuels to low carbon technical solutions’ (Page 136)

Chapter 5 also details policies to address the three Regional Priorities on climate change –decarbonisation, climate resilience and resource efficiency. Chapter 5 includes policies in support of the Transition Objective to maximise the use of Renewable Energy while Chapter 8 (at Section 8.2) states that ‘There is significant potential to use renewable energy across the Region to achieve climate change emission reduction targets .

Marine Renewable Energy Resources

The **Draft National Marine Planning Framework (NMPF)** and **Our Offshore Renewable Energy Development Plan (OREDP)** identify that Ireland has some of the best offshore renewable energy resources in the world. The Draft NMPF includes objectives which address **Carbon Capture and Storage** (Section 7.0), **Transmission** (Section 9.0) - objectives support Ireland’s decarbonisation journey through diversification of supply options & Off- Shore Renewable Energy (Section 11.0), objectives support the establishment of Ireland as a world leader in **Off-Shore Renewable Energy (ORE)** as part of Ireland’s decarbonisation journey with additional benefits to import substitution, fiscal return, national and local economic development and technology learning.

The Government’s Action Plan to tackle climate change contains new and ambitious targets for the generation of electricity from renewable energy sources. As part of the 70% target for electricity generated from renewable sources, up to 4.5 GW is estimated to come from offshore renewable energy.

Renewable energy from marine sources has the potential to supply locations of high demand, at shorter distances, the power demand generated from population and economic growth in each Region including our Cities and Metropolitan Areas (Cork, Limerick-Shannon, and Waterford), Regional Growth Centres and Key Towns which are co-located with harbours, estuaries and the coast.

Aligned to national policy, the RSES gives strong support to our marine potential and Off-Shore Renewable Energy capabilities, driven through the Offshore Renewable Energy Development Plan (OREDP). The following Regional Policy Objectives (RPOs) relating to Marine Renewable Energy Resources are highlighted:

- RPO 85 (Renewable Offshore Energy)
- RPO 147 (Economic Opportunities of Ports)

Government policy is therefore already committed to our marine area as a strategically important location for renewable energy production. Eirgrid’s roadmap needs to support and deliver under this policy.

Support for Transition Objective

Eirgrid’s Transition Goal supports the Southern Region’s Transition Objective for a Low Carbon Economy and Low Carbon Society, will maximise the use of renewable energy and meet international and national targets and obligations for the use of renewable energy and greenhouse gas reductions.

The following Regional Policy Objectives (RPOs) relating to the Transition Objective and Sustainable Energy are highlighted:

RPO 56 Low Carbon Economy RPO 85 Renewable offshore energy RPO 87 Low Carbon Energy Future RPO 89 Building Resilience to Climate Change	RPO 99 Renewable Wind Energy RPO 100 Indigenous Renewable Energy Production and Grid Injection
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RPO 90 Regional Decarbonisation RPO 91 Decarbonisation in the Transport Sector RPO 92 Electric Vehicle Infrastructure RPO 93 CNG & EV Infrastructure RPO 95 Sustainable Renewable Energy Generation RPO 96 Integrating Renewable Energy Sources RPO 97 Power Stations and Renewable Energy RPO 98 Regional Renewable Energy Strategy	RPO 101 International Hub for Energy Innovation RPO 102 Energy Research Funding RPO 103 Interconnection Infrastructure RPO 104 Energy Storage and Carbon Capture RPO 109 Bio-Energy Implementation Plan RPO 147 Economic Opportunities of Ports RPO 221 Renewable Energy Generation and Transmission Network (For full wording of RPOs, see Appendix 1
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The Transition Objective is also supported by the European Regional Development Fund (ERDF). The ERDF programme for 2021-2027 will focus on smart cities and a smart region, lower carbon emissions, climate resilience and urban regeneration, themes that align with our greener electricity future and the integration of smart technology throughout the energy sector.

All of these thematic areas will require the successful implementation of Eirgrid’s Transition Objective so as to support the development of a Low Carbon Economy and Low Carbon Society in the Southern Region.

2.0 Good Practice Examples and Case Studies

Research, Development and Innovation will be an important element of transition to renewable energy sources and, in particular, will be important for the Technology-Led element of the Eirgrid Strategy.

The Southern Region is home to key initiatives supporting the transition to renewable energy sources including:

- National Bio-economy Hub in Lisheen, Co. Tipperary: supported by the EU bio-economy strategy and Horizon 2020 for the sustainable use of our natural resources from traditional and non-traditional sectors. Developments in this area could enable the Region to become the ‘European Model Demonstrator Region of the Bio-Economy’;
- Promoting the conversion of Moneypoint electricity station by 2025 from burning fossil fuels as part of the transition to a low-carbon and climate-resilient society. The RSES recognises the importance of Moneypoint as producer of 25% of national energy and its potential as a deep-water port;
- Between fuel and energy production, Whitegate Energy Park has potential to deliver 25% of the country’s energy needs and is responsible for the production of a significant element of the national bio-fuel substitution target. Technology developments have potential to store carbon dioxide from electricity generation in some of the depleted offshore reservoirs;
 - The Strategic Integrated Framework Plan (SIFP) provides significant opportunities to grow the Blue Economy through offshore wave and wind renewable energy in the Shannon Estuary;
 - The ESB West Wave Project is putting Ireland at the forefront of ocean energy globally.
- International energy transmission facilities with marine infrastructure and cross sea connections to Europe include the Eirgrid Celtic Interconnector to France, a strategic project for exporting our renewable energy resource and ensuring security of supply.

Relevant RPOs include:

- RPO 59 National Bio-economy Hub in Lisheen
- RPO 79 Shannon Estuary and Other Harbour Plans

3.0 COMMENTS ON THE DRAFT APPROACHES

Shaping Our Electricity Future identifies four draft approaches for comment to the future provision of electricity in Ireland based on 70 renewable sources:

- Generation-Led (put clean electricity generation close to where most power is use)
- Developer-Led (let developers decide where to locate clean electricity generation)
- Technology-Led (try new ways to move clean electricity across the country)
- Demand-Led (put large electricity users close to sources of clean electricity generation)

It is noted that the final Eirgrid Strategy may involve a combination of the four options and comments on each are identified below. The primary concern of the Regional Assembly however in relation to Shaping Our Electricity Future is the achievement of the NPF and RSES Strategy particularly by reference to:

- Enabling the 50:50 distribution of growth between the Eastern and Midland Region, and the Southern and Northern and Western Regions, with 75% of the growth to be outside of Dublin and its suburbs, and the achievement of the specific growth targets for our Metropolitan Areas, Key Towns, Towns and rural areas as set out in the RSES.
- Achieving **Low Carbon Economy and Low Carbon Society**

It is considered that the Generation Led approach has the greatest potential to achieve national and regional policy outcomes together with some elements of the other approaches.

The following comments are relevant to the use of each of the approaches outlined:

(1) Prioritise Generation-Led Development

Prioritising Generation-Led Development will support the high-level goals of *Project Ireland 2040/ the NPF* for Balance Regional Development, where the projected increase in population and employment in the Region will increase demand for energy and a Generation-Led approach will ensure that the growth in demand occurs close to significant renewable energy sources. This calls for a focus of the roadmap on the locations to the south and west of the state - in the Region – where the potential for Renewable Energy resources is greatest.

The RSES Settlement Strategy is focussed on significant growth of the three Metropolitan Areas of Cork, Limerick-Shannon and Waterford, 14 Key Towns, our towns, villages and rural areas. In this context a Generation-Led approach is favoured to:

- respond to the needs the economy of industry and support the location/expansion of new industries/enterprises in the Southern Region thus providing the necessary drive for economic development that will support BRD.
 - For example, the significant energy demands of Data Centres would suggest their location should be close to major sources of renewable energy or incorporate their own source of renewable energy production. This approach is supported by RPO 221 and the Government Statement on The Role of Data Centres in Ireland’s Enterprise Strategy (2018) which highlights the importance of a plan-led and strategic approach – to minimise the need for extensive grid re-enforcement.

- harness the existing resources of the Region for wind, wave, tidal and solar energy as well as sources including bioenergy and hydro energy. This approach is also considered to support the obligation to achieve 70% of energy supply from renewable sources by 2030.
- foster energy efficiency and support initiatives to develop more widespread District Heating. The Generation-Led approach will focus more on surplus energy generation from, for example, large industrial plants or hospitals which can redistribute such energy to provide heating in residential areas or for other uses such as educational establishments.
- be a cost-effective strategy that reduces the need for costly grid strengthening projects.

(2) A Plan-led approach is essential to the development of the Eirgrid Strategy *Shaping our Electricity Future*.

A **plan-led approach** (as opposed to a developed-led approach) best supports the achievement of national and regional policy for balanced regional development and also enable Eirgrid to pursue a strategy for the orderly development of the Grid System and is also consistent with a generation-led approach.

At local-level the Plan-led approach will follow an evidenced base approach. Updated Wind Energy Guidelines due to be issued by the Department of Housing, Planning and Heritage will guide the identification of suitable areas for wind energy by the planning authority based on an evidence and plan-led approach including identification of accessibility to electricity transmission and distribution grids as key factors in identifying suitable locations for wind energy development in Development Plans.

The National Marine Planning Framework and Offshore Renewable Energy Development Plan will also provide for a Plan-Led approach.

The revised Renewable Electricity Policy Development Framework (REPDF) in preparation by the Department of Communications, Climate Action and Environment (DCCA) is intended to **guide the development of large-scale renewable electricity projects on land**. Developing clear national policy that is evidence-based will greatly facilitate the delivery a **plan-led and evidence-based approach to the development of terrestrial renewable energy**.

(3) Provide for Grid Strengthening where required to accommodate distribution of electricity and addresses the needs outlined in the Demand - led approach. This will:

- Provide for International Links such as the proposed Celtic Interconnector Link between Ireland and France to strengthen our electricity supply.
- Provide for strengthening of the grid network across the state and between Regions. While a Generation-led approach is favoured, the need for distribution and supply of electricity across the state is recognised to:-
 - (i) accommodate increasing generation from the renewable -energy sources and
 - (ii) meet increasing demands for energy that will require the ongoing transfer of energy from the Region’s significant renewable energy generation (current and future potential) to other Regions including the Greater Dublin Area and Eastern and Midlands Region.
- Provide for Strategic Energy Corridors in line with RSES RPO 224 – Delivery of Energy Networks -provide for the safeguarding of strategic energy corridors from encroachment by other developments that could compromise the delivery of energy networks.
- We note that Eirgrid consider that the Demand-led approach will support the legal obligation to achieve 70% of energy supply from renewable sources by 2030 and, where the Demand-

Led approach is required as part of the overall Generation Strategy, that it is considered to be a cost-effective option.

(4) Maximise the Use of Advanced Technology in the Grid Network.

- **Smart Infrastructure.** The Regional Assembly supports the development of Smart Cities and the development of a Smart Region. This concept goes beyond the use of ICT for smarter urban transport networks, smarter municipal administration to embrace the potential for smart infrastructure for electricity supply for safer public spaces and to meet the needs of a diverse population.
- The Technology-Led approach will benefit from cost benefit ratio analysis to demonstrate and justify the outlay in capital costs such as undergrounding high voltage transmission cables, large scale converter stations (DC transmission to connect with the AC grid) and smart grid technologies delivering a net benefit to the economy, society, and environment.
- Support for new technologies to maximise grid capacity and the flexibility required to accommodate electricity into the grid system from renewable energy sources.
- Development of Electricity storage solutions to maximise the energy generated from renewable sources and make it available for onward transmission when required.

(5) Strengthened Support to Enable Off-Shore Renewable Energy Supply and Distribution

- Renewable energy from marine sources has the potential to supply locations of high demand and targeted population and employment growth aligned to NPF and RSES Policy. In addition to cross regional renewable energy distribution, renewable energy produced from Off-Shore Renewable Energy Resources have the potential to supply, at shorter distances, the power demand arising from population and economic growth including our Cities and Metropolitan Areas (Cork, Limerick-Shannon, Galway, and Waterford), Regional Growth Centres and Key Towns which are co-located or in close proximity with harbours, estuaries and the coast.
- The Roadmap needs to sustainably plan for and deliver the infrastructure and technology in our marine and coastal areas and align with the National Marine Planning Framework and Offshore Renewable Energy Development Plan, especially integrating with port infrastructure and facilities, to integrate our strategic Off-Shore Renewable Energy Resources with the electricity grid network.

(6) Support and facilitate Renewable Energy Generation in support of the Transition Goal.

The Regional Assembly supports the Renewable Energy Targets for the Grid system. In committing to deliver the 70% target by 2030 through the Grid Development Strategy, the strategy should provide for:

- Sustainable economic development with the creation of Green jobs associated with the development of renewable energy infrastructure and supply chains.
- Seek to work with Regional Assemblies and Local Authorities to scale up initiatives for Decarbonisation such as the Regional Decarbonisation Plan and initiatives such as Limerick City's creation of a Carbon-Neutral City.
- Include policies in the Roadmap to support the development of financial incentives to increase renewable energy production. This should, include engagement with local energy schemes supported by the Energy Agencies and EU supported programmes such as Firespol (INTERREG EUROPE), which seeks to support the development of regionally specialized financial

instruments(incentives), grant schemes and other supports to address barriers currently stopping the investment of the RES sector.

(7) Support for Innovation and community-focussed flexible approaches to achieve Just Transition in order to:

- Facilitate community access to renewable energy supply. RPO 221 recognises ‘The potential for sustainable local/community energy projects and micro generation to both mitigate climate change and to reduce fuel poverty’ as well their potential to provide renewable energy to the grid system.
- The new Grid System should support and facilitate reasonably priced energy to people’s homes through district heating schemes where access to the network may be required for linkages from sources of surplus energy.
- Support research, development, and innovation in the development of renewable energy sources including research of good practice examples and how these may be amplified and expanded.

4.0 CONCLUSION

The SRA welcome the opportunity to participate in developing the Roadmap for *Shaping our Electricity Future*. Strengthening and future proofing our grid infrastructure and the energy system not only supports the State’s requirements for 70% renewable energy by 2030, but it also enables the delivery of the NPF, RSES and MASPs across the Region by servicing growing centres of demand with renewable energy supply with multiple benefits to our environment, economy and society, fulfilling the vision to be one of Europe’s most Liveable, Creative and Innovative and Greenest Regions.

Eirgrid’s strategy is also important to the work of the SRA in ensuring the delivery of investment through the NDP and the European Regional Development Fund co-financed programmes, including the 2021-2027 programme for the Southern and Eastern & Midland Regions, for which the Southern Regional Assembly are Managing Authority.

To this end the Regional Assembly support the Core Function of Eirgrid to manage and develop the electricity supply grid system and recommend that the strategy should incorporate the following priorities:

1. **Prioritise Generation-Led development**, where the Southern Region has the greatest the potential for Renewable Energy generation and:
 - a. support the high-level goals of *Project Ireland 2040/ the NPF* to enable a 50:50 distribution of growth between the Eastern and Midland Region, and the Southern and Northern and Western Regions, with 75% of the growth to be outside of Dublin and its suburbs,
 - b. Achieve national RSES targets for balanced regional growth focussed on significant growth of the three Metropolitan Areas of Cork, Limerick-Shannon and Waterford, 14 Key Towns, our towns, villages, and rural areas.
2. **A Plan-led approach is essential** to the development of the Eirgrid Strategy.
3. **Provide for Grid Strengthening where required** to accommodate distribution of electricity, particularly from the increasing generation from the renewable-energy sources and meet increasing demands for energy.

4. **Maximise the Use of Advanced Technology** in the Grid Network including solutions which will minimise the environmental impacts of new grid development.
5. **Strengthened Support to Enable Off-Shore Renewable Energy Supply and Distribution**
- 6.. **Support and facilitate renewable energy generation** in support of the Transition Goal.
7. **Support for Innovation and community-focussed flexible approaches to achieve Just Transition**

We hope that the above recommendations can be taken on board and will help strengthen the final roadmap from both Eirgrid and the Region's perspective. The SRA would welcome the opportunity to engage with Eirgrid on these recommendations and are available for further consultation and clarification as required.

Mise le meas,

A handwritten signature in blue ink, appearing to read 'David Kelly', with a stylized flourish at the end.

David Kelly,
Director

APPENDIX 1 Full list and wording of Regional Policy Objectives referred to in submission:

RPO 56 Low Carbon Economy

- a. The RSES recognises the urgency to transition to a low carbon future and it is therefore an objective to accelerate the transition towards low carbon economy and circular economy through mechanisms such as the Climate Action Competitive Fund;
- b. It is an objective to develop enterprises that create and employ green technologies;
- c. Local authorities should ensure that the development of green industry and technologies incorporates careful consideration of potential environmental impacts at project level including the capacity of receiving environment and existing infrastructure to serve new industries;
- d. Local authorities shall include objectives in statutory land use plans to promote energy conservation, energy efficiency and the use of renewable energy sources in existing buildings, including retro fitting of energy efficiency measures in the existing building stock, energy efficiency in traditional buildings and initiatives to achieve Nearly Zero-Energy Buildings (NZEB) standards in line with the Energy Performance of Buildings Directive (EPBD).
- e. It is an objective to support investments in energy efficiency of existing commercial and public building stock with a target of all public buildings and at least one-third of total commercial premises upgraded to BER Rating 'B'. Local authorities shall report annually on energy usage in all public buildings and will achieve a target of 33% improvement in energy efficiency in all buildings in accordance with the National Energy Efficiency Action Plan (NEEAP).

RPO 59 National Bio-economy Hub in Lisheen

It is an objective to support the sustainable development of the Lisheen Bio-economy Hub site into a significant economic and employment driver with the potential to significantly contribute towards meeting Ireland's climate change targets as a strategic site of European significance. Such initiatives as the Lisheen site shall be subject to robust environmental assessment including Flood Risk Assessment (if required) and satisfy AA requirements so as to AA requirements and avoid adverse effects on the integrity of European Sites.

RPO 79 Shannon Estuary and Other Harbour Plans

- a. The RSES recognises the national and international importance of the Shannon Estuary, its potential to attract multinational development and the significant work that has been undertaken to progress its promotion and development. It is an objective to support and promote the delivery of the Strategic Development Locations as set out in the SIFP for the Shannon Estuary subject to the implementation of mitigation measures outlined in the SEA and AA undertaken on SIFP and zoned in the Local Authority Development Plans.
- b. It is an objective to promote the SIFP initiative as a good practice model for the Southern Region and to seek the preparation of similar initiatives for Cork Harbour and Waterford Harbour between the relevant stakeholders.
- c. It is an objective to support the promotion, marketing and seeking of financial and expertise support for the Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary and specific projects emerging there from.
- d. Such initiatives shall be subject to the relevant environmental assessment requirements including SEA, EIA SFRA and AA as appropriate.

RPO 85 Renewable offshore energy

To promote regional cooperation in terms of offshore renewable energy development, environmental monitoring, and awareness of the benefits of realising the Region's offshore energy potential. Initiatives arising from this objective shall be subject to robust feasibility and site selection, which includes explicit consideration of likely significant effects on European Sites and potential for adverse effects on the integrity of European sites in advance of any development.

RPO 87 Low Carbon Energy Future

The RSES is committed to the implementation of the Government's policy under Ireland's Transition to a Low Carbon Energy Future 2015-30 and Climate Action Plan 2019. It is an objective to promote change across business, public and residential sectors to achieve reduced GHG emissions in accordance with current and future national targets, improve energy efficiency and increase the use of renewable energy sources across the key sectors of electricity supply, heating, transport, and agriculture.

RPO 89 Building Resilience to Climate Change

a. It is an objective to support measures to build resilience to climate change throughout.

the Region to address impact reduction, adaptive capacity, awareness raising, providing for nature-based solutions and emergency planning;

b. Local Authorities and other public agencies shall continue to work with the Office of Public Works to implement the Flood Risk Management Plans and address existing and potential future flood risks arising from coastal, fluvial, pluvial, groundwater and potential sources of flood risk.

PO 90 Regional Decarbonisation

It is an objective to develop a Regional Decarbonisation Plan to provide a framework for action on decarbonisation across all sectors. The Plan shall include existing and future targets for each sector. Implementation mechanisms and monitoring structures shall be established with stakeholders, including the Climate Action Regional Offices, following the adoption of the RSES to identify the scope and role of the Plan, the requirements for SEA, AA, and the timescale for its preparation.

RPO 91 Decarbonisation in the Transport Sector

It is an objective to: a. Seek initiatives that will achieve the decarbonisation of the transport sector, moving to the use of clean generated electricity biogas, hydrogen and other non-fossil fuels for private and public transportation and provision of clean energy and lower carbon fuelling stations by 2030; b. Pursue policies to reduce reliance on private cars and achieve modal shift to sustainable transportation in conjunction with policies to achieve compact growth and reduce congestion; c. Seek the development of clean energy and lower carbon fuelling and electric vehicle charging stations and infrastructure at the appropriate locations including consideration of electric, hydrogen, Compressed Natural Gas (CNG)/biogas.

RPO 92 Electric Vehicle Infrastructure

It is an objective to:

- a. Support investment in the sustainable development of Electric Vehicle charging facilities aligned with our Region’s transportation networks;
- b. Through Local Authority County Development Plans and Local Area Plans, encourage and support policies and objectives to integrate Electric Vehicle charging point infrastructure within residential, commercial and mixed-use developments.

RPO 93 CNG & EV Infrastructure

It is an objective to:

- a. Support investment in the sustainable development of CNG refuelling stations aligned with the TEN-T corridors as a renewable technology for servicing public service vehicles and commercial fleets;
- b. Seek the provision of EV charging point infrastructure within residential, commercial and mixed-use developments.

RPO 95 Sustainable Renewable Energy Generation

It is an objective to support implementation of the National Renewable Energy Action Plan (NREAP), and the Offshore Renewable Energy Plan and the implementation of mitigation measures outlined in their respective SEA and AA and leverage the Region as a leader and innovator in sustainable renewable energy generation.

RPO 96 Integrating Renewable Energy Sources

It is an objective to support the sustainable development, maintenance and upgrading of electricity and gas network grid infrastructure to integrate a renewable energy sources and ensure our national and regional energy system remains safe, secure, and ready to meet increased demand as the regional economy grows.

RPO 97 Power Stations and Renewable Energy

It is an objective to support the sustainable technology upgrading and conversion of power stations in the Region to increase capacity for use of energy efficient and renewable energy sources.

RPO 98 Regional Renewable Energy Strategy It is an objective to support the development of a Regional Renewable Energy Strategy

RPO 99 Renewable Wind Energy

It is an objective to support the sustainable development of renewable wind energy (on shore and offshore) at appropriate locations and related grid infrastructure in the Region in compliance with national Wind Energy Guidelines.

RPO 100 Indigenous Renewable Energy Production and Grid Injection

It is an objective to support the integration of indigenous renewable energy production and grid injection.

RPO 101 International Hub for Energy Innovation

It is an objective to support continued innovation and research in the energy sector and to develop a role as an international hub for energy innovation.

RPO 102 Energy Research Funding

It is an objective to support initiatives for energy research funding within our region to accelerate diversification away from fossil fuels to green energy, including the potential of wind, wave, solar, biomass, biofuels, biogas and hydrogen in the Region.

RPO 103 Interconnection Infrastructure

It is an objective to support the sustainable development of interconnection infrastructure, in particular the potential for the sustainable development of an international connection between Ireland and France in the Region.

RPO 104 Energy Storage and Carbon Capture

It is an objective to support investment in initiatives to develop innovation, advances in technology and pilot projects for the sustainable development of energy storage and carbon capture within the Region and to work with key stakeholders in developing sustainable forestry, including initiatives for native tree planting and better management of peatland and soil management to support carbon sequestration and enhancement of biodiversity.

RPO 105 Clean Electric Heat Technologies & District Heating

It is an objective to support development of district heating schemes by promoting innovation in the use of recoverable heat sources and related technologies. The development of new low carbon heat sources should include non-fossil fuel heat sources including clean electric and renewable gas heat technologies in the Region.

RPO 109 Bio-Energy Implementation Plan a.

It is an objective to support the preparation of a Bio-energy Implementation Plan for the Southern Region in conjunction with the Local Authorities and the Regional Waste Management office; b. Proposals for Bio-energy development and infrastructure will need to be subject to robust site and/or route selection that includes consideration of likely significant effects on European Sites and subject to the outcome of the required appraisal, planning and environmental assessment processes.

RPO 147 Economic Opportunities of Ports

It is an objective for all ports in the Region to:

- Protect the marine related functions of ports in the region including landside accessibility to ensure the future role of ports as strategic marine related assets is protected from inappropriate uses. Harness sustainable economic opportunities from the ocean economy and the role of Ports in the region in realising the full potential of the ocean economy. Particular regard should be had to the Government's integrated plan for the marine industry – Harnessing Our Ocean Wealth (2012), the National Marine Research and Innovation Strategy 2017-2021 (Marine Institute Ireland, 2017), and Ireland's Ocean Economy (NUIG, 2017), as well as the Marine Strategy Framework Directive and Ireland's Programme of Measures; and Ireland's forthcoming National Marine Planning Framework subject to the implementation of mitigation measures outlined in the SEA and AA undertaken where necessary;
- Support the role of ports, where appropriate, in facilitating the sustainable development and operation of offshore renewable energy development; and

- Support sustainable and appropriate enabling infrastructure development to harness our ocean wealth at regional and local levels including grid, pier and port facilities to support renewable energy and export potential.
- Undertake feasibility studies to determine the carrying capacity of ports in relation to potential for likely significant effects on associated European sites including SPA and SAC.
- Port development in the region must adhere to the European Commission guidelines on the Implementation of the Birds and Habitats Directives in Estuaries and Coastal Zones in order to protect the European Sites around them.
- Any economic activity which utilises the marine resource shall also have regard to Ireland's obligations under the Marine Strategy Framework Directive (MSFD) which requires achieving and maintaining Good Environmental Status (GES) of coastal and marine waters (comprising both the water column and the seabed beneath it).

RPO 219 New Energy Infrastructure

It is an objective to support the sustainable reinforcement and provision of new energy infrastructure by infrastructure providers (subject to appropriate environmental assessment and the planning process) to ensure the energy needs of future population and economic expansion within designated growth areas and across the Region can be delivered in a sustainable and timely manner and that capacity is available at local and regional scale to meet future needs.

RPO 222 Electricity Infrastructure

It is an objective to support the development of a safe, secure and reliable supply of electricity and to support and facilitate the development of enhanced electricity networks and facilitate new transmission infrastructure projects that might be brought forward in the lifetime of this plan under EirGrid's (2017) Grid Development Strategy (subject to appropriate environmental assessment and the planning process) to serve the existing and future needs of the Region and strengthen all-island energy infrastructure and interconnection capacity.

RPO 223 International Energy Interconnection Infrastructure It is an objective to support the sustainable development of international energy interconnection infrastructure and support the sustainable development (subject to appropriate environmental assessment and the planning process) of the Celtic Interconnector project between Ireland and France from a location in the Region.

RPO 224 Delivery of Energy Networks

Local Authorities shall work in partnership with existing service providers to facilitate required enhancement and upgrading of existing infrastructure and networks (subject to appropriate environmental assessment and the planning process) and support the safeguarding of strategic energy corridors from encroachment by other developments that could compromise the delivery of energy networks.

RPO 220 Integrated Single Electricity Market (I-SEM)

It is an objective to support the Integrated Single Electricity Market (I-SEM) as a key priority for the Region and seeks the sustainable development and reinforcement of the energy grid including grid connections, transboundary networks into and through the Region and between all adjacent Regions subject to appropriate environmental assessment and planning processes.

RPO 221 Renewable Energy Generation and Transmission Network

- a. Local Authority City and County Development Plans shall support the sustainable development of renewable energy generation and demand centres such as data centres which can be serviced with a renewable energy source (subject to appropriate environmental assessment and the planning process) to spatially suitable locations to ensure efficient use of the existing transmission network;
- b. The RSES supports strengthened and sustainable local/community renewable energy networks, micro renewable generation, climate smart countryside projects and connections from such initiatives to the grid. The potential for sustainable local/community energy projects and micro generation to both mitigate climate change and to reduce fuel poverty is also supported;
- c. The RSES supports the Southern Region as a Carbon Neutral Energy Region. Refer to Chapter 5 for further references and objectives that support renewable energy and energy efficiency.

Appendix 2 Good Practice Examples and Case Studies

Case Study: Tipperary, the Low Carbon Energy Transition and the Bioeconomy

Tipperary County Council has long recognised the importance of the low carbon energy transition, both to the quality of lives of citizens and the opportunities it brings in terms of rural economic growth and development. The partnership approach of Tipperary County Council, Tipperary Energy Agency (TEA), Limerick Institute of Technology (LIT), business and communities was formalised in 2017 with the establishment of 'Sustainable Tipp'. This partnership has led to some key achievements and initiatives, including:

- The Council is the leading local authority and one of the leading public bodies in meeting energy efficiency targets, having exceeded the 33% 2020 target in 2017.
- The Council has met and exceeded national targets for energy efficiency in public buildings, is the owner of the largest solar installation in the country and has switched 90% of its heat use from fossil fuels to renewable combined heat and power;
- Tipperary is home to Cloughjordan eco-village and Templederry community owned wind farm;
- TEA is leading research and delivering exemplar community initiatives such as 'Superhomes', 'Better Energy Communities', 'Insulate Tipp' etc.; Gurteen College, through micro-generation of wind and solar PV and energy efficiency measures, has reduced its energy demand in heating and electricity by half. Tipperary is at the heart of the global bio-economy opportunity and is designated as a 'European Model Demonstrator Region'.

The location of the National Bio-Economy Campus is at Lisheen, Co. Tipperary. This National Campus was developed through the Irish Bio-economy Foundation bringing together relevant stakeholders, including universities, private enterprise and is supported through Enterprise Ireland. The campus will have a range of facilities which will enable industry, entrepreneurs and researchers to scale technologies that convert Ireland's natural resources (including residues) to products of high value for use in a wide variety of sectors including food ingredients, feed ingredients, pharmaceuticals, natural chemicals, biodegradable plastics and more.

Good Practice Example: Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary

The Shannon Estuary forms the largest estuarine complex in the country; it is Ireland's premier deepwater port and is a national economic and environmental asset. The Strategic Integrated Framework Plan (SIFP) for the Shannon Estuary is a land and marine based framework plan to guide the future development and management of the Shannon Estuary. It has identified an additional 1,200 hectares for marine related development (9 no. strategic development locations) by building on existing industry connectivity and synergy as well as the existing infrastructure to create a more sustainable and attractive network for further investment. Significant tracts of land have been zoned for marine related industry in Counties Clare, Limerick and Kerry because of the preparation of the SIFP and these sites present prime opportunities for employment generating development in the Region. The Clare MEZ (Maritime Economic Zone) project for Cahiracon is a wave and offshore renewable energy test-site initiative by Clare County Council to provide specialist infrastructure, accommodation and development space for a range of different maritime-related niche businesses. The aim of the facility will be to provide mandatory maritime training courses and value-added training for non-seafaring personnel taking up positions at sea. There are significant opportunities to grow the Blue Economy through offshore wave and wind renewable energy in the Shannon Estuary and the West coast of County Clare, reflecting the key natural assets of wave and wind energy, together with

the presence of grid- connections. The zoned lands at Tarbert/Ballylongford in North Kerry with extant planning for strategic energy and marine related industry including the Shannon Gas LNG project are a further example of the regional and national potential of the location. The SIFP requires marketing and promotion support both from a financial and expertise perspective.

Marine Renewable Energy Assets:

Through the RSES, the Southern Region positions itself to be a leader in the development of renewable energy resources and marine technologies. Renowned research and innovation assets include the Beaufort Research Laboratory and Marine and Renewable Energy Ireland (MaREI) in Ringaskiddy and the development of a Maritime Centre of excellence at Cahercon, Co Clare.

Good Practice Examples:

- Strategic power generating facilities are located along the Region's coastline including Whitegate Energy Park and Moneypoint. There is considerable potential for the Region's power generating infrastructure to transition to modern, smarter and greener technologies and integrate renewable energy. The former Kinsale Gas Fields have potential for Carbon Capture Storage.
- The ESB West Wave Project is putting Ireland at the forefront of ocean energy globally.
- International energy transmission facilities with marine infrastructure and cross sea connections to Europe include the Eirgrid Celtic Interconnector to France, a strategic project for exporting our renewable energy resource and ensuring security of supply.