Environmental Appraisal Report

Transmission Development Plan 2020-2029

November 2020

EIRGRID

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1.0 Introduction

EirGrid plc (EirGrid) is the Irish national electricity Transmission System Operator (TSO). In our role as TSO in Ireland, we operate and maintain a safe, secure, reliable, economical and efficient transmission system. We develop key infrastructural projects which are vital for the socio-economic development of the State with due regard for the environment.

The Transmission Development Plan (TDP) 2020-2029 presents the network investment needs and the transmission projects that have been identified as required to meet the needs of the Irish transmission system over the period of the plan. The TDP is an annual rolling plan, updated each year to reflect the continuously changing nature of electricity requirements. The preparation of an annual TDP is a legal requirement under national statutory license requirements and European Regulations.

This Environmental Appraisal Report (EAR) has been prepared to ensure that the TDP 2020-2029 is in accordance with the provisions of the adopted Grid Implementation Plan 2017-2022[1] (Grid IP 2017-2022) and associated Strategic Environmental Assessment (SEA)[2]. The Grid Implementation Plan (IP) details the policies and objectives that drive a sustainable approach to grid development and together with Strategic Environmental Objectives, and mitigation measures developed through SEA, ensure significant environmental impacts are avoided wherever possible.

The Grid IP 2017-2022 was subject to SEA (Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27 June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment) and Appropriate Assessment under the provisions of Article 6(3) of the EU Habitats Directive (Directive 92/43/EEC). The Grid IP 2017-2022 is the second one prepared by us, the previous being for the period 2011-2016[3].

A commitment of the SEA process is to conduct an environmental appraisal of each TDP. The appraisal identifies any updates to the programme of projects as set out in the IP and examines these projects against the Strategic Environmental Objectives adopted in the IP. Individual projects will be subject to environmental assessment, including screening for Appropriate Assessment (AA) under the relevant planning requirements.

The EAR assesses the new projects added to the TDP for potential impacts in the short term - construction phase, the medium term – re-establishment and initial operational phase (0-5 years post construction) and the long term – operational phase (5 years onwards).

1 http://www.eirgridgroup.com/site-files/library/EirGrid/EirGrid-Grid-Implementation-Plan-2017-2022-Final.pdf
2 http://www.eirgridgroup.com/site-files/library/EirGrid/SEA-Statement-Grid-IP-2017-2022.pdf
3 http://www.eirgridgroup.com/site-files/library/EirGrid/Grid25-Implementation-Programme-2011-2016.pdf

2.0 Six Step Process for Developing the Grid

A key focus in the development of our projects is on matters of proper planning and sustainable development. This requires a careful balancing of the technical need and solutions for a project with appropriate and adequate opportunities for public participation in the project development process. It must also include significant emphasis and focus on the environmental impact of the project, primarily in reference to the EU Habitats Directive, but also in terms of social impact.

We have been proactive in developing clear structured processes for the planning and development of electricity transmission infrastructure. This includes the technical development of projects in collaboration with matters of planning, environment, public affairs, administrative, financial and corporate governance.

The EirGrid Programme Delivery Unit has overall oversight of project development. It includes experienced experts in the areas of ecology, public planning, wayleaving and landowner engagement. These experts are assigned to all our projects, to advise and assist project managers and their project teams with ensuring a consistent approach to the sustainable planning and development of all our projects.

We have established a new six step approach to developing grid projects in Ireland. This is a “beginning-to-end” process, from the identification of a need to develop the grid to the eventual construction and operation of a project. This approach integrates the technical development of a project with increased and enhanced engagement with stakeholders, communities and landowners. A guide on how we develop the grid and how the public can engage in this process is published on our website in our Have Your Say document: http://www.eirgridgroup.com/the-grid/have-your-say/. Figure 1 below summarises our six step process.

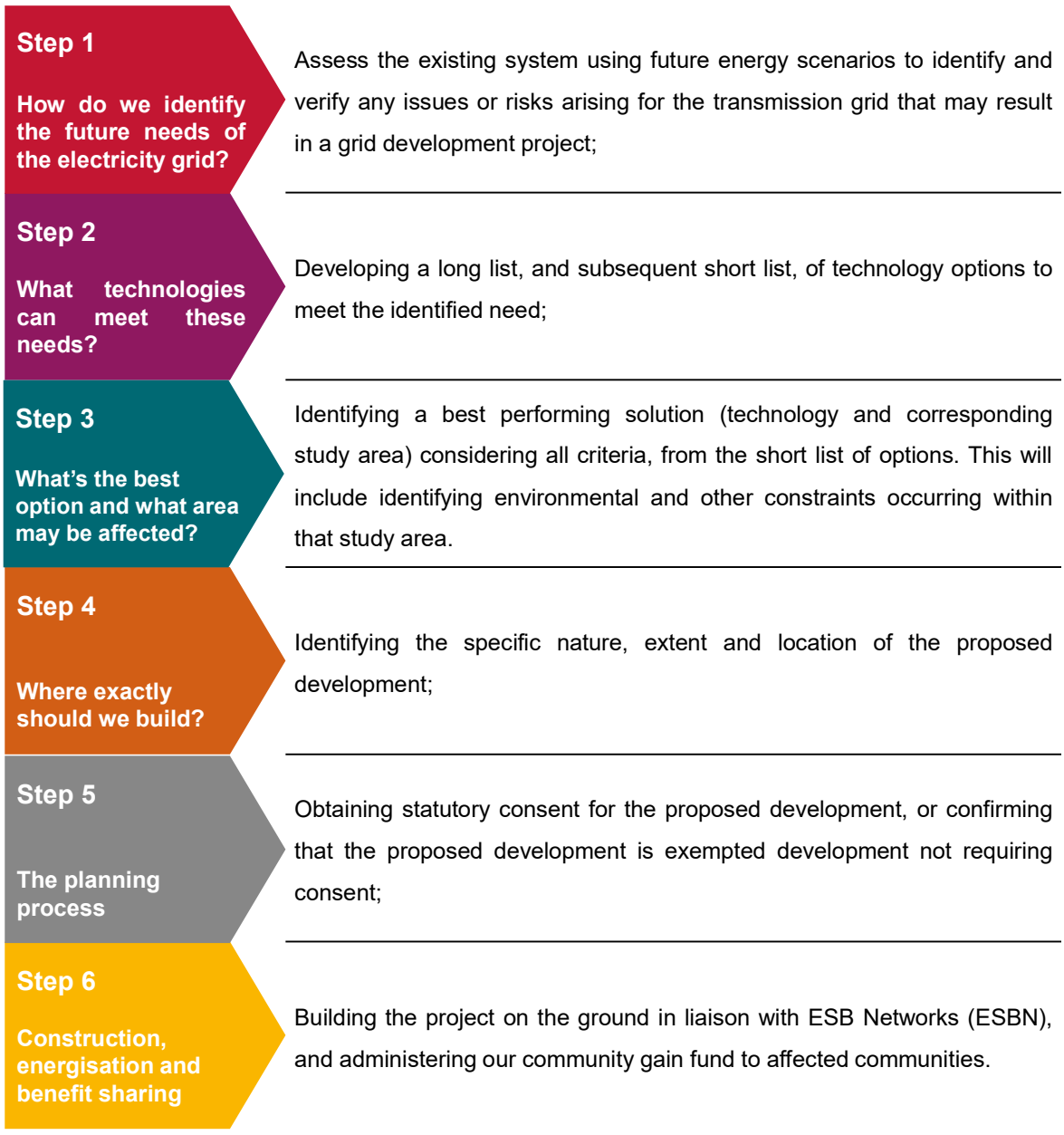

Figure 1: EirGrid's six step process for developing the grid

3.0 Policies and Objectives

We have a statutory obligation to ensure that the operation, maintenance and development of the national transmission system has due regard for the environment. What this means in practice is that environmental issues are central to the decision making process when it comes to developing the grid. This is explicitly stated in Ireland's Grid Development Strategy which states in respect of Protecting our Environment that "An essential part of our work is to understand how developing the transmission system might affect the environment. Consideration of the environment is central to how we work" (p.22).

A series of environmental policies and objectives were developed through the SEA process for the Grid IP 2017-2022 to ensure appropriate consideration and protection of the environment in grid development. The full suite of environmental policies and objectives can be found in the Grid IP 2017-2022.

3.1 Environmental Policies and Objectives

Environmental policies (ENVP) were compiled under the Grid IP 2017-2022 to ensure that we have due regard for existing environmental protection legislation and environmental best practice when developing projects. Environmental objectives (ENVO) have also been developed for a number of environmental topics. All of the environmental policies and objectives detailed in the Grid IP 2017-2022 (refer to Section 4.4 in Part B Implementation of Grid IP 2017-2022) have been assessed against Strategic Environmental Objectives.

3.2 Strategic Environmental Objectives

The SEA of the Grid IP 2017-2022 sets out thirteen Strategic Environmental Objectives (SEOs). SEOs are methodological measures against which the potential environmental effects of the projects in the TDP can be examined. The SEOs are set out under a range of environmental topics (see Table 3.1). The SEOs guide sustainable grid development and are used as standards against which the provisions of the TDP can be evaluated. This is in order to help identify areas in which potential significant impacts may occur. The new projects as set out in the TDP 2020-2029 are evaluated against these SEOs in Section 5. These SEOs will be used as part of a Monitoring Framework for the wider Grid IP 2017-2022 with targets and indicators specified through the SEA process (see Section
3.3).

Table 3.1: Strategic Environmental Objectives as set out in the SEA of the Grid IP 2017-2022	
Theme	**Objective**
Population, Human Health & the Economy	PHH1: To minimise the proximity of development to concentrations of population and to mitigate potential effect of development in order to reduce actual and perceived environmental effects.
Biodiversity, Flora & Fauna	B1: Ensure compliance with the Habitats Directive with regard to protection of designated European Sites including Article 10.
	B2: Avoid significant impacts on protected habitats, species, environmental features or other sustaining resources in and outside designated Wildlife Sites (including but not limited to Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs).
Landscape & Visual Amenity	L1: Avoid significant adverse impacts on landscape character and designations.
	L2: Avoid or minimise adverse visual effects on residential receptors.
Cultural Heritage - Archaeology & Architectural	CH1: Avoid impacts upon archaeological heritage (including entries to the Record of Monuments and Places (RMP)) and architectural heritage (including entries to the Record of Protected Structures (RPS) and National Inventory of Architectural Heritage (NIAHs)).
Geology and Soils	GSL1: To avoid or minimise effects on mineral resources or soils.
Land use	LU1: To avoid or minimise effects on existing land use.
Water	W1: Prevent impact upon the status of surface and groundwater in line with the objectives of the Water Framework Directive (WFD) as outlined in the River Basin Management Plans.
Material Assets & Infrastructure	MAI1: Minimise effects upon the sustainable use of the land, mineral resources or soils.
	MAI2: Minimise effects upon the existing and planned infrastructure.
Tourism & Recreation	TR1: Minimise effects upon the tourism and recreation amenities.
Climate Change	CC1: Help to facilitate the achievement of higher level targets contained in the Government's Energy White Paper, 'Ireland's Transition to a Low Carbon Energy Future 2015-2030' and targets relating to the Kyoto Protocol.

3.3 Monitoring

EirGrid has statutory obligations to monitor its plans under Article 17 of the SEA Directive. Further details on ongoing monitoring work by EirGrid are provided in Section 5.5 Monitoring.

4.0 New Projects in TDP 2020-2029

To ensure adequate security of electricity supply, further market integration, and the integration of renewable energy sources, it is necessary to provide ongoing and timely reinforcement of the Irish electricity transmission system. These reinforcement needs can be divided into the following categories:

- Reinforcements to support changes in, or connection of new, demand;
- Reinforcements required to support changes in, or connection of new, generation;
- Reinforcements related to interconnection;
- Reinforcements to facilitate inter-regional power flows; and
- Reinforcements to address the condition of existing assets.

The TDP 2020-2029 includes 111 active projects. These projects are categorised as either "New Build"[4], "Uprate/Modify"[5] or "Refurbish/Replace"[6] projects. Twenty two projects were added in 2019 and therefore were not considered in the environmental appraisal carried out for TDP 2019-2028 or as part of the SEA process. The 22 projects are listed in Table 4.1. Of these, 19 projects continue to be active in TDP 2020-2029. Three projects that were added in 2019 are not active in TDP 2020-2029 – these are identified in Table 4.1 using footnotes.

4 New Build projects: Projects that involve the construction of new stations or new circuits. This category also includes projects that involve the installation of new equipment in existing stations. An example of a new build project is the installation of new transformers or new reactive support devices within existing stations.
New Build projects are segregated in two categories:

- New Build Connection: New connection projects; and
- New Build Capacity: Projects that deliver additional grid capacity.

5 Uprate/ Modify projects: Projects that involve the uprating of existing assets. An example of an uprate project is changing equipment to increase the capacity rating of circuits or busbars. This can include changing the overhead line (conductor) with a more efficient and higher 'rated' conductor. This category also includes projects that involve the modification of existing assets. An example of a modification project is the installation of new couplers or new bays in existing stations. Reconfiguration of existing stations is also included in this category.
6 Refurbish/ Replace projects: Projects that involve the maintenance of existing stations or existing circuits. This category also includes projects that involve the replacement of existing assets. For example, the replacement of stations at or close to the end of their useful life or replacement and upgrading of protection in existing stations.

Table 4.1: New Projects in TDP 2020-2029				
No.	CP. No	Name	Type	Region
1	CP1029	Kellystown 220 kV New Station and Loop-in to Maynooth – Woodland 220 kV Circuit – Demand Customer Connection	New Build Connection	SE-ME-D
2	CP1050	Gafney 110 kV Station and loop-in to Corduff – Platin 110 kV circuit – Generator Permanent Connection, Phase 2 and 3[7]	New Build Connection	SE-ME-D
3	CP1077	Ballyvouskill 220/110 kV Station - Temporary 50 Mvar Reactor	New Build Capacity	SW-MW
4	CP1056	Ryebrook 110 kV Station – Temporary Connection for Demand Customer	Uprate/Modify	SE-ME-D
5	CP1082	Protection Relay Upgrade for Security of Supply - Proof of concept at Three Transmission Stations (Aghada, Clashavoon and Knockraha)	Refurbish/Replace	SW-MW
6	CP1057	Derrycarney 110 kV New Station and loop-in to Portlaoise – Dallow Tee – Shannonbridge 110 kV circuit – Battery Connection	New Build Connection	B-M-W
7	CP1049	Bracetown 220 kV New Station and tail to Clonee 220 kV station – Demand Customer Connection	New Build Connection	SE-ME-D
8	CP1069	Ballinknockane 110 kV New Station and loop-in to Aughinish – Kilpaddoge 110 kV circuit - Solar Farm Connection	New Build Connection	SW-MW
9	CP1058	Shannonbridge 220/110 kV Station – New 220 kV Transformer Bay for Battery Connection, known as Shannonbridge A	Uprate/Modify	B-M-W
10	CP1061	Shantallow 110 kV New Station and loop-in to Cashla – Shannonbridge – Somerset Tee 110 kV circuit – Solar Farm Connection	New Build Connection	B-M-W
11	CP1068	Tullabeg 110 kV New Station and loop-in to Banoge – Crane 110 kV circuit - Solar Farm Connection	New Build Connection	SE-ME-D
12	CP0693	Baroda 110 kV Station - Two new 110 kV DSO Transformer Bays[8]	Uprate/Modify	SE-ME-D
13	CP1062	Drombeg 110 kV New Station and loop-in to Kilpaddoge – Tralee 110 kV circuit - Solar Farm Connection	New Build Connection	SW-MW
14	CP1083	Causestown 110 kV New Station and tail to Gorman 220/110 kV Station – Battery Connection, known as Gorman Energy Storage	New Build Connection	SE-ME-D
15	CP1085	Aghada 220/110 kV Station – Battery Connection, known as Aghada Battery Storage	Uprate/Modify	SW-MW
16	CP1091	Moneypoint 400/220/110 kV Station - New 400/220 kV 500 MVA Transformer to replace an existing transformer	Refurbish/Replace	SW-MW
17	CP1072	Cloghran 110 kV Station - Replacement of No.2 HV Transformers[9]	Refurbish/Replace	SE-ME-D
18	CP1064	Finglas 220/110 kV Station - Pantograph Replacement	Refurbish/Replace	SE-ME-D
19	CP1075	Coolnanoonagh 110 kV Station – Battery Connection, known as Kelwin Power Plant Phase 2	Uprate/Modify	SW-MW
20	CP1063	Killonan 220/110 kV Station - GIS Enabling Works for CP0624[10]	Uprate/Modify	SW-MW
21	CP0644	Bracklone 110 kV New Station and Loop-in to Newbridge – Portlaoise 110 kV Circuit[11]	New Build Connection	B-M-W
22	CP1011	Croaghonagh 110 kV New Station and tail to Clogher 110 kV station – TSO Wind Farm Connection[12]	New Build Connection	B-M-W

Table 4.2 summarises the new projects into their respective categories as detailed in TDP 2020-2029. These projects are categorised as either “New Build”, “Uprate/Modify” or “Refurbish/Replace” projects. 50% of projects relate to existing assets i.e. Uprate/Modify or Refurbish/Replace projects.

Table 4.2: Summary of New Projects by Category in TDP 2020-2029	
Project Category	**No of Projects**
New Build	12
Uprate/Modify	6
Refurbish/Replace	4
Other	0
Total	**22**

7 CP1050 was added and also removed in 2019.
8 CP0693 was previously on hold.
9 CP1072 was added in 2019 and also completed in 2019.
10 CP1063 was amalgamated with CP0624.
11 CP0644 was previously on hold.
12 CP1011 was previously on hold. It was referred to as Carrickalangan in TDP 2019.

Power flows on the transmission network are not contained within specific localities or counties. To help project reporting and give a regional view to the TDP we group counties together to create regions. There are three regions. Table 4.3 outlines the number of new projects in each region.

Table 4.3 Summary of New Projects by Region	
Region	**No of Projects**
Border, Midlands and West (B-M-W)	5
South-West and Mid-West (SW-MW)	8
South-East, Mid-East & Dublin (SE-ME-D)	9
Projects at multiple locations[13]	0
Total	**22**

13 These involve multiple individual projects at various locations across the country.

Figure 2: Ireland's regions

5.0 Evaluation of New Projects

5.1 New Projects

The TDP 2020-2029 defines a list of 22 new projects that were added in 2019[14]. A number of these potential projects are screened out of requiring evaluation as the works are of such a scale as not to be considered significant and / or are localised to within existing electrical transmission sites / substations. Many of these proposals that have been screened in may require future environmental studies at the project level, such as Environmental Impact Assessment under the Environmental Impact Assessment (EIA) Directive 85/337/EEC.

5.2 Evaluation of New Projects against SEOs

As detailed in tables above there are three types of new reinforcement projects in the TDP 2020-2029 – new builds, refurbishment/replacement projects and uprate/modifications projects. Several of the new build projects are related to customer connections. While these projects and their environmental appraisal are not generally within the control of EirGrid, given they are being carried out on a contestable basis, it is assumed that they will all require planning consent and thus undergo environmental appraisal and be approved by a competent authority. The competent authority will attached conditions and mitigation measures as necessary to those consents.

The integration of renewable energy sources is a key driver in new projects in all regions. This will be achieved through new build, uprate/modification and refurbishment projects. This key driver is in accordance with SEO CC1 (to help facilitate the achievement of higher government targets in relation to Energy policy) and is likely to continue to improve this SEO in the longer term.

By making improvements to the existing transmission system through uprates/modifications and refurbishment/replacements, potential impacts to the receiving environment can be minimised. Subject to the implementation of effective mitigation strategies as appropriate, the utilisation of existing assets would have a neutral impact on SEOs related to landscape (L1, L2), ecological connectivity (B2), population centres (PHH1) and sustainable land use (LU). Potential issues can arise where (existing) transmission infrastructure assets are located in sensitive areas such as sites designated for nature conservation (B2), areas of significance for cultural heritage (CH1) and or sensitive water catchments (W1). In general, these issues can be identified early in the project planning process and mitigation measures developed to ensure that no significant effects arise. Monitoring may additionally be required to verify the effectiveness of mitigation, adapt measures where

14 Of these, 19 projects continue to be active in TDP 2020-2029. Three projects that were added in 2019 are not active in TDP 2020-2029 – these are identified in Table 4.1 using footnotes.

required, and report back both positive and negative findings to improve future mitigation strategies (see Section 5.5 Monitoring).

The impact of any new build project is a function of the project type and the sensitivities of the environment in which it is to be developed. There is the potential for impacts on a range of environmental factors. However, with proper planning and robust environmental assessment, significant effects (and conflicts with SEOs) can be mitigated in the vast majority of cases. Certain new build projects have the potential to conflict with the SEO related to landscape. The application of mitigation through avoidance (of sensitive landscape areas), sensitive routing and screening may not be sufficient in all instances to remove significant effects on localised landscapes.

A high level review of the new projects listed in the TDP 2020-2029 indicates that there is unlikely to be any potential for significant residual impacts post mitigation for any of the new build projects which include works within existing substations and the building of new stations. Table 5.1 summarises the evaluation of SEOs against the three different types of reinforcement projects. Mitigation measures as detailed in the SEA Environmental Report[15] and Natura Impact Statement[16] which remain relevant for this environmental appraisal of the TDP are presented in Appendix B. A detailed evaluation of each new project is contained in Appendix A.

5.3 Combined, Changed and Cancelled Projects

Several projects have had their status or scope changed since the previous TDP. These changes are of a clerical or contractual nature and would have no material bearing on the overall SEOs. No significant effects arise.

15 http://www.eirgridgroup.com/site-files/library/EirGrid/Environmental-Report_SEA-Grid-IP2017-2022.pdf
16 http://www.eirgridgroup.com/site-files/library/EirGrid/NIS-Grid-Implementation-Plan-2017-2022.pdf

Table 5.1 Summary evaluation of planned network developments (new to TDP 2020-2029)

Project Type	No. of Projects	PHH1	B1	B2	L1	L2	CH1	GSL1	LU1	W1	MAI1	MAI2	TR1	CC1
New Build	12	*	*	*	*	*	*	*	*	*	*	*	*	+
Uprate/Modify (Line)	6	*	*	*	*	*	*	*	*	*	+	+	+	+
Refurbish/Replace (Line)	4	*	*	*	*	*	*	*	*	*	+	+	+	+
Total	22													

Discussion

Where a modification, uprate, redevelopment or refurbishment is taking place within a station there is minimal work required and this work will typically be undertaken within the footprint of an existing station. Where a refurbishment or line uprate is taking place, there will be minimal change operationally but there is potential for some small-scale construction works. Therefore, there could be construction related impacts including but not be limited to the following:

- habitat removal or disturbance to species for access requirements;
- disturbance to local residents from construction works i.e. noise or dust emissions;
- potential pollution of nearby watercourse; and
- depending on the receiving environment, there may be potential for impacts on designated sites. Therefore screening for the need for Appropriate Assessment is undertaken for all refurbishment and uprate projects.

These refurbishment projects will be subject to the inherent mitigation and in particular the construction best practice. The adherence to this construction best practice will facilitate the avoidance and reduction of significant effects. Therefore, the likely effects associated with the construction works from these refurbishments projects are not likely to be significant. All new build projects will be subject to environmental assessment as part of the relevant planning process for these projects. Refurbishment/replacement and uprate/modification projects are generally considered to be permitted development under relevant sections of the Planning Act. Where there is potential for significant effects on a European Site, this permitted development status is lost and planning permission must be sought.

Description of Effect	Effect
Likely to have a positive effect	+
Likely to have a negative effect	-
Effects are uncertain/there is insufficient information on which to determine effect	?
Likely to have a neutral effect	*
Likely to have a mixed positive & negative effect	+/-
Likely to have a mixed negative & positive effect	-/+
Not Applicable	

5.4 Mitigation

Mitigation measures have been recommended, in the SEA and AA processes, where potential negative impacts have been identified. These mitigation measures aim to prevent, reduce and as fully as possible offset any significant adverse effects on the environment due to implementation of the projects in the TDP. The mitigation measures that have arisen in the SEA and AA processes are included in Appendix B.

The principal mitigation recommendation is that the predicted negative effects should be considered further during detailed planning and design, when the specifics of the development infrastructure can be optimised through detailed feasibility studies and design in order to limit the potential impacts on sensitive receptors. Further environmental studies based on the more detailed designs and construction methodologies should be undertaken as appropriate. These studies may involve, but are not limited to, marine, aquatic and terrestrial ecology surveys, ornithological and bat surveys, fish surveys, landscape and visual assessments, WFD assessments, geotechnical investigations and heritage surveys.

Before any works are carried out, detailed method statements and management plans (construction and environmental) should be prepared, including timing of works, information on the specific mitigation measures to be employed for each works area, and mechanisms for ensuring compliance with environmental legislation and statutory consents. The timing of construction and maintenance works should be planned to avoid any potential for negative cumulative impacts or inter-relationships with other schemes, plans or projects, yet look to optimise any potential positive cumulative impacts or inter-relationships.

Contractors should be required to prepare Construction Environmental Management Plans (CEMPs), which would include a requirement for related plans to be prepared, as appropriate, for project implementation, such as Erosion and Sediment Control, Invasive Species Management, Emergency Response, Traffic and Safety Management, Dust and Noise Minimisation, and Stakeholder Communication Plans.

Works should only be carried out once the method statements have been consulted on with competent authorities. At the project level it will not be sufficient to defer the production of construction method statements. These should be completed in the detailed design stage and may be subject to further Appropriate Assessment where potential impacts have been identified. Where there may be unavoidable impacts on protected habitats and/or species the necessary derogation licences should be applied for prior to seeking planning permission or approval for a scheme.

Marine construction and in stream works have the greatest potential for negative impacts during spawning / breeding and early nursery periods for aquatic and marine protected species. No marine or instream works should occur during restricted periods for relevant species and consultation should be undertaken with the appropriate authorities in this regard. Monitoring of project-level mitigation measures should be undertaken during and after works, to ensure effectiveness. All works and planning of works should be undertaken with

regard to all relevant legislation, licensing and consent requirements, and recommended best practice guidelines. An ecological clerk of works should be appointed for environmental management of each infrastructure development, and where specific sensitive species may be impacted, an appropriate expert should also be appointed.

5.5 Monitoring

EirGrid will be reporting the outcome of environmental monitoring of the projects constructed during the lifetime of the Grid IP 2017-2022 in 2021 (interim reporting) and 2022 (final reporting) to the Environmental Advisory Group (EAG).

In scoping the SEA of the Grid IP, EirGrid established the EAG to advise on the development of the Grid IP. The EAG comprises the Environmental Protection Agency, the National Parks & Wildlife Service, the Heritage Council, the Department of Housing, Planning, Community and Local Government and the Regional Assemblies (East and Midlands). The EAG will continue to be consulted on SEA monitoring.

The results of EirGrid's SEA monitoring will also be available to the wider public, via EirGrid's website. In support of recent guidance on SEA monitoring by the EPA[17], monitoring locations will be mapped, and relevant spatial data will be shared on appropriate platforms. The key function of EirGrid's monitoring work, will be to incorporate process improvements into how EirGrid delivers its projects, for the next cycle of its Grid IP (2023-2028). Process improvements may include:

- Increasing the quantum of monitoring undertaken during project construction and operation (where appropriate – e.g. by requiring biodiversity monitoring and reporting in all circumstances where intrusive works are carried out within European sites)
- Articulating the commitment to increase the quantum of monitoring, in relevant policy and guidance, including forthcoming updates to EirGrid's Ecology and Cultural Heritage Guidelines
- Feeding back positive and negative monitoring outcomes to EirGrid consultants and ESB as appropriate, to improve the effectiveness of future mitigation strategies.
- Requiring consultants to include future monitoring commitments within Environmental Impact Assessment Reporting, Planning and Environmental Considerations Reporting, and/or Natura Impact Statements planning documentation, to ensure Contractors and/or their consultants provide monitoring reports to EirGrid and ESB.

17 https://www.epa.ie/pubs/advice/ea/guidanceonseastatementsandmonitoring.html

6.0 Conclusion

The TDP 2020-2029 has been examined in terms of the provisions of the SEA of the Grid Implementation Plan 2017-2022. Twenty-two new projects are detailed in TDP 2020-2029 since the adoption of TDP 2019-2028. Therefore, to ensure consistency with the provisions of the most recent SEA (2017-2022), these projects have been examined against the Strategic Environmental Objectives as detailed in the Environmental Report (2018).

These 22 new projects consist of new builds (stations, additional infrastructure within stations and cable connections), refurbishment/replacement projects and uprates/modification projects of existing assets. These three categories of projects (as they relate to the projects listed) have been assessed against the Strategic Environmental Objectives from the SEA and it has been determined that following the implementation of mitigation measures the SEOs will be achieved.

Environmental assessments, as part of Environmental Reports or Environmental Impact Assessments in respect of specific projects, will seek to minimise and where possible avoid significant effects on the natural environment and landscape.

Appendix A: Detailed Evaluation of New Projects in the TDP 2020-2029

Detailed Evaluation of New Projects in the TDP 2020-2029						
No.	CP. No	Name	Type	Region	Appraisal	Evaluation
1	CP1029	Kellystown 220 kV New Station and Loop-in to Maynooth – Woodland 220 kV Circuit – Demand Customer Connection	New Build Connection	SE-ME-D	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.
2	CP1050	Gafney 110 kV Station and loop-in to Corduff – Platin 110 kV circuit – Generator Permanent Connection, Phase 2 and 3[18]	New Build Connection	SE-ME-D	See footnote	See footnote
3	CP1077	Ballyvouskill 220/110 kV Station - Temporary 50 Mvar Reactor	New Build Capacity	SW-MW	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.
4	CP1056	Ryebrook 110 kV Station – Temporary Connection for Demand Customer	Uprate/Modify	SE-ME-D	Very localised impacts only	N/A
5	CP1082	Protection Relay Upgrade for Security of Supply - Proof of concept at Three Transmission Stations (Aghada, Clashavoon and Knockraha)	Refurbish/Replace	SW-MW	Very localised impacts only	N/A
6	CP1057	Derrycarney 110 kV New Station and loop-in to Portlaoise – Dallow Tee – Shannonbridge 110 kV circuit – Battery Connection	New Build Connection	B-M-W	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of

18 CP1050 was added and also removed in 2019.

Detailed Evaluation of New Projects in the TDP 2020-2029						
No.	CP. No	Name	Type	Region	Appraisal	Evaluation
						measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.
7	CP1049	Bracetown 220 kV New Station and tail to Clonee 220 kV station – Demand Customer Connection	New Build Connection	SE-ME-D	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.
8	CP1069	Ballinknockane 110 kV New Station and loop-in to Aughinish – Kilpaddoge 110 kV circuit - Solar Farm Connection	New Build Connection	SW-MW	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.
9	CP1058	Shannonbridge 220/110 kV Station – New 220 kV Transformer Bay for Battery Connection, known as Shannonbridge A	Uprate/Modify	B-M-W	Very localised impacts only	N/A
10	CP1061	Shantallow 110 kV New Station and loop-in to Cashla – Shannonbridge – Somerset Tee 110 kV circuit – Solar Farm Connection	New Build Connection	B-M-W	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.

Detailed Evaluation of New Projects in the TDP 2020-2029						
No.	CP. No	Name	Type	Region	Appraisal	Evaluation
11	CP1068	Tullabeg 110 kV New Station and loop-in to Banoge – Crane 110 kV circuit - Solar Farm Connection	New Build Connection	SE-ME-D	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.
12	CP0693	Baroda 110 kV Station - Two new 110 kV DSO transformer bays	Uprate/Modify	SE-ME-D	Very localised impacts only	N/A
13	CP1062	Drombeg 110 kV New Station and loop-in to Kilpaddoge – Tralee 110 kV circuit - Solar Farm Connection	New Build Connection	SW-MW	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.
14	CP1083	Causestown 110 kV New Station and tail to Gorman 220/110 kV Station – Battery Connection, known as Gorman Energy Storage	New Build Connection	SE-ME-D	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.
15	CP1085	Aghada 220/110 kV Station – Battery Connection, known as Aghada Battery Storage	Uprate/Modify	SW-MW	Very localised impacts only	N/A
16	CP1091	Moneypoint 400/220/110 kV Station - New 400/220 kV 500 MVA Transformer to replace an existing transformer	Refurbish/Replace	SW-MW	Very localised impacts only	N/A

Detailed Evaluation of New Projects in the TDP 2020-2029						
No.	CP. No	Name	Type	Region	Appraisal	Evaluation
17	CP1072	Cloghran 110 kV Station - Replacement of No.2 HV Transformers[19]	Refurbish/Replace	SE-ME-D	Very localised impacts only	N/A
18	CP1064	Finglas 220/110 kV Station - Pantograph Replacement	Refurbish/Replace	SE-ME-D	Very localised impacts only	N/A
19	CP1075	Coolnanoonagh 110 kV Station – Battery Connection, known as Kelwin Power Plant Phase 2	Uprate/Modify	SW-MW	Very localised impacts only	N/A
20	CP1063	Killonan 220/110 kV Station - GIS Enabling Works for CP0624[20]	Uprate/Modify	SW-MW	Very localised impacts only	N/A
21	CP0644	Bracklone 110 kV New Station and Loop-in to Newbridge – Portlaoise 110 kV Circuit	New Build Connection	B-M-W	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.
22	CP1011	Croaghonagh 110 kV New Station and tail to Clogher 110 kV station – TSO Wind Farm Connection	New Build Connection	B-M-W	Potential for Impacts	This development has the potential for short term, temporary, construction phase, slight negative impacts on biodiversity, flora and fauna, population and human health, geology, soils and land use, water, air, climatic factors, material assets, and landscape and visual amenity. There are unlikely to be any further medium or long term negative impacts following the completion of the works. There is the potential for medium and long term, slight positive impacts on population and human health, air, climatic factors and material assets, following the works. The AA of the Grid IP 2017-2022 has identified the potential for water quality and habitat deterioration impacts on European Sites, from similar projects. The possibility of likely significant effects cannot be discounted on these sites at the plan level assessment. Project level Appropriate Assessment including further evaluation and analysis, and the application of measures intended to avoid or reduce the harmful effects of the project on European sites, as necessary, may be required.

19 CP1072 was added in 2019 and also completed in 2019.
20 CP1063 was amalgamated with CP0624.

Appendix B: Mitigation Measures

Grid Implementation Plan 2017-2022 Strategic Environmental Assessment Statement

EIRGRID

The current. The future.

GRID Implementation Plan 2017-2022

Strategic Environmental Assessment - Environmental Report (Updated)

32106700_GRID Implementation Plan – SEA Environmental Report | 1

December 2018

EirGrid

GRID Implementation Plan 2017-2022

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0	20/04/2018	Draft for Client Review	OD/Various	RV/DM	JM
1	14/12/18	Final	SMG/ GQ	RV	RM

12. SEA Recommendations

12.1 Introduction

12.1.1 Policies and Objectives

The recommendations in relation to the policies and objective of the Grid IP are outlined in **Table 12-1** and **Table 12-2.** These tables outline the proposed alterations to the Grid IP policies and objectives proposed by the SEA/AA team and whether this has been agreed by EirGrid.

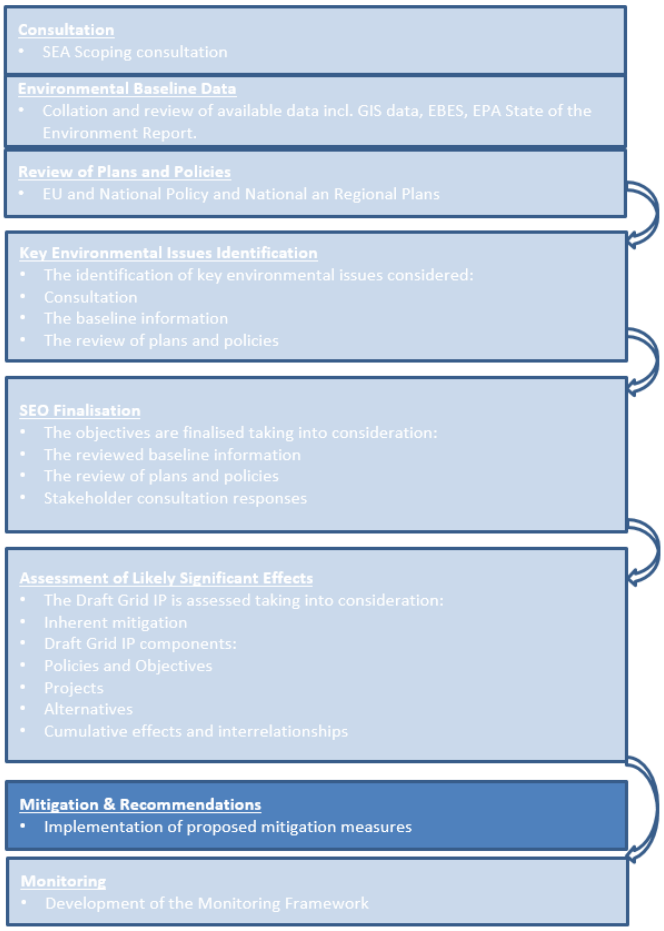

Table 12-1: EirGrid Policies – SEA Recommendations

Aspect	Number	Original	Proposed Amendment, Recommendation or Addition (indicated by underlined text)	Agreed Y/N
General	ENVP1	To uphold best practice in the environmental design and appraisal of transmission development projects.	To apply best practice in the design and environmental appraisal of transmission development projects	Y
	ENVP2	To develop EirGrid's approach to the protection of the environment in transmission development, and to make this publicly available.	To continue to develop EirGrid's approach to the protection of the environment in transmission development, and fully integrate this approach throughout the procedures for transmission development and make this publicly available.	Y
Biodiversity	ENVP3	That any transmission development project, either individually or in combination with other projects, that has the potential to give rise to likely significant effects on any European (Natura) site(s) shall be subject to Appropriate Assessment (AA) in accordance with Article 6 of the EU Habitats Directives.	n/a	n/a
	ENVP4	To protect flora, fauna and habitats which have been identified in accordance with Articles 12 of the Habitats Directive, the Birds Directive, Wildlife Act 1976 (as amended), the Flora Protection Order (S.I. No. 356 of 2015), and the European Communities (Birds and Natural Habitats) Regulations 2011.	Note: Legal requirement To protect flora, fauna and habitats (terrestrial and aquatic) which have been identified in accordance with Articles 12 of the Habitats Directive, the Birds Directive, Wildlife Act 1976 (as amended), the Flora Protection Order (S.I. No. 356 of 2015), and the European Communities (Birds and Natural Habitats) Regulations 2011. This protection will be afforded at the earliest opportunity in the project development process i.e. option selection.	Y
	ENVP5	To promote a pro-active good practice approach to tree and hedgerow management in grid development, with the aim of minimising the impact of transmission development on existing trees and hedgerows.	Recommendation - Consideration to be given to combining ENVP6 and ENVP6. To promote a pro-active good practice approach to tree and hedgerow management in grid development, with the aim of avoiding in the first instance and minimising and mitigating the impact of transmission development on existing trees and hedgerows.	N Y
	ENVP6	To protect trees, hedgerows or groups of trees which function as wildlife corridors, in accordance with Article 10 of the EU Habitats Directive.	To protect and restore (where possible) habitats which function as wildlife corridors, in accordance with Article 10 of the EU Habitats Directive.	Y
Climate Change	ENVP7	To integrate measures to address climate change into grid development, by way of both effective mitigation and adaptation responses, in accordance with available guidance and best practice.	To integrate measures to address climate change and climate change resilience into grid development, by way of effective mitigation and adaptation responses, in accordance with available guidance and best practice.	Y

Aspect	Number	Original	Proposed Amendment, Recommendation or Addition (indicated by underlined text)	Agreed Y/N
	ENVP8	To support the Government's target of having 40% of electricity consumption generated from renewable energy sources by the year 2020.	n/a	n/a
Noise	ENVP9	To facilitate new technologies on transmission infrastructure which minimise noise emissions.	To facilitate new technologies on transmission infrastructure which avoid in the first instance or minimise/mitigate noise emissions.	Y
	ENVP10	To seek to preserve and maintain noise quality in accordance with good practice and relevant legislation.	To preserve and maintain noise quality in accordance with relevant legislation and good practice.	Y
Landscape	ENVP11	To have regard to the objectives of the National Landscape Strategy in its transmission development projects.	To have regard to the objectives and actions of the National Landscape Strategy in its transmission development projects.	Y
	ENVP12	To continue to protect and enhance landscapes through the sustainable planning and design of transmission infrastructure development.	To seek to continue to protect and enhance landscapes and visual amenity through the sustainable planning and design of transmission infrastructure development.	Y
	ENVP13	n/a	NEW: To seek to avoid and reduce visual impact on residential receptors in the development of transmission projects.	Y
Cultural Heritage	ENVP14	To ensure that the special interest of protected structures, including their curtilages and settings, are protected to the greatest extent possible when considering site or route options for transmission infrastructure development.	To ensure that the special interest of protected structures, including their curtilages and settings, are avoided when considering site or route options for transmission infrastructure development.	Y
	ENVP15	To protect known and unknown (potential) archaeological material in transmission infrastructure development, by avoidance or by best practice mitigation measures.	n/a	n/a
Water	ENVP16	To have regard to the Guidelines for Planning Authorities on the Planning System and Flood Risk Management, and Technical Appendices, November 2009, published by the Department of the Environment, Community and Local Government as may be revised/updated when devising grid development projects, and in the preparation of grid development strategies and plans to ensure that there is no increase in flood risk as a result of transmission development, and to ensure any flood risk to the development is appropriately managed.	Recommendation: These policies could be refined and combined to one policy. To have regard to the Guidelines for Planning Authorities on the Planning System and Flood Risk Management, and Technical Appendices, November 2009, published by the Department of the Environment, Community and Local Government as may be revised/updated when devising grid development projects, and in the preparation of grid development strategies and plans to ensure that there is no increase in flood risk as a result of transmission development, and to ensure any flood risk to the development is appropriately managed.	Y

Aspect	Number	Original	Proposed Amendment, Recommendation or Addition (indicated by underlined text)	Agreed Y/N
	ENVP17	n/a	NEW: To protect the water environment, water quality and aquatic ecology in accordance with the EU Water Framework Directive, in the development of its transmission projects.	Y
Air Quality	ENVP18	To seek to preserve and maintain air quality in accordance with good practice and relevant legislation in the construction of its transmission projects.	n/a	Y
Tourism	ENVP19	To consider the potential impact upon tourism in the development of transmission projects.	To consider the potential impact upon tourism in the development of transmission projects and to protect tourism resources through the sustainable planning and design of transmission infrastructure development.	Y
Marine Environment	ENVP20	n/a	NEW: To promote a pro-active good practice approach to marine management in grid development, with the aim of minimising the impact of transmission development on the marine environment.	
	ENVP21	n/a	NEW: To protect the marine environment, in accordance with any plans made under the EU Directive 2014/89/EU (Marine Spatial Planning).	
Geology and Soils	ENVP22	n/a	NEW: To ensure that geological heritage features are protected to the greatest extent possible when considering site or route options for transmission infrastructure development.	Y
Technical	TP1	To promote and facilitate the sustainable development of a high-quality transmission grid to serve the existing and future needs of the country, in accordance with EirGrid's Grid Development Strategy 2016.	To promote and facilitate the sustainable development of a high-quality transmission grid to serve the existing and future needs of the country, in accordance with EirGrid's Grid Development Strategy 2016, legislative requirements, relevant guidance and best practice.	Y
	TP2	To consider all practical technology alternatives in the development of its projects, including maximising use of the existing transmission grid.	To consider all practical technology alternatives and their associated environmental effects in the development of its projects, including maximising use of the existing transmission grid.	Y
	TP3	To continue to be proactive in the development of emerging or innovative technical solutions for the development of the transmission grid with regard to the environment.	To continue to be proactive in the development of emerging or innovative technical solutions for the development of the transmission grid with regard to the environment.	Y

Aspect	Number	Original	Proposed Amendment, Recommendation or Addition (indicated by underlined text)	Agreed Y/N
Project Development	PDP1	To have regard to EirGrid's Framework for Grid Development, and any associated Guidelines, policies and processes, to ensure the structured development of all its transmission projects.	To have regard to EirGrid's approach to developing the grid and any associated guidelines, policies and processes, to ensure the structured development of all its transmission projects.	Y
	PDP2	To promote sustainable grid development by balancing complex and/or competing technical, economic and environmental goals and priorities in decision-making.	To promote sustainable grid development by balancing complex and/or competing technical, economic, environmental and social and deliverability goals and priorities in decision-making.	Y
Planning and Consent	PCP1	To have regard to relevant legislation and guidelines in respect of planning and consenting of transmission infrastructure development projects and make provision for any policies for the provision of transmission infrastructure set out in these documents. In particular, to have regard to the current National Spatial Strategy and Regional Planning Guidelines, and the future National Planning Framework and Regional Spatial and Economic Strategies.	To comply with relevant legislation and have regard to guidelines in respect of planning and consenting of transmission infrastructure development projects and make provision for any policies for the provision of transmission infrastructure set out in these documents. In particular, to have regard to the current National Spatial Strategy and Regional Planning Guidelines, and the future National Planning Framework and Regional Spatial and Economic Strategies.	Y
	PCP2	To have regard to precedent arising from decisions of the Competent Authorities, and of the High Court in Judicial Review of decisions, relating to the planning and consenting of transmission infrastructure development projects.	n/a	n/a
	PCP3	To promote sustainable grid development by balancing complex and/or competing technical, economic and environmental goals and priorities in decision-making.	n/a	n/a
Consultation	CEP1	To consult and engage with statutory and non-statutory stakeholders, including communities, landowners and the general public, at the earliest meaningful stage of a project's development.	n/a	n/a
	CEP2	To recognise and develop the essential role that communities, landowners and other stakeholders play in transmission infrastructure development, and to engage with different stakeholders as appropriate at all stages of a grid development project.	n/a	n/a
	CEP3	To ensure consultation and engagement feedback is appropriately considered in decision making.	To ensure consultation and engagement feedback is appropriately considered in decision making and that this process is documented.	Y
	CEP4	To facilitate formal complaints and to resolve such complaints in a timely manner.	To facilitate a formal complaints system and to resolve such complaints in a timely manner.	Y

Aspect	Number	Original	Proposed Amendment, Recommendation or Addition (indicated by underlined text)	Agreed Y/N
Human Beings and Society	HBSP1	To consider and address social impact and the impact on human beings in the development of transmission infrastructure projects as appropriate.	To consider and address social impact and the impact on human beings and health in the development of transmission infrastructure projects as appropriate.	Y

Table 12-2: EirGrid Objectives - SEA Recommendations

Aspect	Number	Original	Proposed Amendment, Recommendation or Addition (indicated by underlined text)	Agreed Y/N
General	ENVO1	To ensure that transmission development projects follow the standard approach to environmental assessment of transmission projects set out in the EirGrid topic specific guidelines: EMF & You, Cultural Heritage Guidelines, Ecology Guidelines.	n/a	Y
	ENVO2	To continue to prepare and/or update EirGrid evidence-based environmental guidelines, particularly in the context of new or updated evidence-based environmental information.	n/a	n/a
	ENVO3	To develop the environment space on the EirGrid website as a tool for sharing information on the environment in transmission development.	To develop the environment space on the EirGrid website as a tool for sharing environmental information in respect of transmission development.	Y
Climate Change	ENVO4	To assist towards meeting national and EU targets, in particular by means of having regard to EirGrid's Climate Change Adaptation Plan in undertaking our grid development projects and strategies.	To assist towards meeting national and EU targets, in particular by means of having regard to EirGrid's Climate Change Adaptation Plan in undertaking our grid development projects.	Y
	ENVO5	To mitigate the impacts of climate change through the implementation of policies and processes that reduce energy consumption, reduce energy loss/wastage, and facilitate the supply of energy from renewable sources.	To mitigate the impacts of climate change through the implementation of policies and processes that reduce energy consumption, reducing energy loss/wastage, and facilitate the supply of energy from renewable sources.	Y
Noise	ENVO6	To give careful consideration to the siting of transmission infrastructure so as to ensure that noise-sensitive receptors are protected from potential noise emissions.	n/a	n/a
Landscape	ENVO7	To have regard to any future National Landscape and/or Seascape Character Assessment in the development of its transmission projects.	n/a	n/a
Water	ENVO8	That all grid development proposals, and in particular, transmission substation developments, shall carry out, to an appropriate level of detail, a site-specific Flood Risk Assessment that shall demonstrate compliance with all current Guidelines, standards and best practice. The Flood Risk Assessment shall pay particular emphasis to residual	n/a	n/a

Aspect	Number	Original	Proposed Amendment, Recommendation or Addition (indicated by underlined text)	Agreed Y/N
		flood risks, site-specific mitigation measures, flood-resilient design and construction, and any necessary management measures.		
Tourism	ENVO9	To identify the nature of tourism in a project area; to consider the cumulative in combination impact on tourism of a project and to consider short term and long-term impacts of grid development projects on tourism as appropriate.	n/a	n/a
Technical	TO1	To provide opportunities for public participation as we develop technical innovation in transmission infrastructure, both in project-specific, and in non- project-specific contexts.	n/a	n/a
Project Development	PDO1	To undertake a timely and appropriate managed transition of our transmission projects to the structure of the Framework for Grid Development.	n/a	n/a
	PDO2	To undertake annual reviews of the Framework, and associated Guidelines, policies and processes, to ensure that the Framework remains an appropriate and sustainable structured approach to the development of transmission projects.	To undertake periodic annual reviews, as appropriate, of the approach, and associated guidelines, policies and processes, to ensure that the remains an and sustainable structured approach to the development of transmission projects.	Y
Planning and Consent	PCO1	To prepare and/or update internal policies and processes related to the planning and consenting of transmission infrastructure development projects, including the existing internal process for Screening of Exempted Development.	n/a	n/a
Consultation	CEO1	To engage with statutory and non-statutory stakeholders in a meaningful manner as set out in the EirGrid Consultation Handbook and Toolkit and via EirGrid's Agricultural Liaison Officers and Community Liaison Officers.	n/a	n/a
	CEO2	To maintain and update as required EirGrid's Complaints procedure.	n/a	n/a
Human Beings and Society	HBSO1	To examine the social impact of transmission infrastructure developments on the receiving environment as appropriate and in accordance with EirGrid's Methodology for Social Impact Assessment.	n/a	n/a
	HBSO2	To ensure that all grid development projects are screened for the requirement for a Social Impact Assessment, and where so required, that such Assessment will accompany an application for statutory consent.	n/a	n/a

Aspect	Number	Original	Proposed Amendment, Recommendation or Addition (indicated by underlined text)	Agreed Y/N
	HBSO3	To promote and deliver Community Funds and Proximity Payments for certain categories of transmission infrastructure projects, in accordance with established terms of reference.	n/a	n/a

12.1.2 SEA Recommendations

All grid development projects will be subject to inherent mitigation including EirGrid's six step Development Framework, appropriate planning processes, and construction best practice as set out in **Section 11.2.** On a precautionary basis some unknown effects have been identified.

This section outlines the recommendations proposed in relation to grid development as part of the Grid IP. These SEA recommendations will contribute to EirGrid Strategy Statements and will complement the existing inherent mitigation as set out in **Section 11.2**. These recommendations will also facilitate effective monitoring of the SEA Objectives throughout the Grid IP plan cycle.

12.1.2.1 Review and update of the EirGrid Evidence Based Environmental Studies (ER1) and the EirGrid Environmental Guidelines (ER2)

As outlined in objective ENVO2 of the Grid IP, EirGrid intend "*To continue to prepare and/or update EirGrid evidence-based environmental guidelines, particularly in the context of new or updated evidence-based environmental information*" EirGrid are committed to the continuous review and update of their environmental studies and associated guidelines, where required. The EirGrid environmental studies will be reviewed against the current knowledge base during this cycle of the Grid IP. The studies will be updated where necessary to take account new developments and new research in the field.

12.1.2.2 SEA Compliance Check (ER3) integrated into the Transmission Development Process

EirGrid will develop an SEA compliance check within the six-step framework for grid development to facilitate the SEA monitoring as outlined in **Section 12** of this SEA Environmental Report. The SEA compliance check will be adapted for each stage of the six-step framework and will be proportionate to the project scale i.e. from project that are exempted development to SID projects. This SEA compliance check will extend to Step 6 of the six-step framework for Grid development i.e. the construction phase. At this step ESB Networks (who are responsible for constructing the transmission assets) will facilitate the SEA compliance check and will report back to EirGrid. This process will be document through a standardised compliance check template and the finding will be reported in the yearly EirGrid EAR reports.

12.1.2.3 Environmental Advisory Group (ER4)

The Environmental Advisory Group (EAG) will continue to function during the second cycle of the Grid IP and will meet over the cycle of the plan to discuss SEA monitoring, the EARs, and the progress of the recommendations as may be required. The annual EARs will be sent to all EAG members for information as part of the ongoing rolling Transmission Development Plans.

In addition, it is recommended that an agreement is to be made between EirGrid and the EPA (a member of the EAG) with regard to setting threshold levels for specific monitoring indicators, both in general and for specific projects as appropriate.

12.1.2.4 Environmental Enhancements (ER5)

In the development of new infrastructure and upgrading of existing infrastructure EirGrid will consider, where practicable, measures that could be taken to enhance the natural environment and to improve the biodiversity of the areas in which their facilities are located.

It is recommended that EirGrid consider developing a guide/ tool kit for natural environment enhancement/ mitigation which could be informed by the relevant Evidence Based Environmental Studies (EBES) and related guidelines. This tool could then assist in the identification of potential enhancement opportunities and management measures. There are also the potential merits associated with piloting agreed measures across a range of habitat types, where appropriate, in consultation with key stakeholders.

This could involve ecological management of overhead lines that are adapted to local site conditions and take into consideration the local ecological and social objectives, functions and interests.

12.1.3 Grid Development Specific Mitigation

12.1.3.1 Bird Study in the Northwest Area (EM1)

Prior to the selection of the route and technology to be used for the two major infrastructure projects in the north-west, namely the North-West Project and North-Connaught projects - a study of migratory birds and their routes, will be undertaken to inform the selection of the route and/or technology to be used having regard for other constraints. Detailed ornithological surveys to identify flight lines, numbers, local concentrations and evidence of ringed birds (which can be used to identify bird movements) will be undertaken. This will inform the most appropriate route option and technology options to avoid significant impacts. This study will build upon any work undertaken to date for the North-West Project and will also have regard to potential cumulative effects from other projects in the region.

12.1.4 Alternatives Assessment and Cumulative Assessment (EM2) Mitigation

Alternative assessment is a fundamental part of the EirGrid six step Framework including an assessment of the environmental impact of each technology option in order to understand the environmental implications of a proposed project. No further or specific mitigation measures or recommendations are proposed in this report.

This SEA Environmental Report has presented a non-exhaustive list of projects in the vicinity of some of the larger projects outlined in the Grid IP, such as the Celtic Interconnector. A number of these projects or future projects could result in cumulative impacts with Grid development projects at the project level scale. EirGrid undertake cumulative impact assessment as part of their project assessment process such as EIA and AA. EirGrid will use best practice documents including the UK Planning Inspectorate Advice Note 17: Cumulative effects assessment relevant to nationally significant infrastructure projects (Planning Inspectorate, 2015) when undertaking EIA.

As part of this process, EirGrid will consult will local authorities in the form of county planning departments and with key infrastructure developers (such as TII, Irish Rail and Irish Water, and private wind farm developers), to gain an understanding of the projects proposed in an area that could result in cumulative effects with grid development.

Key Messages from Chapter 12:

- Recommendations have been provided to strengthen the Grid IP policies and objectives. All recommendations have been accepted by EirGrid.
- A series of mitigation measures, in the form of recommendations, have been proposed in order to alleviate potential unknown and negative likely significant effects (LSEs), and to further strengthen the existing in-house EirGrid processes and procedures.