

Environmental Appraisal Report

Transmission Development Plan

2018–2027

March 2019



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1. 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) 2018–2027 presents all the transmission projects that are currently envisioned as progressing over this period. 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 2018–2027 is in accordance with the provisions of the adopted **Grid Implementation Plan 2017–2022** and associated Strategic Environmental Assessment (SEA). 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). This is the second Grid IP prepared by EirGrid, the previous being the Grid 25 Implementation Programme.

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. The TDP does not set out a framework for project consent. It sets out the network

investments needs and the projects that have been identified as required to meet the needs of the Irish transmission system with the approval of the Commission for Regulation of Utilities (CRU). Individual projects will be subject to environmental assessment, including screening for Appropriate Assessment (AA) under the relevant planning requirements.

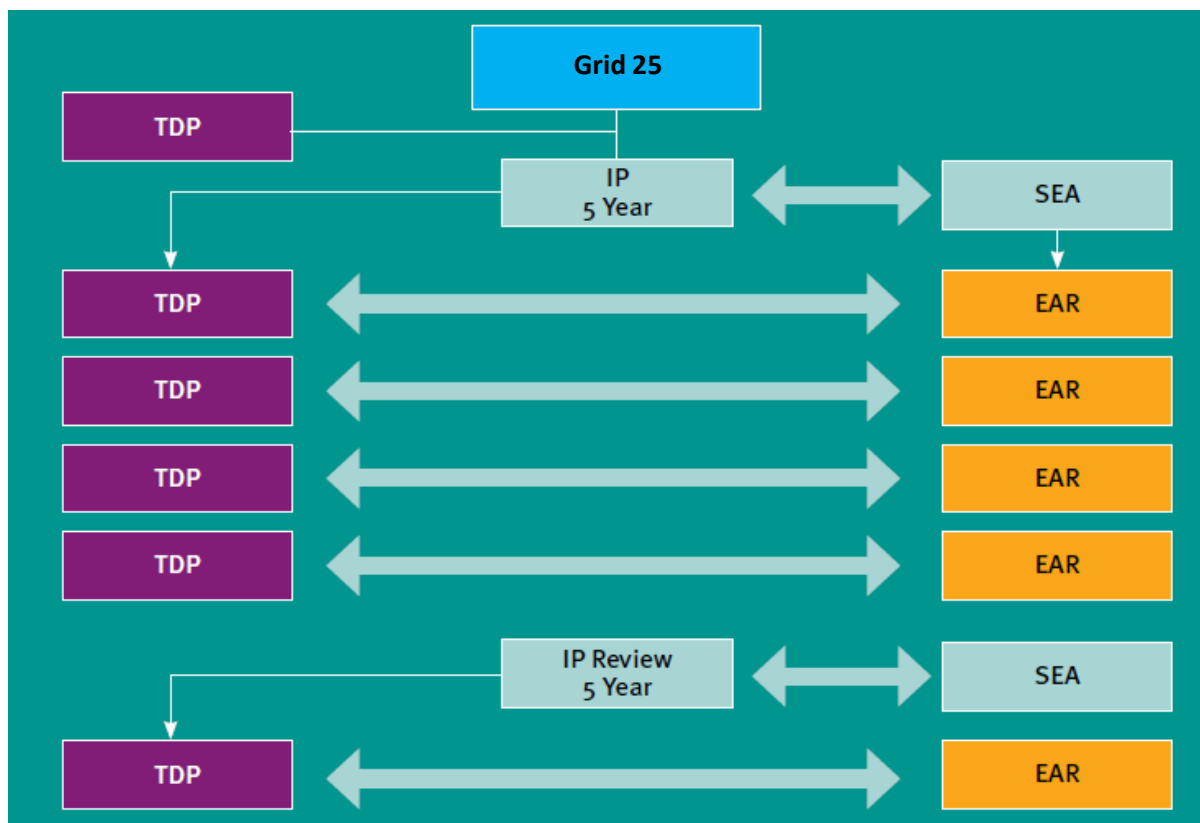


Figure 1: Process of Environmental Appraisal of TDPs

1.1 Our approach to planning and the environment for grid development

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.

EirGrid has 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 EirGrid projects, to advise and assist project managers and their project teams with ensuring a consistent approach to the sustainable planning and development of all EirGrid projects.

EirGrid has established a new 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 the EirGrid website: <http://www.eirgridgroup.com/the-grid/have-your-say/>

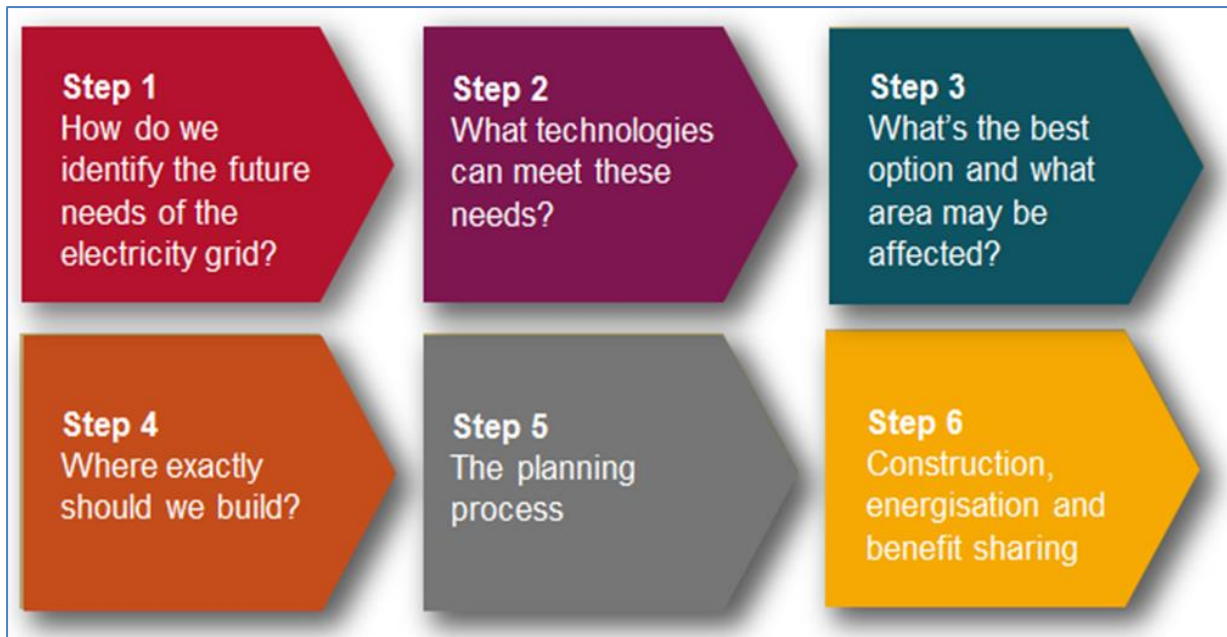


Figure2: General structure of EirGrid’s approach to developing the grid

Step 1: How do we identify the future needs of the electricity grid? – assess the existing system to identify and verify any issues or risks arising for the transmission grid that may result in a grid development project;

Step 2: What technologies can meet these needs? - developing a long list, and subsequent shortlist, of technology options to meet the identified need;

Step 3: What’s the best option and what area may be affected? - identifying a preferred technology solution (and corresponding study area) from the shortlist of options. This includes identifying environmental and other constraints occurring in the study area. Depending on the results from the selection process, which utilises multi-criteria analysis, more than one option may be brought forward to step 4.

Step 4: Where exactly should we build? - identifying the specific nature, extent and location of a proposed development.

Step 5: The planning process – obtaining statutory consent for the proposed development, or confirming that the proposed development is exempted development not requiring consent;

Step 6: Construction, energisation and benefit sharing – building the project on the ground in liaison with ESB Networks (ESBN), and administering our community gain fund to affected communities.

1.2 Environmental policies and objectives

EirGrid has 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. Environmental policies and objectives relevant to project development and the TDP 2018-2028 are presented in **Table 1** to illustrate the approach taken by EirGrid. The full suite of Environmental policies and objectives can be found in the Grid IP document.

Table 1: EirGrid Environmental Policy and Objectives for Grid Development (From Grid Implementation Plan 2017-2022)

| General Environmental Policy and Objectives relevant to TDP 2018-2028 | |
|---|--|
| ENVP = Environmental Policy: e.g. It is the policy of EirGrid to..... | |
| ENVO= Environmental Objective: e.g. It is the objective of EirGrid to... | |
| ENVP1 | To apply best environmental practice in the design and appraisal of transmission development projects |
| 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 |
| ENVP3 | That any transmission development project, either individually or in combination with other projects, that has the potential to give rise to significant effect on the integrity of any European (Natura 2000) site(s) shall be subject to Appropriate Assessment (AA) in accordance with Article 6 of the EU Habitats Directives |
| ENVP4 | 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. 84 of 1999), the European Communities (Birds and Natural Habitats) Regulations 2011 and the Alien Species Regulation (EU) No 1143/2014. This protection will be afforded at the earliest opportunity in the project development process i.e. option selection. |
| ENVP5 | 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 the impact of transmission development on existing trees and hedgerows. |
| ENVP6 | To protect and restore (where possible) habitats which function as wildlife corridors, in accordance with Article 10 of the EU Habitats Directive |
| ENVP7 | 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 current guidance and best practice |
| ENVP10 | To seek to preserve and maintain noise quality in accordance with good practice and relevant legislation. |
| ENVO6 | To give careful consideration to the siting of transmission infrastructure so as to ensure that noise-sensitive receptors are avoided where possible and protected from potential noise emissions. |
| ENVP11 | To have regard to the objectives and actions of the National Landscape Strategy in its transmission development projects |
| ENVP12 | To continue to protect and enhance landscapes and visual amenity through the sustainable planning and design of transmission infrastructure development. |
| ENVP13 | To seek to avoid and reduce visual impact on residential receptors in the development of transmission projects. |
| ENVP14 | To ensure that the special interest of protected structures, including their curtilages and settings, are avoided where possible/protected to the greatest extent possible when considering site or route options for transmission infrastructure development |
| ENVP15 | To protect known and unknown (potential) archaeological material in transmission infrastructure development, by avoidance or by best practice mitigation measures |
| 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 |
| ENVP17 | 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. |
| ENVO8 | That all grid development proposals, and in particular, 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 flood risks, site-specific mitigation measures, flood-resilient design and construction, and any necessary management measures |
| ENVP18 | To seek to preserve and maintain air quality in accordance with good practice and relevant legislation in the construction of its transmission projects |
| ENVP19 | To consider the potential impact upon tourism in the development of transmission projects and to protect tourism resources through the appropriate and sustainable planning and design of transmission infrastructure development |
| 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 |
| ENVP20 | 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 | To protect the marine environment, in accordance with any plans made under the EU |

| | |
|---------------|--|
| | Directive 2014/89/EU (Marine Spatial Planning). |
| ENVP22 | To ensure that geological heritage features are protected to the greatest extent possible when considering site or route options for transmission infrastructure development |

2. Update on Projects in TDP 2018–2027

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 2018–2027 includes 109 projects that are currently in progress. These projects are categorised as either “New Build”, “Uprate/Modify” or “Refurbish/Replace” projects. Of these, 13 projects are new to the TDP 2018 and therefore were not considered in the environmental appraisal carried out for TDP 2017–2027 or as part of the SEA process. These are listed in Tables 3.3–3.5 and in Appendix 1.

Table 2 summarises the 109 (active) projects into their respective categories as detailed in TDP 2018–2028. Over 60% of projects relate to existing assets i.e. Uprate/Modify or Refurbish/Replace projects.

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.

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.

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 2: Summary of Active Projects by Category TDP 2018–2027

| Project Category | No of Projects |
|-------------------|----------------|
| | |
| New Build | 34 |
| Uprate/Modify | 41 |
| Refurbish/Replace | 27 |
| Other | 7 |
| Total | 109 |

3. Evaluation of New Projects against Strategic Environmental Objectives

3.1 Strategic Environmental Objectives

The SEA of the Grid IP 2017–2022 set out thirteen Strategic Environmental Objectives (SEOs). SEOs are methodological measures against which the potential environmental effects of the TDP can be examined. The SEOs are set out under a range of environmental topics (see Table 3). 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 2018–2027 are evaluated against these SEOs in Section 3.3.

These SEOs will be used as part of a Monitoring Framework for the wider IP 2017–2022 with targets, indicators data sources specified through the SEA process.

Table3: Strategic Environmental Objectives as set out in the SEA of the Grid IP 2018-2028

| 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 |

| Theme | Objective |
|--|--|
| | NHAs and 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 RMP) and architectural heritage (including entries to the RPS and 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 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 |

| Theme | Objective |
|-------|---|
| | contained in the Government's Energy White Paper, ' <i>Ireland's Transition to a Low Carbon Energy Future 2015-2030</i> ' and targets relating to the Kyoto Protocol. |

3.2 Planned Network Developments

Planned projects are categorised under three broad planning areas as per Figure 2.

Planned Network Developments are presented in Figure 3 (taken from TDP 2018-2028).

A summary of active projects per region is presented in Table 4. Thirteen projects are new to TDP2018 and are detailed in Table 5.

Table 4 Summary of Active Projects by Planning Area

| Active Projects by Planning Area | | |
|---|------------------------|---------------------------------|
| Planning Area | No. of Active Projects | No. of projects new to TDP 2018 |
| Border, Midlands and West (B-M-W) | 31 | 4 |
| South-West and Mid-West (SW-MW) | 34 | 4 |
| South-East, Mid-East & Dublin (SE-ME-D) | 38 | 5 |
| National Projects ¹ | 6 | 0 |
| Total | 109 | 13 |

¹ These involve multiple individual projects at various locations across the country.

Planning Area Categorisation

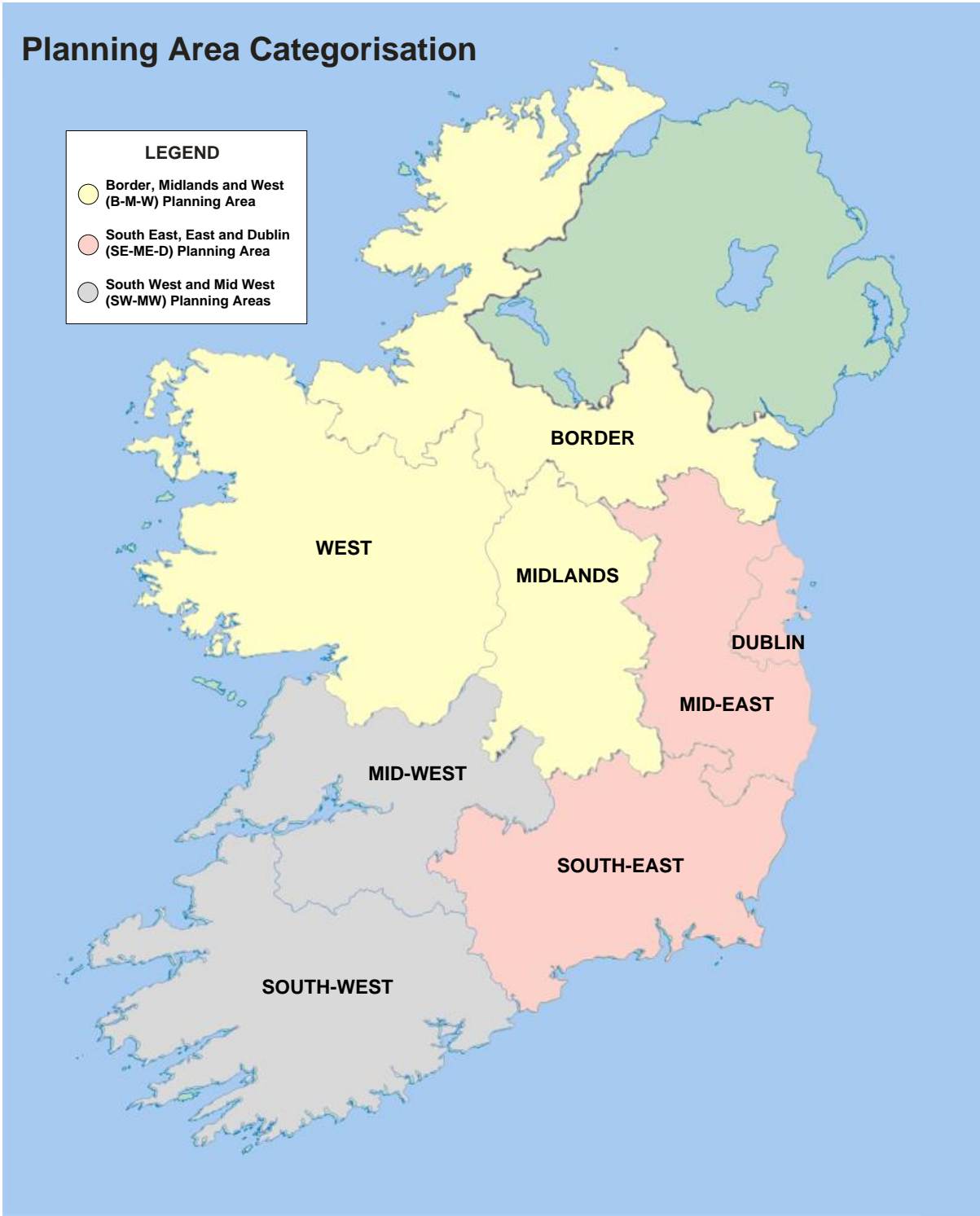


Figure 2: Illustration of the three Planning Areas

**Transmission System: 400 kV, 275 kV, 220 kV and 110 kV
 Indicating Developments in Phase 2 (i.e. Outline Design, EIA or
 Public Planning Phase) as at March 2017**

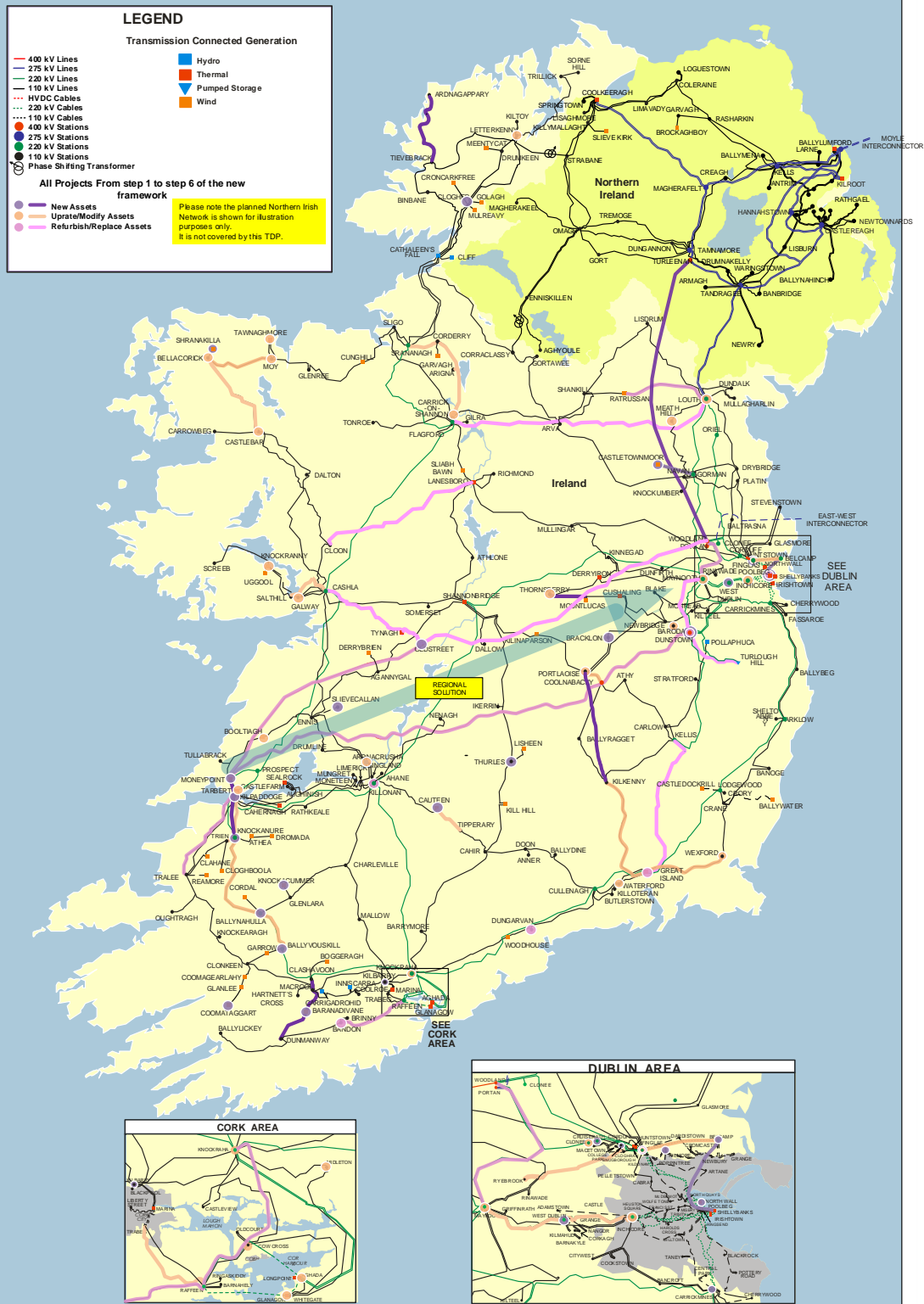


Figure 3. Planned network developments from Steps 3 – to Steps 6

Table 5. Projects new to TDP 2018

| CP No | Project Title | Project Type | Region* |
|---------------|---|---------------------|----------------|
| CP0823 | Maynooth - Turlough Hill 220 kV Line Refurbishment | Refurbish/ Replace | SE,ME & D |
| CP0866 | Great Island - Kellis 220 kV Line Refurbishment | Refurbish/ Replace | SE,ME & D |
| CP0996 | Clashavoon - Clonkeen 110 kV Line & N22 Diversion | Other | SW, MW |
| CP1009 | Cruiserath 220 kV Station - Permanent Connection for Demand Customers | New Build | SE,ME & D |
| CP1012 | Carrickaduff 110 kV Station - New Station for Wind Farm connection | New Build | B,M & W |
| CP1013 | Darndale 110 kV Station - New Station for Demand Customers | New Build | SE,ME & D |
| CP1018 | Oldstreet - Tynagh 220 kV Line Fibre Wrap | Refurbish/ Replace | B,M & W |
| CP1019 | Cashla - Tynagh 220 kV Line Fibre Wrap | Refurbish/ Replace | B,M & W |
| CP0942 | Corderry - Srananagh 110 kV Line Uprate | Uprate/ Modify | B,M & W |
| CP0999 | Cauteen 110 kV Station | New Build | SE,ME & D |
| CP0991 | Kilpaddoge 110 kV station | New Build | SW, MW |

| CP No | Project Title | Project Type | Region* |
|--------|-----------------------------|--------------|---------|
| CP0932 | Coomataggart 110 kV Station | New Build | SW, MW |
| CP0606 | Knockacummer 110 kV station | New Build | SW, MW |

*Border, Midlands and West (B-M-W)

South-West and Mid-West (SW-MW)

South-East, Mid-East & Dublin (SE-ME-D)

3.3 Evaluation of Planned Network Developments (new to TDP 2018–2027) against Strategic Environmental Objectives

As detailed in Tables 4 and 5 there are three types of new reinforcement projects in the TDP 2017–2027 – new builds, refurbishment/replacement projects and uprate/modifications projects. The line diversion to accommodate a road scheme is being facilitated by EirGrid.

The integration of renewable energy sources is a key driver in new projects detailed for the Border, Midlands and West planning area and the South West and Mid-West planning area. 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 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. 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.

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 on the 2018–2027 TDP indicates that there is unlikely to be any potential for significant residual impacts post mitigation for any of the new build projects which are all related to works within existing substations (5) and the building of two new stations.

Table 7 summarises the evaluation of SEOs against the three different types of reinforcement projects. Mitigation measures as detailed in the SEA Environmental Report and Natura Impact Statement which remain relevant for this environmental appraisal of the TDP are presented in Appendix 2.

Table 6 Strategic Environmental Objectives and description of possible effects

| SEO | Topic | Description |
|--|--|---|
| PHH1 | Population, Human Health & the Economy | 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 |
| B1 | Biodiversity (Flora & Fauna) | 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 NHAs and pNHAs). |
| L1 | Landscape & Visual Amenity | Avoid significant adverse impacts on landscape character and designations |
| L2 | | Avoid or minimise adverse visual effects on residential receptors. |
| CH1 | Cultural Heritage | Avoid impacts upon archaeological heritage (including entries to the RMP) and architectural heritage (including entries to the RPS and NIAHs). |
| GS | Geology & Soils | To avoid or minimise effects on mineral resources or soils. |
| LU | Landuse | To avoid or minimise effects on existing land use. |
| W1 | Water | Prevent impact upon the status of surface and groundwater in line with the objectives of the WFD as outlined in the River Basin Management Plan |
| MAI1 | Material Assets & Infrastructure | Minimise effects upon the sustainable use of the land, mineral resources or soils. |
| MAI1 | | Minimise effects upon the existing and planned infrastructure. |
| TR1 | Tourism | Minimise effects upon the tourism and recreation amenities. |
| CC1 | Climate Change | 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. |
| 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 | | -/+ |

Table 7 Summary evaluation of planned network developments (new to TDP 2018-2027) in relation to Strategic Environmental Objectives (SEA of Grid IP 2017-2022)

| Project Type | PHH1 | B1 | B2 | L1 | L2 | CH1 | GSL1 | LU1 | W1 | MAI1 | MAI2 | TR1 | CC1 |
|--------------------------------------|---|----|----|----|----|-----|------|-----|----|------|------|-----|-----|
| Minor Line diversion (1 no.) | * | * | * | * | * | * | * | * | * | * | * | * | * |
| Refurbishment / Replace (4 no.) | ? | ? | ? | * | * | ? | * | * | ? | * | * | * | * |
| Uprate .modify (1) | ? | ? | ? | * | * | ? | * | * | ? | * | * | * | * |
| New build in existing station (4no.) | * | * | * | * | * | * | * | * | * | * | * | * | * |
| New build- new station (2) | | | | | | | | | | | | | |
| Discussion | <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • habitat removal or disturbance to species for access requirements; • disturbance to local residents from construction works i.e. noise or dust emissions; and • Potential pollution of nearby watercourse. • 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 <p>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 however, on a precautionary basis the magnitude of impacts have been determined to be unknown for three of the SEOs. There are no LSEs anticipated for the remaining SEOs.</p> | | | | | | | | | | | | |

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 exempted development under Sections 4(1)g and 4(1)h of the Planning and Development Act. Where there is potential for significant effects on a European Site, this exempted development status is lost and planning permission must be sought, accompanied by a Natura Impact Statement. As a Public Authority, we undertake screening for Appropriate Assessment for all planned network developments under Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011–2015.

4 Conclusion

The TDP 2018–2027 has been examined in terms of the provisions of the SEA of the Grid Implementation Plan 2017–2022. Thirteen new projects are detailed in TDP 2018–2027 TDP since the adoption of TDP 2017–2026. 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 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 project 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 1: New Projects in TDP 2018–2027

This table details the New Projects in TDP 2018–2027 (new since adoption of TDP 2017–2027)

Table A1.1: New Projects in TDP 2018–2027

| CP No | Project Title | Project Type | ECD |
|--------|---|-----------------------|-----------|
| CP0823 | Maynooth - Turlough Hill 220 kV Line Refurbishment | Refurbish/ Replace | SE,ME & D |
| CP0866 | Great Island - Kellis 220 kV Line Refurbishment | Refurbish/ Replace | SE,ME & D |
| CP0996 | Clashavoon - Clonkeen 110 kV Line & N22 Diversion | Other | SW, MW |
| CP1009 | Cruiserath 220 kV Station - Permanent Connection for Demand Customers | New Build | SE,ME & D |
| CP1012 | Carrickaduff 110 kV Station - New Station for Wind Farm connection | New Build | B,M & W |
| CP1013 | Darndale 110 kV Station - New Station for Demand Customers | New Build | SE,ME & D |
| CP1018 | Oldstreet - Tynagh 220 kV Line Fibre Wrap | Refurbish/ Replace | B,M & W |
| CP1019 | Cashla - Tynagh 220 kV Line Fibre Wrap | Refurbish/ Replace | B,M & W |
| CP0942 | Corderry - Srananagh 110 kV Line Uprate | Uprate/ Modify | B,M & W |
| CP0999 | Cauteen 110 kV Station | New Build | SE,ME & D |

| CP No | Project Title | Project Type | ECD |
|--------|-----------------------------|--------------|--------|
| CP0991 | Kilpaddoge 110 kV station | New Build | SW, MW |
| CP0932 | Coomataggart 110 kV Station | New Build | SW, MW |
| CP0606 | Knockacummer 110 kV station | New Build | SW, MW |

Appendix 2:

Mitigation Measures (from SEA and AA of Grid IP 2017–2022)

The SEA process, including public consultation on the draft IP has resulted in recommendations and mitigation measures designed to assist in the sustainable delivery of the IP. Recommendations and mitigation measures arising from the SEA and the NIS are provided in the Grid IP.

<http://www.eirgridgroup.com/about/in-the-community/environment/>

Key principles for protecting European Sites are detailed in the Grid IP 2017-2022, these were developed through the Appropriate Assessment process and are detailed in the table below.

From NIS- Box 7A. Key Principals for Protecting European Sites

Avoidance: In developing any future major projects EirGrid will always seek to find options that avoid impacts on European sites (for example, by assessing alternative route options). Any future projects developed as a result of the draft Grid IP will be subject to examination of constraints, route selection and project level AA. All of which will be informed by detailed ecological assessment, so that sensitive receptors are avoided. Avoidance of European sites, including SACs and SPAs, will always be a key consideration informing route options.

Mitigation: Where avoidance is not possible adverse effects on site integrity will be avoided through project specific mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Mitigation measures should ensure that no significant residual impacts remain thus preserving site integrity.



- **Habitat Loss:** Underground cables are usually (where practicable) constructed within existing public roads therefore limiting or avoiding the potential for habitat loss within SACs. The construction of towers or other supporting structures for OHLs may be required to pass through SACs. In such instances towers or supporting structures would be erected outwith sensitive areas informed by detailed surveys. In undertaking this assessment and screening potential impact pathways (see **Appendix D**) an assumption has been made that where European sites cannot be avoided altogether detailed surveys of habitats within the affected area of an SAC will be undertaken to locate and avoid sensitive habitats to ensure there is no loss of QI Annex I habitats or QI species (in particular habitat surveys would also seek to identify any QI plant species, where present, associated with the European site).
- **Supporting Habitat Loss:** Surveys focusing on mobile QI/SCI species (which can move outside the confines of a European site) would ensure any significant areas of supporting habitat (e.g. foraging areas for SCI birds in close proximity to, but outwith the SPA, otter holts outwith an SAC etc.) would be identified and avoided or appropriate mitigation measure put in place.
- **Invasive species:** There is the potential for non-native invasive species to be present in areas within the study area the draft Grid IP. If present, these could potentially be spread to habitats within SACs/SPAs during construction works/ operation (e.g. maintenance works for OHL line uprate, modification works). The introduction of invasive species into a European site can affect the conservation objectives for QI habitats or species, potentially adversely affecting the integrity of the European site (e.g. affecting vegetation composition of an Annex I QI habitat, affecting species distribution and abundance and/or out competing native species). Invasive species survey (for species listed on Schedule 3 of the Birds and Habitats regs, 2011) will be undertaken for all projects arising from the draft Grid IP. If invasive species are found to be present an invasive species management plan will be prepared to outline control and or

removal measures to ensure such species are not spread during construction or operation of any future projects.

- **Preconstruction Surveys/seasonal restrictions:** To ensure appropriate protection of QI/SCI habitats and species preconstruction surveys will be undertaken for all projects (where required), while the implementation of seasonal working restrictions may be required. Furthermore, works in sensitive areas will be supervised by an experienced ecologist/ecological clerk of works (ECoW).