Chapter 2
Approach to the EIA

2 Approach to the EIA

Introduction

2.1 The principal aim of the EIA Directive[1] is to ensure that the authority granting consent (the 'competent authority') for a particular project makes its decision in full knowledge of any likely significant effects on the environment. EIA is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the significance of the predicted effects, and the scope for reducing any adverse effects, is properly understood by the public and the competent authority before it makes its decision. Early identification of potentially adverse environmental effects also leads to the identification and incorporation of appropriate mitigation measures into the scheme design.

2.2 This chapter sets out the approach that has been used in the EIA for the proposed development. It provides an overview of the key stages that have been followed, in line with EIA best practice and in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 ('the EIA Regulations').

Requirement for EIA

2.3 As outlined in **Chapter 1: Introduction**, planning permission for the proposed development is being sought under the Town and Country Planning (Scotland) Act 1997. Whilst the proposed development does not fall explicitly within the 'descriptions of proposed development' set out in Schedule 1 or Schedule 2 of the EIA Regulations, it forms part of the wider KTR Project. SPEN is also responsive to local concerns and therefore as a matter of good practice has elected to treat the development as an EIA development.

The EIA Process

2.4 The EIA Report has been prepared in accordance with the applicable EIA Regulations and advice and good practice, including:

- The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017[i];
- Planning Circular 1/2017: The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017[ii];
- Planning Advice Note (PAN) 1/2013 Environmental Impact Assessment (Revision 1; updated to reflect the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017)[iii];
- Institute of Environmental Management and Assessment (2017) Delivering Proportionate EIA: A Collaborative Strategy for Enhancing Environmental Impact Assessment Practice[iv];
- Institute of Environmental Management and Assessment (2006) Guidelines for Environmental Impact Assessment (hereinafter referred to as the IEMA Guidelines)[v];
- IEMA (2016) Environmental Impact Assessment Guide to Delivering Quality Development[vi]; and,
- Scottish Natural Heritage (2018) A Handbook on Environmental Impact Assessment: Guidance for Competent Authorities, Consultation Bodies and others involved in the Environmental Impact Assessment Process in Scotland (Version 3)[vii].

2.5 This EIA Report presents the written output of the EIA process. The information contained in this EIA Report fulfils the requirements of the EIA Regulations and once submitted, it will enable the competent authority to make a decision on the application for planning permission for the proposed development.

2.6 Regulation 5(2) of the EIA Regulations states that at least the following information is required in the EIA Report:

- a description of the development comprising information on the site, design, size and other relevant features of the development;
- a description of the likely significant effects of the development on the environment;
- a description of the features of the development and any measures envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- a description of the reasonable alternatives studied by the developer, which are relevant to the development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;
- a non-technical summary of the information provided; and
- any other information specified in schedule 4 of the EIA Regulations relevant to the specific characteristics of the development and to the environmental features likely to be affected[2].

Good Practice Guidance

2.7 PAN 1/2013 (Revision 1) provides guidance on EIA good practice, with the key principles that should underpin the EIA of individual development proposals as well as some of the key stages in the EIA process detailed below. These steps also reflect relevant IEMA and SNH guidance referred to above.

Baseline Studies

- Examine, through baseline studies, the environmental character of the area likely to be affected by the development.
- Identify relevant natural and man-made processes which may already be changing the character of the site.

Predicting and Assessing Effects

- Consider the possible interactions between the proposed development and both existing and future site conditions.
- Predict and assess the possible effects, both adverse and beneficial, of the development on the environment.

Mitigation and Monitoring

- Introduce design and operational modifications or other mitigation measures to avoid, prevent or reduce, and if possible, offset likely significant adverse effects and enhance beneficial effects.
- Identify any monitoring measures proposed to monitor any significant effects of the development on the environment and/or any applied mitigation measures.

Integration

- EIA should be an iterative process which aims to ensure early consideration of environmental issues at all stages of project development, and is founded on appropriate engagement with planning authorities and the Consultation Bodies. In addition to meeting the requirements of the EIA Regulations, EIA should add value to the design process, improving environmental outcomes and creating a framework for community engagement.

Proportionality

- An EIA should be fit for purpose and must be accessible to the planning authority, consultees and the public. As such it should focus on significant environmental effects to avoid being overly long in nature.

[1] Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU.

[2] Schedule 4 of the EIA Regulations (information for inclusion in Environmental Impact Assessment reports provides further detail on what should be included in the EIA Report.

Efficiency

- Early identification of assessment and information requirements can ensure a coordinated EIA process and can minimise delays.

EIA and the Design Process

2.8 EIA should be treated as an iterative process, rather than a one-off, post-design environmental appraisal. In this way, the emerging findings from the EIA can be fed into the design process, to avoid and reduce potential environmental effects. This approach has been used in relation to the design stages of the proposed development. Where the potential for significant adverse environmental effects was identified through the design stages or later during the detailed EIA, consideration was given as to how the proposed development should be modified to design out these adverse environmental effects, or where this was not possible, to determine appropriate mitigation measures. Siting and design considerations are outlined in **Chapter 3: Site Selection and Development Design**.

Scope of the Environmental Impact Assessment

2.9 The purpose of EIA scoping is to ensure that the EIA process focuses on the key environmental issues likely to arise as a result of construction and operation of a development. Scoping is not mandatory under the EIA Regulations but is often undertaken as good practice to facilitate early discussions with consultees and to agree what areas the EIA should focus on.

2.10 The request for a Scoping Opinion for the KTR Project was made in April 2017 before the decision was taken to apply separately for planning permission for the proposed development. As such, the proposed development was included as part of the KTR Project as detailed in the Scoping Report for the KTR Project (dated April 2017). It was therefore agreed with Dumfries and Galloway Council (D&GC) as planning authority that a separate scoping exercise for the proposed development was not required.

2.11 In the absence of a formal scoping exercise or Scoping Opinion, the scope of the EIA assessment has been determined through the use of the findings of the preliminary survey work undertaken, the professional judgement of the EIA team, SPEN's experience from other projects of a similar nature, guidance and standards of relevance to the topic area in question, and the Scoping Opinion for the KTR Project where relevant. Consideration has also been given to the development's relationship with the wider KTR Project.

2.12 Guidance on the EIA Regulations provides advice on the general requirements relating to the preparation and content of an EIA Report and states:

"It is emphasised that the requirement is to include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. Other impacts may be of little or no significance for the particular development in question and, if included in the EIA report, will need only very brief treatment to indicate that their possible relevance has been considered." [ii]

2.13 Where no significant effects have been identified for a particular topic these have been 'scoped out' as detailed below. In addition to these topics that have been scoped out in their entirety, some elements of the topics which are assessed in detail have been scoped out of assessment e.g. operational effects on traffic and transport. Where applicable, this is explained in the relevant chapters of the EIA Report.

2.14 On this basis, whilst a range of possible effects have been investigated as part of the EIA process, only effects identified as being of likely significance prior to the implementation of the proposed mitigation measures have been addressed fully in the EIA Report.

Topics Scoped Out

Ornithology

2.15 Ornithological surveys undertaken for the KTR Project did not identify any ornithological sensitivities in the area surrounding the proposed development, with the closest record of any breeding birds of high or medium nature conservation importance relating to a red kite nest approximately 800m away. The risk of any disturbance or effects on this species at this distance from the proposed development is considered extremely low. It is therefore considered that a detailed assessment of the potential effects of the proposed development does not require to be undertaken. To ensure that construction and disturbance effects are minimised where possible, if any tree felling was required during the breeding season (April to August), to comply with the Wildlife and Countryside Act 1981 (as amended) (WCA), checks of the area of works will be carried out prior to felling to ensure nesting birds are not disturbed, and if any birds are found then suitable buffers will be put in place until the nesting attempt is finished.

Socio-Economics, Recreation and Tourism

2.16 During construction of the substation extension forming part of the proposed development, a number of short-term employment opportunities will be created. The peak employment will be approximately 35 personnel on site during earthworks and enabling works, with an average of 20-25 across the construction period. The existing Glenlee substation is currently unmanned and this will continue to be the case once the extension is operational. As such, a detailed assessment of potential socio-economic operational effects has been scoped out of detailed assessment.

2.17 As an extension to an operational substation which is secured and therefore not readily accessible by the public, it is not considered that the proposed development will have any effect on recreation or tourism in the surrounding area. Furthermore, the survey undertaken for the KTR Project socio-economic assessment did not identify any visitor attractions hospitality businesses or visitor accommodation in the immediate area (the closest being visitor accommodation in St John's Town of Dalry over 1.5km away).

2.18 **Chapter 11: Access, Traffic and Transport** assesses potential effects on public roads which will be used for construction of the proposed development, and identifies where these overlap with or intersect tourist and recreational routes including core paths. These are illustrated on **Figure 11.1**. No residual significant effects are identified on any of these routes.

2.19 Dumfries and Galloway Core Path 30 ('Glenlee'[3]) is the closest core path to the proposed development and is located to the north/north-east of the existing Glenlee substation and at its closest point runs adjacent to the Coom Burn and joins on to the U2S public road which will be used for all traffic accessing the site during construction. During construction, a Construction Traffic Management Plan (CTMP) will be in place to manage traffic into and out of the site. Furthermore, signage, way markers and, if required, banksmen, will be deployed to assist walkers using the path and any localised diversion considered necessary to ensure that there will be no effects on walkers using this path whilst works are ongoing.

2.20 Once construction is complete, any direct effects on users of the recreational routes identified will cease. **Chapter 6: Landscape and Visual Amenity** considers the visual effect of the proposed development on recreational receptors in the study area, including from the Southern Upland Way long distance walking route (Viewpoint 3 – Southern Upland Way at Waterside Hill). The assessment concludes that there will be no significant effects on the route once the substation extension forming part of the proposed development is operational.

2.21 On the basis of the above it is not considered that any effects on recreation or tourism receptors will result from either construction or operation of the proposed development, as access will remain open throughout construction works, and significant effects on visual amenity are not predicted, and therefore it is unlikely that the proposed development will alter the attractiveness of the area to people wishing to visit and partake in recreational activities. As such, a detailed assessment of potential effects of the proposed development on recreation and tourism has not been undertaken.

Climate Change

2.22 The effects of climate change are widely recognised as being one of the greatest global economic, environmental and social challenges facing the world today. A major cause of climate change is a rise in the concentration and volume of greenhouse gases in the atmosphere, a significant contributor to which is the use of fossil fuels to generate power.

2.23 In relation to construction and operation of the substation extension forming part of the proposed development it is acknowledged that there will be a number of effects relating to climate including:

- direct CO_2 and NO_x emissions to the atmosphere from vehicles and plant;
- carbon losses associated with the materials forming temporary and permanent structures arising from the extraction and manufacture of materials, transport, waste and the future demolition and potential for re-use of materials; and

[3] The Core Path is described on the Dumfries and Galloway Council Core Path Map as: *"A very pretty riverside walk leading to the elegant architecture of the Glenlee Hydro Power Station. This walk can be combined with minor roads to provide a figure-of-eight route from Dalry where there is free parking, WC, shops and eateries."* (https://info.dumgal.gov.uk/mapviewers/pathsmap.aspx).

- the ability of receptors such as species and habitats to adapt to climate change during the long term operation of the proposed development, and resilience of the proposed development to climate change effects.

2.24 Whilst the proposed development will result in emissions during the construction and operational periods and therefore is not 'carbon neutral', it is not considered that the effects will be significant. A detailed assessment of the potential effects of the proposed development on climate change, and vulnerability of the proposed development to climate change, has therefore not been undertaken. However, consideration has been given to the implications of climate change for each of the detailed assessments in the relevant chapters in the context of how the effects assessed might be predicted to change over the lifetime of the substation extension forming part of the proposed development. This has been based on The UK Climate Projections CP18[4].

2.25 Once operational the substation extension forming part of the proposed development and wider KTR Project will secure local electricity supplies and provide some increase in transmission capacity to connect more new renewable generation to meet Scotland's energy targets.

Human Health

2.26 The potential health effects of the proposed development in relation to noise are considered in **Chapter 10: Construction Noise** and potential effects associated with air quality are detailed in paragraphs 2.30 to 2.34 below. No specific effects on human health are considered likely to arise during construction or operation. It is also important to note that construction and operation of the substation extension forming part of the proposed development will be in accordance with relevant health and safety legislation as detailed further below and as is currently in force at the existing Glenlee substation. As such, it is considered that detailed consideration of potential effects on human health is not required as part of the EIA.

Risk of Major Accidents and Disasters

2.27 The proposed development is not located in an area with a history of natural disasters such as extreme weather events. Modifications to natural drainage patterns, changes to runoff rates and volumes and a consequent increase in flood risk during construction and operation are assessed in **Chapter 7: Hydrology and Water Resources**.

2.28 The construction and operation of the development will be managed within the requirements of a number of health and safety related regulations, including the Construction (Design and Management) Regulations 2015 and the Health and Safety at Work etc. Act 1974. As such, the risk of major accidents or disasters occurring, and then resulting in significant environmental effects, is not considered likely and not assessed in detail.

2.29 In regards to operational Health and Safety, all works (both planned and unplanned) undertaken within the substation will adhere to SPEN's operational safety guidelines.

Dust and Air Quality

2.30 Construction activities can result in temporary effects from dust if unmanaged. This can result in nuisance effects such as soiling of buildings and, if present over a long period of time, can affect human health. In addition, emissions from vehicles and machinery during construction, including HGVs and contractor vehicles, will result in emissions of nitrogen oxides (NO_X), fine particles (PM_{10}), and other pollutants.

2.31 The Design Manual for Roads and Bridges (DMRB)[viii] states that dust generated during construction should be mitigated and that the locations of 'sensitive receptors' within 200m should be identified and mitigation measures to reduce dust effects be applied. As such, all receptors within 200m of potential dust sources have been considered as potential receptors and this includes all of the properties adjacent to the Glenlee substation (Carville, Dunston, Tummel, Rannoch, Tarbert, Navar, Maree, Orrin, and Garry). Activities with dust raising potential include earthworks (e.g. earth moving and excavation), material handling (e.g. stockpiling and loading/unloading vehicles), natural causes, e.g. wind blowing on stockpiles and uncovered vehicles, material transport and traffic on unsurfaced roads, and the movement of dirty vehicles.

2.32 Dust emitting activities generally respond well to appropriate dust control measures such as those outlined in PAN 50[ix]: Controlling the Environmental Effects of Surface Mineral Workings, and effects can greatly be reduced or eliminated. The contractor will be required to adopt good practice for dust management during construction thereby controlling and reducing any potential effects on the potential receptors identified. These measures include:

- ensuring all loads entering and leaving the site are covered where practicable;
- the use of wheel wash facilities prior to exiting the site to ensure mud and/or other wastes are not tracked on to the public road;
- enforcing an appropriate speed limit.

2.33 During construction, the operation of equipment, staff transport, construction vehicles and machinery will result in atmospheric emissions of waste exhaust gases containing NO_x, NO and PM_{10} pollutants. The quantities emitted will depend on engine type, vehicle age, service history and fuel composition and the contractor will be required to demonstrate that all equipment and vehicles are well maintained and operating within established guidelines to ensure that any emissions are minimised.

2.34 Based on professional judgement and experience in the assessment of effects associated with substation construction, effects relating to dust air quality are not anticipated to be significant and have been scoped out of detailed assessment.

Land and Agriculture

2.35 Based on the Macaulay Institute's land capability for agriculture classifications[x], the predominant land use capability classes within the application boundary is:

- 4: land capable of producing a narrow range of crops;

2.36 There is no 'best and most versatile land' (classes 1, 2 and 3.1) located within the planning application boundary.

2.37 In relation to existing agricultural land use, effects are limited to short term disturbance during construction and, in the longer term, to the areas underneath the footprint of the permanent elements of the proposed development. The entirety of the proposed development is on land which is capability class 4, and not 'prime agricultural land'. The land is used predominantly for grazing and commercial forestry, with little (or no) arable agricultural taking place. On the basis of the above, effects on agricultural activity are not likely to be significant.

2.38 In relation to managing potential effects on land use (including agriculture), SPEN's 'Grantor's Charter'[xi] outlines its commitment to landowners which includes:

- how land will be accessed;
- how works will be undertaken on the land;
- how any resulting damage/compensation will be dealt with;
- how annual wayleave payments are derived; and
- lines of communication and contact information.

Existing Services

2.39 The locations of existing gas and water services have been identified by SPEN through consultation with the relevant service providers. SPEN will therefore use this information to ensure that there will be no disruption to gas and water services during all phases of the proposed development.

2.40 At Glenlee, there is a need to divert an existing foul water drain which connects the former power station properties to a septic tank. This diversion is required in order to protect the existing supply to these properties and will be undertaken as part of the enabling works for the substation extension. The diversion will be planned, installed and connected in such a way that ensures minimal disruption to properties.

2.41 'Outages' to the electricity network (i.e. where the line is temporarily taken out of service, usually in periods of low demand (e.g. summer) within the development area will be required to enable the installation of new substation equipment and the subsequent connection of the KTR Project to the existing network. It is unlikely there will be power outages during construction. However, if this was necessary, any outages will be planned well in advance and sufficient notice given to businesses and home owners. Local 'low voltage' lines will be undergrounded or temporarily 'outed' as required. On this basis, effects on existing services are considered non-significant.

[4] https://www.metoffice.gov.uk/research/collaboration/ukcp.

Decommissioning

2.42 The operational environmental effects of the substation extension forming part of the proposed development are assumed to be long term , however when the operational life of the substation extension comes to an end (which is assumed to be in approximately 40 years), it may be i) re-fitted with new equipment, or ii) demolished and removed. Regular inspections will take place to monitor the state of plant and equipment within the site.

2.43 An assessment of the effects associated with decommissioning has not been undertaken as part of the EIA as i) the future baseline conditions (environmental and other developments) cannot be predicted accurately at this stage and ii) the proposals for refurbishment /decommissioning are not known at this stage.

Baseline Conditions

2.44 The purpose of the EIA is to ensure that the likely significant effects of a development proposal (both adverse and beneficial) are properly understood before any development consent is granted. This requires that work is carried out within the development area and surroundings to determine and describe the environmental conditions against which future changes (including those which may take place independently of the development) can be measured or predicted and assessed. These environmental conditions are referred to as the 'baseline' and are usually established through a combination of desk based research, site survey, and empirical studies and projections. Together, these describe the current and future character of the development area and surroundings, and the value and vulnerability of key environmental resources and receptors.

2.45 Making predictions about how parameters such as land use, landscape, views and other environmental characteristics may change in the future relies on assumptions about future development and environmental trends. For this reason, where other development is not proposed in the vicinity of the development area, the baseline adopted for the EIA is normally taken as the current character and condition of the area and surrounds, and the likely significant environmental effects of the development are then assessed in the context of the current conditions alone. It is accepted that the baseline conditions will gradually alter through time as a result of climate change which has the potential, for example, to alter the landscape and species of flora and fauna which are currently located within the study area. As outlined above, this is considered further in the relevant assessment chapters of the EIA Report.

2.46 Baseline conditions for each topic, and the means by which these have been established, are set out in **Chapters 6-11** of this EIA Report and the study area for each discipline has been defined separately to reflect the likely extent of the effects. For example, the study area for the traffic and transport assessment covers the local roads which will be used for vehicles during construction and operation, whereas the study area for the ecology assessment covers the site boundary and relevant study areas for the species assessed.

The Do Nothing Scenario

2.47 As natural processes and/or human activities can affect the baseline ('status quo'), it is important to establish a 'do nothing' future scenario, i.e. the likely environmental conditions that would exist in the absence of the particular development under construction. Establishing the 'do nothing' scenario requires transparent decision making as to what natural process changes and/or changes as a result of human activity should be included or excluded from the future baseline scenario.

2.48 Consideration of the 'do nothing' scenario which acknowledges the absence of the proposed development is described in **Chapters 6-11** of this EIA Report.

Identification and Assessment of Effects

Approach to Assessment of Effects

Significant Effects

2.49 The identification of the significance of effects (whether adverse or beneficial) arising from the proposed development is a key stage in the EIA process. This judgement is vital in informing the decision-making process.

2.50 As the identification of significant effects will differ depending on the context and the receptors affected, there is no general definition of what constitutes significance. In EIA, the term significance reflects both its literal meaning of 'importance' and its statistical meaning where there is an element of quantification.

2.51 Each topic area chapter contains a section that identifies the likely significant effects on the environment that may arise as a result of the construction and/or operation of the development. The significance of environmental effects is typically assessed by considering both the character of the change (i.e. the size and duration of the effect) and the value/sensitivity of the environmental resource that experiences this effect (i.e. the receptor).

2.52 Effects may be direct, indirect, secondary or cumulative. Within these categories, they may also be short, medium or long-term, permanent or temporary, beneficial or adverse. Direct (or primary) effects are changes to the baseline arising directly from activities that form part of the development. Indirect (or secondary) effects are those that arise as a result of a direct effect, for example the deterioration of water quality in a watercourse due to a discharge could have secondary effects on aquatic biodiversity.

2.53 Effects and receptors have been described using quantitative criteria wherever possible in line with those listed below. Where different terminology has been used, this is stated clearly in the relevant chapter.

- the type of effect, described as adverse, neutral or beneficial;
- the extent and magnitude of the effect;
- the likelihood of the effect occurring, based on a scale of certain, likely or unlikely;
- the duration of the effect, based on a scale of long, medium and short term;
- the reversibility of the effect, being either reversible or irreversible;
- the value of the receptor;
- the sensitivity of the receptor to the effect, based on a scale of high, medium and low and in some instances negligible;
- the occurrence of the effect during the phased implementation of the project;
- consideration of legal requirements, policies and standards, and
- consideration of relevant environmental thresholds.

2.54 Each of the assessment chapters provide the specific criteria, including sources and justifications, for quantifying the different levels of effect. Where possible, this has been based upon quantitative and accepted criteria together with the use of value judgements and expert interpretations to establish to what extent an effect is environmentally 'significant'.

2.55 Using the criteria in each chapter, the significance of effects has been categorised, where possible and unless otherwise stated within the chapter, as follows:

- Major;
- Moderate;
- Minor; or,
- None.

2.56 Unless stated otherwise in methodologies set out in the individual assessment chapters, effects of 'major' or 'moderate' significance are considered to be 'significant' in the context of the EIA Regulations.

Interrelationships between Effects

2.57 Although the EIA Report is structured in standalone topic specific chapters, many of the considerations are interrelated, such as ecology and hydrology. As such, the interrelationship between potential effects between two topic areas are also considered in accordance with the EIA Regulations and addressed in **Chapters 6-11**.

Assessing Cumulative Effects

2.58 As required by the EIA Regulations and good practice, an assessment of cumulative effects associated with the development has been undertaken. Both 'inter-project' and 'intra-project' cumulative effects have been considered as described in paragraph 4.33 of PAN 1/2013: *"Cumulative effects arising from different elements of a project on environmental receptors (intra-project effects) and from projects combined with other activities (inter-project) impacts are commonly identified."*

Inter-Project Effects

2.59 As required by the EIA Regulations, the EIA considers the possible effects that the proposed development will have as a result of *"the cumulation of effects with other existing and/or approved development"* (Schedule 4 (5) (e))[5].

2.60 A review of other development proposals in the surrounding area was undertaken for the KTR Project in May 2019. This list of schemes was finalised on Friday 31st May 2019 and agreed with D&GC, Scottish Natural Heritage and the Scottish Government Energy Consents Unit and is therefore considered to be appropriate for the assessment of cumulative effects for Glenlee substation extension. The schemes for inclusion in the cumulative assessment are illustrated on **Figure 2.1**[6]. Existing schemes are assumed to be part of the baseline, and only schemes which are consented or the subject of a valid planning application have been included in the cumulative assessment. The exception to this is the KTR Project which is also considered given the links with the proposed development, and on the basis that the applications for consent for the KTR Project are due to be submitted in Autumn 2019.

2.61 The cumulative assessment identifies the contribution of the development to the total cumulative effects created by the construction and operation of all the developments considered in the cumulative assessment. Whilst this is the general approach that has been followed, the scope of the cumulative assessment has been defined separately for each topic area, based on the extent of likely effects and the corresponding survey area for each topic, and the stage at which cumulative effects are likely to arise e.g. during construction and/or operation. Details of the rationale for cumulative assessment methodology for each topic are therefore included in the relevant technical chapters.

Intra-Project Effects

2.62 In addition to considering the potential effects that might arise as a result of the proposed development in combination with other developments, consideration has also been given to 'intra-project effects i.e. two effects on a single receptor e.g. construction disturbance and visual impact on a sensitive property. The potential for intra-project effects is considered in **Chapter 12: Summary**.

Mitigation and Enhancement

2.63 Schedule 4 (7) of the EIA Regulations state that an EIA Report should include *"A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases."* Where measures are proposed to avoid, reduce and if possible remedy significant adverse effects, these have been termed 'mitigation measures' for the purposes of the EIA Report. Measures to 'offset' potentially significant effects on the environment are considered separately as noted below.

2.64 The EIA has identified where there are likely to be significant effects and where necessary identified opportunities to mitigate these effects. Making a judgement on the likely effectiveness of the mitigation measures proposed, the predicted effects are then documented within this EIA Report as 'residual effects'.

2.65 For reference, all proposed mitigation measures are set out on a topic-by-topic basis in a Schedule of Mitigation included at **Appendix 12.1**.

2.66 It is important to note that a number of measures are not considered 'mitigation' as such but rather an integral part of the design/construction process, and have been taken into account prior to assessing the likely effects of the proposed development. Where relevant, these good practice measures are described in the topic chapters, and are also included in **Appendix 12.1**.

Monitoring

2.67 The EIA Report sets out details of any post-consent monitoring which is proposed. This includes, where appropriate, proposals to measure the effectiveness of the identified mitigation measures.

Data Gaps and Uncertainty in Assessment

2.68 Schedule 4 (6) of the Regulations requires that EIA Reports describe the forecasting methods or evidence used to identify and assess the significant effects on the environment, including *"details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved"*.

2.69 Whilst any assessment limitations are discussed in **Chapters 6-11**, it is considered that this EIA Report contains sufficient information to enable the competent authority to form a reasoned conclusion on the significant effects of the proposed development on the environment.

Consultation

2.70 Prior to the decision to progress the planning application for the proposed development in advance of the rest of the KTR Project, information on the proposals for the extension to Glenlee substation was consulted on as part of the first and second consultations on the wider KTR Project . These consultations included public exhibitions and were held in November 2016 and November. Subsequent feedback received at these events has been considered in the design of the proposed development.

2.71 Further to this, specific consultation in relation to the proposed development was undertaken. On the 30th January 2018, a Proposal of Application Notice (PAN) was submitted to D&GC (reference 18/0146/PAN) in accordance with Town and Country Planning (Development Management Procedure) Regulations (Scotland) 2013 and the relevant provisions of the Town and Country (Scotland) Act 1997 (as amended). The PAN included details of the public exhibition to be held to inform local communities and other local stakeholders of the proposed development. The PAN was also issued to New Galloway Community Council and St John's Town of Dalry Community Council prior to the public exhibition.

2.72 The public exhibition took place on the 13th March 2018 and was advertised in the Galloway News and the Dumfries & Galloway Standard the week before the event. Leaflets were issued to approximately 300 addresses within a 2km radius of the site of the proposed development, extended slightly to encompass all of St John's Town of Dalry. In total, 33 people attended the public exhibition and 36 responses were received during the four week consultation period. During this round of public consultation and as part of the feedback received, SPEN was asked to investigate alternatives for the siting of the proposed extension further away from local properties. In response, SPEN published an 'Appraisal of Alternative Substation Options' Report[xii] in October 2018 which concluded that the original proposal remained the most economic, efficient and sustainable solution; further details are provided in **Chapter 3: Site Selection and Development Design**.

[5] It should be noted that existing development is considered part of the baseline. Whilst not a requirement of the EIA Regulations, developments which have not yet been consented, but which are subject to valid planning applications, have also been included in the list of schemes considered in the cumulative assessment. Information on schemes at the EIA Scoping stage is also presented, but these have not been assessed as part of the EIA.

[6] All of the assessments have considered schemes within the study area shown on **Figure 2.1**. The exception is **Chapter 11: Access, Traffic and Transport** which has considered two additional schemes as they will use some of the same routes as the proposed development. The additional schemes assessed are Mochrum Fell Wind Farm (consented) and Shepherds Rig Wind Farm (application submitted) which are approximately 12km south-east and 12km north of the proposed development respectively. Further details are provided in **Chapter 11**.

2.73 Following the first public exhibition in 2018, a second event was held to reflect subsequent design changes. The second public exhibition took place on the 11th June 2019 and was again advertised in the Galloway News and the Dumfries & Galloway Standard the week before the event. Leaflets were again issued to nearby properties as detailed above. In total, 36 attended the public exhibition and four responses were received during the four week consultation period.

2.74 In addition to the public exhibitions, SPEN has been in ongoing discussions with the owners and residents of the properties located in proximity to the existing substation. The proposals for the proposed development have also been discussed in detail with New Galloway Community Council and a number of other parties and further details on the consultation undertaken to date is detailed in the Pre-Application Consultation (PAC) Report which accompanies the planning application.

Wider Consultation

2.75 The wider KTR Project has been subject to extensive consultation and this has included consultation with the community through a Community Liaison Group (CLG) which is organised and chaired by the Scottish Government Energy Consents Unit (ECU). This forum has provided representatives of communities who are directly affected by the KTR Project with the opportunity to be informed on the latest proposals and to raise points for discussion with SPEN. A Statutory Stakeholder Liaison Group (SSLG), which is also organised and Chaired by the ECU, met at regular intervals to discuss key project consultation documents as the KTR Project progressed. This includes representatives from Dumfries and Galloway Council (D&GC), Scottish Natural Heritage (SNH), the Scottish Environment Protection Agency (SEPA), and Historic Environment Scotland (HES). Both groups met as necessary at key milestones throughout the project programme and it is intended that these will continue as required throughout the lifetime of the project.

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[xi] SPEN (no date), 'Grantor's Charter', Available [online] at: https://www.spenergynetworks.co.uk/userfiles/file/1_Grantors_Charter_20140729.pdf, Last accessed on: 11/07/2019.
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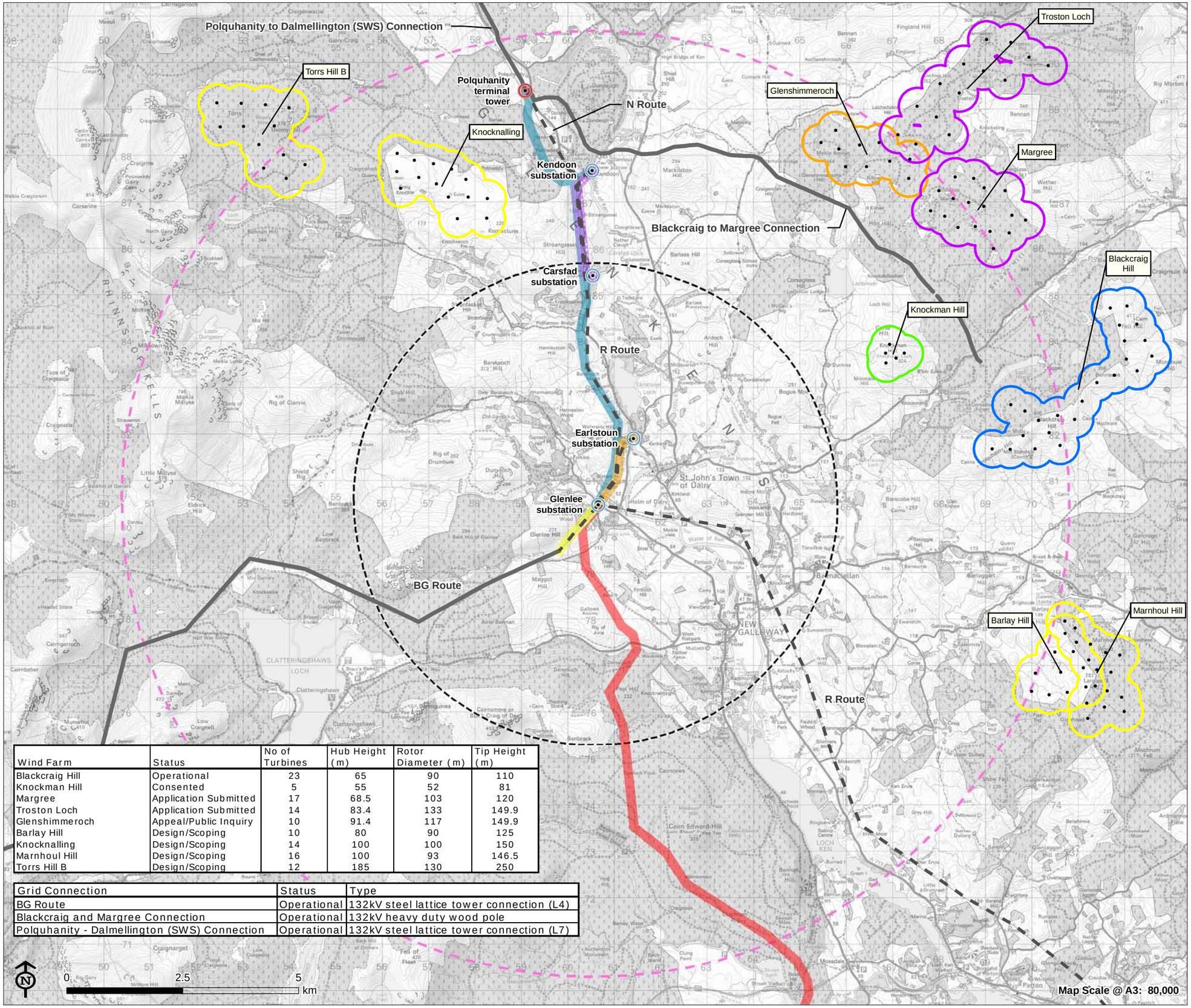
Figure 2.1: Developments within 10km



Wind Farm	Status	No of Turbines	Hub Height (m)	Rotor Diameter (m)	Tip Height (m)
Blackcraig Hill	Operational	23	65	90	110
Knockman Hill	Consented	5	55	52	81
Margree	Application Submitted	17	68.5	103	120
Troston Loch	Application Submitted	14	83.4	133	149.9
Glenshimmeroch	Appeal/Public Inquiry	10	91.4	117	149.9
Barlay Hill	Design/Scoping	10	80	90	125
Knocknalling	Design/Scoping	14	100	100	150
Marnhoul Hill	Design/Scoping	16	100	93	146.5
Torrs Hill B	Design/Scoping	12	185	130	250

Grid Connection	Status	Type
BG Route	Operational	132kV steel lattice tower connection (L4)
Blackcraig and Margree Connection	Operational	132kV heavy duty wood pole
Polquhanity - Dalmellington (SWS) Connection	Operational	132kV steel lattice tower connection (L7)

- 10km study area
- 5km study area

The KTR Project

- Polquhanity sealing end and terminal tower
- Substation and hydro electricity generating station
- Polquhanity to Glenlee via Kendoon
- Carsfad to Kendoon
- Earlstoun to Glenlee
- BG route deviation
- Glenlee to Tongland
- Existing 132kV overhead line to be removed (following construction of the KTR Project)

Grid connection

- Existing network

Wind farm planning status

- Operational
- Consented
- Application Submitted
- Appeal/Public Inquiry
- Design/Scoping
- Turbine

Note: Information and status of developments included as of 1st June 2019

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Figure 2.2: Glenlee Substation Extension and the KTR Project Layout

- Planning application boundary
- Substation extension

The KTR Project

- Polquhanity to Glenlee via Kendoon (steel lattice tower)
- Carsfad to Kendoon (wood pole)
- Earlstoun to Glenlee (wood pole)
- Earlstoun to Glenlee (temporary wood pole)
- Glenlee to Tongland (steel lattice tower)
- BG route deviation (steel lattice tower)
- Gantry
- R route tower for removal
- Underground cable

Map Scale @ A3: 5,000

0 100 200 m

CB:JN EB:robertson_s LUCGLA FIG02-02_6118-001_Glenlee_Cumulative_2k 27/08/2019