12 MATERIAL ASSETS

12.1 INTRODUCTION

This Chapter describes material assets that are potentially impacted by the project (please refer to Chapter 2 for a full description of the project and the proposed development). The purpose of this assessment is to identify relevant material assets that are within the vicinity of the project site or will be utilised by the development, to determine the impact, if any, on these resources, and propose mitigation where necessary to ensure that they are used in a sustainable manner.

Elements of the project are discussed where relevant under appropriate sections of this chapter.

12.1.1 SCOPE OF ASSESSMENT

Material assets are defined in the *EPA Draft Advice Notes for Preparing Environmental Impact Statements (2015)* as *''Resources that are valued and that are intrinsic to specific places…..They may be either of human or natural origin. The assessment shall be concerned primarily with ensuring equitable and sustainable use of resources".* **Table 12-1** outlines the topic areas which these guidelines suggest may be cross referenced as part of the Material Assets study.

Table 12-1: Types of Material Assets

Topics for consideration
- Population and Human Health - Water - Air - Soil and Geology - Noise - Vibration - Climate

In consideration of material assets, the 2017 EC Guidance includes 'buildings, other structures, mineral resources, water resources'. The definition of 'Material Assets' in the *EPA Revised Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (August 2017)*, differs slightly to focus on built services and infrastructure and excludes material assets such as cultural heritage, land resource and air quality, which are covered by other topics in an EIAR. The revised guidelines lists Built Services, Roads and Traffic, and Waste Management as material assets and recommends the following topic areas to be examined for Roads and Traffic and Built Services:

Table 12-2: Material Assets and Topics to be included

Material Asset	Topics to be Covered
Roads and Traffic	Construction Phase Operational Phase Unplanned Events (e.g. Accidents)
Built Services	Electricity Telecommunications Water Supply Infrastructure Sewerage

The impact on Roads and Traffic is assessed in **Chapter 11 Traffic and Transportation**.

Based on a review of the characteristics of the proposed development and the topic areas listed in **Table 12-2**, the consideration of the impact of the project on Material Assets provided within this Chapter is discussed in the context of Built Services and Waste Management. Built Services includes Electricity Supply and Infrastructure and Water, Wastewater and Gas Infrastructure.

Due consideration was also given to the EIAR for the consented Cushaling Wind Farm, which included the proposed substation (Refs. ABP-306924-20 and ABP-306748-20).

The topic of Telecommunications was assessed as part of the Cushaling Wind Farm project. The impacts and mitigation measures identified and proposed for telecommunications related to the significantly taller wind turbines and not to the substation or grid connection. In light of the conclusions of the assessment, the topic of Telecommunications was scoped out of this Material Assets assessment.

Impacts on other natural resources or assets of a natural origin are assessed in other chapters of this EIAR as follows:

- Land use, settlement, tourism: **Chapter 3 Population and Human Health**
- Protected and designated sites: **Chapter 4 Biodiversity**
- Geology and geological heritage: **Chapter 5 Land and Soils**
- Water resources: **Chapter 6 Water**
- Assimilative capacity of the air resource: **Chapter 7 Air and Climate**
- Visual resources: **Chapter 9 Landscape and Visual**
- Culture heritage and archaeology: **Chapter 10 Cultural Heritage**

No further assessment of the above topics is included in this Chapter.

12.1.2 Methodology

The methodology used for this study included consultation and desk-based research of published information on the relevant potentially impacted material assets.

The assessment was carried out in accordance with the requirements of the following relevant legislation:

- The Planning and Development Regulations 2001-2015;
- EU Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (2011 EIA Directive);
- EU EIA Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment (2014 EIA Directive)

The following EPA Guidance was also consulted in order to complete the assessment:

- Guidelines on the Information to be contained in Environmental Impact Statements (EPA, 2002);
- Advice Notes on Current Practices in the Preparation of Environmental Impact Statements (EPA 2003);

- Revised Draft Advice Notes for Preparing Environmental Impacts Statements (EPA, September 2015);
- Revised Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, August 2017);
- European Commission Guidance on the Preparation of the Environmental Impact Assessment Report (2017).

12.1.3 Assessment Criteria

The assessment criteria are based on the EPA Glossary of Impacts, included in the aforementioned 2017 EPA Draft Guidelines.

12.1.4 Statement on Limitations and Difficulties Encountered

No limitations or difficulties were encountered during the assessment of the impacts on the material assets within the scope of this assessment.

12.1.5 Competency of Assessor

The Material Assets assessment was completed by Sinéad Ryan BSc MSc of MWP. Sinéad is a Senior Environmental Consultant and holds a BSc in Environmental Science and an MSc in Environmental Engineering. Sinéad is an experienced and competent environmental professional having worked for more than 20 years in environmental consultancy, environmental engineering and environmental science roles in both the private and public sectors. Sinéad has extensive experience in project managing all aspects of EIA and has completed EIAR chapters for numerous projects. More specifically, she has completed material asset impact assessments for a wide range of projects during her career to date including renewable energy, quarries, industrial and commercial developments.

12.2 EXISTING ENVIRONMENT

The proposed development site, containing the proposed substation and proposed overhead grid connection, is located in the townlands of Ballykilleen, Cloncreen and Ballinowlart North, Co. Offaly, approximately 6km southwest of Edenderry (**Figure 12-1**). It consists of agricultural fields bound by hedgerows and drainage ditches discharging to the adjacent Figile River. It can be accessed from the R401 regional road close to Kilcumber Bridge. The site is in a rural area dominated by peat bogs/ peat extraction and, to a lesser extent, agricultural activities. It is situated opposite the Bord na Móna Edenderry Power Plant and the EirGrid Cushaling 110kV substation. It is approximately 1km east of the consented Cloncreen Wind Farm (currently under construction) and ca. 1.2km to the southwest of the consented Cushaling Wind Farm (ABP Ref. ABP-306924-20 and ABP-306748-20). Edenderry Power Plant is due to cease peat-burning in 2023 and the consented renewable electricity projects in the area will require additional grid capacity. The site is remote from settlement clusters, although there are ribbon-style dwellings and farm holdings along R401. The closest residential dwelling is approximately 200m southeast of the site on the R401. The site is not within or in the vicinity of any European or Nationally designated sites for nature conservation.

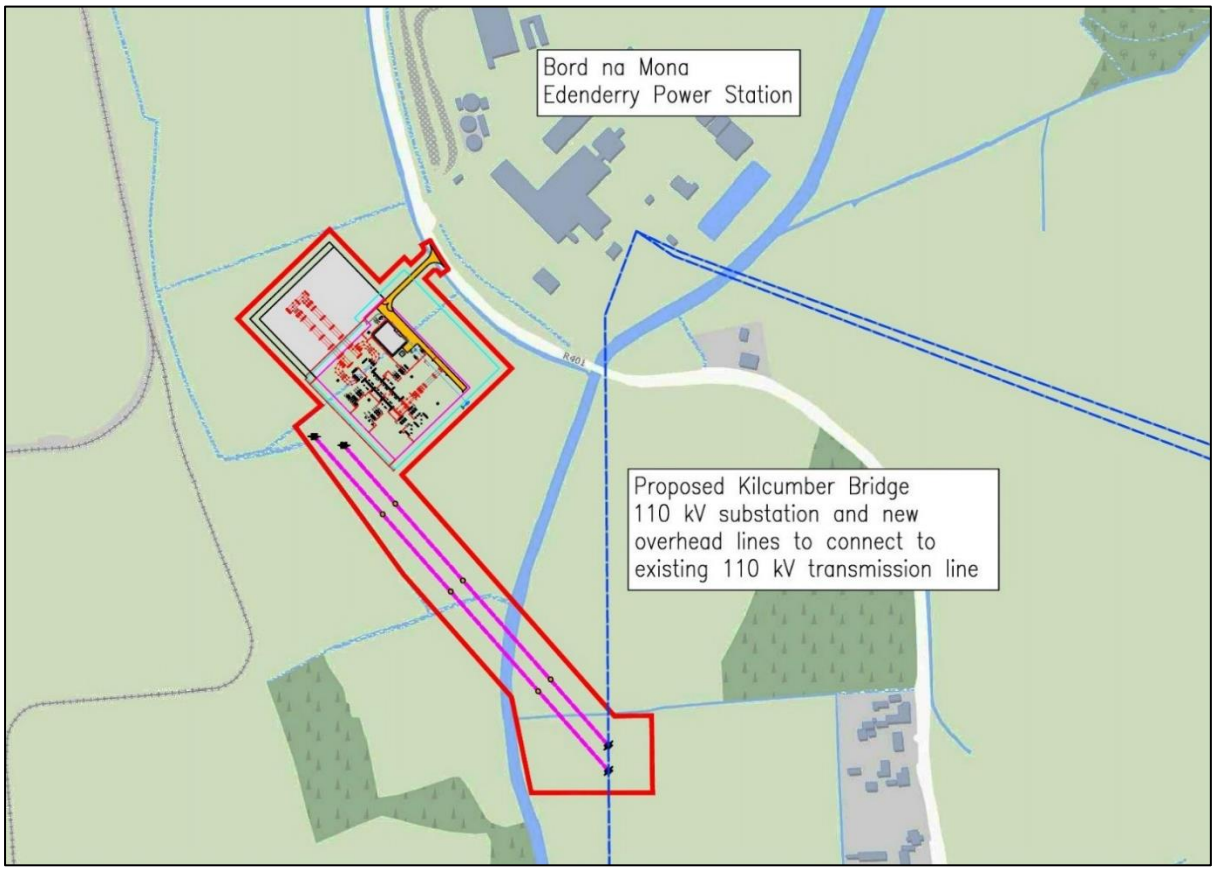

Figure 12-1: Site Location and Layout

12.2.1 Electrical Infrastructure

The proposed substation site and the proposed route of the grid connection are currently greenfield/agricultural.

Edenderry Power Station is in operation opposite the site. The existing Cushaling 110kV substation is operated by EirGrid adjacent to the power station. A number of 110kV overhead lines (OHLs) exit the

existing Cushaling 110kV substation to join the transmission network, as shown on **Figure 12-1**. The 110kV OHL going south is the closest one to the proposed development and is referred to as the Cushaling – Mount Lucas 110kV OHL.

The proposed grid connection will be a 400m OHL looped in and out from the proposed substation to the existing Cushaling – Mount Lucas 110kV OHL. The OHL will be supported by wooden poles and four steel lattice pylons. The overhead lines will traverse the Figile River.

The overall purpose of the proposed substation and grid connection is to receive electricity generated by renewable energy projects in the area, including the recently consented Cushaling Wind Farm, and transmit the electricity to the national grid. In doing so, the development will contribute to the reduction of greenhouse gas emissions and Ireland's commitment to meet EU and national emissions targets.

The project is part of the EirGrid investment in infrastructure in order to accommodate the renewable energy growth in the area and meet national renewable energy targets. EirGrid Strategy 2020-2025 Transform the Power System for Future Generations: *"We can currently operate the grid with up to 65% of renewable power, including onshore wind and solar. This is a pioneering engineering achievement. By 2030, this must increase to 95%. We will then have to operate the system in a more dynamic and responsive way. In turn, this will require improvements to infrastructure to make the grid stronger, and more flexible".*

12.2.2 Water Supply, Sewerage and Gas Infrastructure

Potable water will be required for the construction employees (30 to 35 personnel). The average requirement is estimated at approximately 50 litres per person per day which equates to 1,500 to 1,750 litres per day during peak construction, which will be supplied to the site by mobile tankers.

During the construction phase, wastewater from on-site welfare facilities will drain to integrated wastewater holding tanks associated with the toilet units. The stored effluent will be collected on a regular basis from site by a permitted waste contractor and removed to a licensed/permitted waste facility for treatment and disposal.

The proposed Kilcumber Bridge 110kV substation will not be linked to the water mains or the wastewater system. There is no underground pipeline infrastructure for water supply or wastewater collection on, or within the vicinity of, the site currently. The design of the compound includes a rainwater harvesting system for non-potable water use in the bathroom facilities with a water cooler system supplying the potable water in the canteen facilities. The wastewater will be stored in onsite wastewater tanks which will be emptied periodically by a licensed contractor.

12.2.3 Resource Use and Waste Management

Given the localised nature of the project, the quantities of natural resources required are low. The primary natural resources required for the construction of the substation and grid connection are as follows:

- Crushed and graded stone from local quarries for the substation compound and entrance road;
- Ready mixed concrete (manufactured from natural materials);
- Water for wash down of vehicles and at site compound

Where possible, all material used in the project will be sourced locally from the nearest supplier to minimise traffic and transport. Where possible, stone will be sourced from local quarries.

Another resource that is moved on site is the excavated material which will include soil (mainly topsoil). Although these materials are disturbed, excavated or moved during the construction phase, they are not lost or removed from site, but merely redistributed over the development area.

12.3 LIKELY SIGNIFICANT IMPACTS

12.3.1 Electrical Infrastructure

The proposed development is on a greenfield site which does not contain any underground utilities or services currently.

The proposed grid connection will be a 400m-long overhead line looped in/out to the existing overhead 110kV line supported by wooden poles and pylons. The proposed grid connection location has been chosen to best integrate with the existing electrical infrastructure.

The proposed substation and grid connection will not impact on the Edenderry Power Station or the existing Cushaling 110kV substation.

The proposed project will compliment the national electricity grid development strategy. The proposal will assist in meeting increases in electricity demand nationally by transmitting electricity from renewable sources into the electricity market. It will contribute to ensuring that adequate electricity supplies are available to support economic activity and growth in a manner fully compatible with government energy and environmental policies.

12.3.2 Water Supply, Sewerage and Gas Infrastructure

There is no underground pipeline infrastructure within the vicinity of the proposed substation.

There may be infrastructure along the surrounding road network. Should the project involve any disturbance of the road verge at the proposed entrance, a survey will be completed beforehand to determine the extent of utilities and services and any identified services will be avoided.

12.3.3 Resource Use and Waste Management

Water will be required during the construction phase for the wash down of vehicles and machinery, and for use in the temporary compound. The volumes of water required will be carefully controlled on site.

It is envisaged that the waste generated will be minimal and will also be strictly controlled. Quantities of materials such as stone and cement will be typical of a medium size construction project. All excavated soil will be re-used in the construction of the development. During the construction phase, waste will be generated from the following activities:

- Construction waste from building materials such as cabling, ducts, concrete and any other surplus building materials;
- Mixed organic waste from the temporary canteen and staff facilities;

- Mixed dry recyclables from the staff welfare facilities;
- Toilet waste from the temporary welfare facilities; and
- Unused oil, diesel and building materials.

All waste will be managed, collected, stored and segregated in separate areas and removed off site by a licensed waste management contractor at regular intervals during the works.

The level of waste generated on site will be minimal. It is considered a minor, negative impact during the temporary construction phase of the works.

Overall, there will be no significant impact on natural resources and all waste will be appropriately managed.

12.4 MITIGATION

12.4.1 Electrical Infrastructure

The provision of additional electrical infrastructure to connect renewable energy projects to the grid is considered to be a positive impact thus no mitigation is required.

12.4.2 Water Supply, Sewerage and Gas Infrastructure

The possibility of impact on any potential underground infrastructure along the public roads at the site entrance will be mitigated through the use of standard methods during the construction phase. The use of utilities 'dial before you dig' services to locate infrastructure, services maps from county councils and cable avoidance tools will protect any existing infrastructure.

12.4.3 Resource Use and Waste Management

Good site practice and careful management on site will ensure efficient resource management and a reduction in waste. Any waste generated on site will be segregated at source and will be taken off site to an appropriate facility by an authorised contractor. All waste streams will be identified within the contractors waste management plan at the outset and a defined area will be identified for the segregation and storage of waste. Adequate signage and notices should be provided on site along with training and supervision of staff to ensure compliance with sound waste management practice.

Wastewater from the temporary compound will be suitably contained and emptied as required by a licensed/permitted contractor. Wash out of concrete trucks will be limited to the chutes and will be undertaken and monitored at a dedicated area in the temporary compound and any accruing waste will be dealt with appropriately. The concrete trucks will exit the site and return to the supply depot to wash out the main mixer. Strict on-site controls as part of the contractors Waste Management Plan and Construction Environmental Management Plan (CEMP) will ensure minimal waste being generated and minimise the risk of pollution. A preliminary CEMP for the project is provided as **Appendix 4.**

12.5 RESIDUAL IMPACTS

There will be no significant, negative, residual impacts to material assets. There will however be a positive residual impact on electricity supply as a result of the proposal.

12.6 CUMULATIVE IMPACTS

The proposed development entails minimal use of material assets during construction with no impact once operational. The overall predicted impact of the proposed development can be classed as long-term and not significant with respect to material assets. The assessment has considered cumulative impact of construction and operation in conjunction with surrounding developments. Considering the minimal use of material assets (temporary lighting and power) during construction, there is no likely cumulative impact. Interactions are addressed in Chapter 13 of this EIAR.

12.7 CONCLUSION

In conclusion, the proposed development is unlikely to constitute a significant adverse impact to material assets in the vicinity of the proposed development. Additionally, the operation of the substation and grid connection will make a positive contribution to the supply of renewable energy to the national electricity grid.