

monitoring, then further mitigation measures will be implemented. This will be carried out by experienced, licence eligible archaeologists working under licence from the Department of Housing, Local Government and Heritage.

- Adequate time and resources will be provided by the developer for the resolution of any archaeology identified within the development site, which will be directly impacted by groundworks. Time and resources will also be allowed for any post-excavation work and specialist analysis necessary following any archaeological excavation that takes place.
- A report is required to be compiled on completion of any archaeological excavation required and will be submitted to the relevant authorities.
- Significant archaeological features were identified during archaeological assessment and the associated mitigation measures were taken into account for the Preliminary Construction and Environmental Management Plan (PCEMP) for the site. As the phased development progresses, the PCEMP will be updated to include any additional archaeological mitigation measures required.

## 15.7 RESIDUAL IMPACTS

The residual effects are likely to be neutral and none to imperceptible on implementation of the proposed mitigation measures. Table 15.3 below summarises the residual effects of the proposed development on the archaeological landscape. Residual impacts are defined as the overall effect of the development on archaeology on the basis of implementing the mitigation measures recommended in this report.

**Table 15.3 Summary of Residual Impacts**

Potential Effects	Mitigation strategy	Residual impacts
<b>Construction Effects</b>		
Topsoil removal associated with development. Excavation of subsoil for foundations and service trenches, etc. Ground disturbance related to building demolition, landscaping and planting.	Archaeological Excavation and Monitoring of all groundworks associated with the development. Archaeological excavation of features and deposits identified during geophysical survey and test trenching within the proposed development at the pre-construction phase was completed in late 2022. Monitoring to be carried out of all groundworks associated with the proposed development. Consultation with Licensing Section of the National Monuments Service should additional archaeological sites or features be uncovered. Excavation and recording of any archaeological features identified thus preserving them by record.	None
Effects to recorded monuments - none	No mitigation required.	None
<b>Operational Effects</b>		
Nearby Recorded Monuments and Protected Structures are screened from view.	No mitigation required.	None

## 15.8 CUMULATIVE EFFECTS

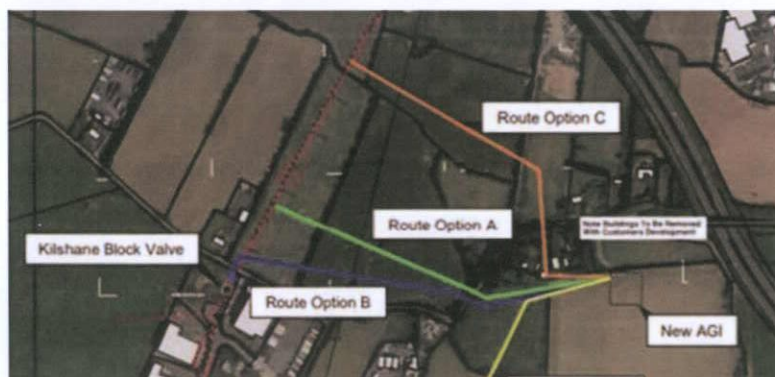
The EPA 2022<sup>30</sup> guidelines define cumulative impact as 'The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects'.

A number of previous developments have taken place in the overall environs of the site, and permission for others has been granted by the local authority. The site lies within a sensitive landscape with a number of monuments present. These are mostly represented by remains that were previously unknown, with no surface expression and identified as a result of archaeological investigations. In such cases, if preservation in situ is not possible, preservation by record (full excavation) mitigates the impact of the development on archaeological remains and is carried out in consultation with the Department of Housing, Local Government and Heritage.

In terms of cumulative impacts, subject to permission, the proposed 220kV Gas Insulated Switchgear (GIS) Substation and Underground 220kV Transmission Line Connection to the Existing Cruiserath 220kV Substation (referred to below as GIS and Grid connection) and Above Ground Installation (referred to as AGI and Gas) are the most relevant, as the proposed development will necessitate the construction of these.

An Archaeological Impact Assessment (contained in Appendix 17.2) was carried out for the GIS and Grid connection in September 2022 by ACSU. It is proposed that the GIS and Grid connection will run largely within the footprint of the existing roads. This is unlikely to impact any archaeological remains; however, an area of increased potential was identified along Bay Lane, particularly the stretch in the environs of the archaeological monument, Burial Ground DU014-048----. In order to mitigate the potential impact on archaeological remains, archaeological monitoring of groundworks was recommended to be carried out at this location. There will be no residual impact as a result and therefore no additional cumulative impact when taken into account with the present development.

At present, there are three potential routes for the AGI (Above Ground Installation) and Gas infrastructure (Figure 15.17). The project is still at a pre-planning stage and each route will require a full archaeological assessment in due course. The proposed routes will run westwards to the gas main constructed in the late 1980s. This gas main impacted archaeological remains, now recorded monument Burial Ground DU014-048----. Routes A and B run across fields that were subject to geophysical surveys in 2022 (22R0059, 22R0269). These routes will impact the archaeological remains identified. This impact, however, can be mitigated through preservation by record (excavation). Route C crosses fields that have not been assessed to date.



**Figure 15.17 Three proposed GAS route options**

The direct effects arising from other nearby projects have been or will be dealt with through mitigation measures that include archaeological assessment at a pre-planning stage and archaeological excavation where remains have been identified. As a result there will be no cumulative impact as suitable mitigation measures have already or will be employed. The AGI and Gas route selected will be dealt with prior to its construction, while the GIS and Grid connection will be subject to archaeological monitoring during the construction phase.

Consequently, there will be no increase in direct or indirect cumulative effects on the Archaeological and Cultural Heritage resource from these projects when considered together with the proposed development

## 15.9 INTERACTIONS

There are no interactions between the Archaeological and Cultural Heritage Resource and other disciplines in relation to the proposed development.

## 15.10 REFERENCES

<sup>1</sup> Leigh, J. M. 2022 Geophysical Survey Report. Kilshane, County Dublin (22R0092), unpublished report by J.M. Leigh Surveys.

<sup>1</sup> Lynn, C., Long, C. 2022 Archaeological Test Excavation Report: Kilshane Energy, Co. Dublin (22E0348), unpublished report by Gahan and Long.

<sup>1</sup> [https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR\\_Guidelines\\_2022\\_Web.pdf](https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf)

<sup>1</sup> [www.maps.archaeology.ie/historicenvironment](http://www.maps.archaeology.ie/historicenvironment)

<sup>1</sup> [https://www.archaeology.ie/sites/default/files/media/pdf/Archaeology-RMP-Dublin-Manual-\(1998\)-0013.pdf](https://www.archaeology.ie/sites/default/files/media/pdf/Archaeology-RMP-Dublin-Manual-(1998)-0013.pdf)

<sup>1</sup> [https://www.archaeology.ie/sites/default/files/media/pdf/Archaeology-RMP-Dublin-Map-\(1998\)-0014.pdf](https://www.archaeology.ie/sites/default/files/media/pdf/Archaeology-RMP-Dublin-Map-(1998)-0014.pdf)

<sup>1</sup> [www.maps.archaeology.ie/historicenvironment](http://www.maps.archaeology.ie/historicenvironment)

<sup>1</sup> <https://www.archaeology.ie/sites/default/files/media/pdf/monuments-in-state-care-dublin.pdf>

<sup>1</sup> [www.archaeology.ie](http://www.archaeology.ie)

<sup>1</sup> [www.excavations.ie](http://www.excavations.ie)

<sup>1</sup> <https://consult.fingal.ie/system/files/materials/2018/App%202-Record%20of%20Protected%20Structures.pdf>

<sup>1</sup> [https://www.fingal.ie/sites/default/files/2019-03/Fingal%20Development%20Plan%202017-2023%20-%20Written%20Statement\\_compressed\\_compressed.pdf](https://www.fingal.ie/sites/default/files/2019-03/Fingal%20Development%20Plan%202017-2023%20-%20Written%20Statement_compressed_compressed.pdf)

<sup>1</sup> <https://www.buildingsofireland.ie/>

<sup>1</sup> Leigh, J. M. 2022 Geophysical Survey Report. Kilshane, County Dublin (22R0092), unpublished report by J.M. Leigh Surveys.

<sup>1</sup> Lynn, C., Long, C. 2022 Archaeological Test Excavation Report: Kilshane Energy, Co. Dublin (22E0348), unpublished report by Gahan and Long.

<sup>1</sup> Leigh, J. M. 2022 Geophysical Survey Report. Kilshane, County Dublin (22R0092), unpublished report by J.M. Leigh Surveys.

<sup>1</sup> Lynn, C., Long, C. 2022 Archaeological Test Excavation Report: Kilshane Energy, Co. Dublin (22E0348), unpublished report by Gahan and Long.

<sup>1</sup> Leigh, J. M. 2022 Geophysical Survey Report. Kilshane, County Dublin (22R0092), unpublished report by J.M. Leigh Surveys.

<sup>1</sup> Lynn, C., Long, C. 2022 Archaeological Test Excavation Report: Kilshane Energy, Co. Dublin (22E0348), unpublished report by Gahan and Long.

<sup>1</sup> [https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR\\_Guidelines\\_2022\\_Web.pdf](https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf)

# 16 ACCIDENT & DISASTER RISKS

## 16.1 INTRODUCTION

The proposed development is a Gas Turbine Power Generation Station with an output of up to 293 MW at Kilshane, Co. Dublin. The gas supply will be backed up by emergency generators fuelled by bulk gas oil storage on site capable of providing for 3 days' supply. It is proposed to store 5,000 tonnes (6,098 m<sup>3</sup>) of fuel oil in a bulk storage vessel with a nominal capacity of 5,122 tonne (6,246 m<sup>3</sup>).

The Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015 (S.I. 209 of 2015) (COMAH Regulations 2015) sets out quantities of dangerous substances for which lower and upper tier COMAH status apply. For gas oils (including diesel fuels, home heating oils and gas oil blending streams) the qualifying quantity for the application of lower tier requirements is 2,500 tonnes and for upper tier requirements it is 25,000 tonnes. Therefore, the proposed power plant will be classified as a lower tier COMAH establishment. A COMAH Land Use Planning Assessment report has been prepared and is separately submitted for the proposed development.

An assessment of Major Accidents to the Environment (MATTEs) at Kilshane Energy Limited has also been prepared and is covered within the COMAH report. This has been prepared and completed in accordance with the environmental risk assessment methodology recommended by the Chemical and Downstream Oil Industries Forum (CDOIF, 2017).

In order to ensure a comprehensive assessment of potential environmental effects due to risks of major accidents and/or disasters as relevant to the development, this chapter presents an additional review of the characteristics of the proposed development and of the project location to consider potential for accident scenarios that are outside the scope of the COMAH Regulations.

In assessing likely potential and predicted impacts, account has been taken of both the importance of the attributes and the predicted scale and duration of the likely impacts.

### 16.1.1 METHODOLOGY

The assessment has been carried out generally in accordance with the following guidelines:

- Environmental Impact Evaluation Methodology (EIMM) (2011);
- Environmental Impact Assessment (EIA) Methodology (2011);
- National Risk Assessment (NRA) Guidelines (2011) and National Procedures for the Assessment and Management of Hazardous Substances (2011).

In the EIA assessment, consideration is given to both the importance of an attribute and the magnitude of the potential environmental impacts of the proposed activities on that attribute. The principal attributes (and impacts) to be assessed include the following:

- Potential hazard arising from risk of major accident.
- Localised flooding (potential increase or reduction) and floodplains including benefitting lands and drainage districts (if any)
- Loss of containment of fuel/chemical materials

### Sources of Information

The collection of baseline regional data was undertaken by reviewing the following sources:

- Office of Public Works (OPW) flood mapping data ([www.floodmaps.ie](http://www.floodmaps.ie)).

Site specific data was derived from the following sources:

- Various site plans and drawings (ref. accompanying planning document set)
- COMAH Land Use Planning Assessment report including Assessment of Major Accidents to the Environment (MATTEs)

## 16.2 THE PROPOSED DEVELOPMENT

The proposed development is described in Chapter 4 *Project Description*. It has been designed to adhere to strict safety standards covering all aspects of fit-out and operation. These standards ensure that potential for major accidents is comprehensively addressed in full compliance with legislation and best practice and that safeguards are put in place where appropriate. These standards cover all aspects of construction, industrial design, operation and fire safety.

The proposed development will be subject to an Industrial Emissions (IE) Licence prior to operation. This will include measure to address potential accident sources in the proposed facility. Operation of the proposed facility will be subject to continued compliance with EPA approved accident prevention measures. These measures will ensure that accident risks arising from the operation of the proposed development are comprehensively addressed so that potential for major accidents is adequately controlled in full compliance with all applicable standards and best practice including EU Best Available Technology (BAT) standards.

An Emergency Response Plan has been provided in response to a Council request for further information on the planning application. This provides details of the site's emergency preparedness and includes a Standard Operating Procedure in event of an oil spillage at the site.

## 16.3 THE RECEIVING ENVIRONMENT

### 16.3.1 SITE DESCRIPTION

The site is comprised of agricultural fields (mostly tillage), a farmhouse and associated structures. It is 13.56 ha in area. A topographic survey of the area indicates that the site generally slopes from west to east with a high point of 82.90 m OD Malin on the western boundary, and a low of 77.27 m OD Malin on the eastern boundary.

The nearest dwellings are located almost immediately outside the northern boundary of the site.

### 16.3.2 WATER BODIES AND FLOOD RISK

The subject site is currently a greenfield site, used for agricultural purposes. There is no existing surface water drainage network adjacent to or on-site.

The site is comprised of multiple fields separated by hedgerows. Surface water, falling as rainfall, is generally percolated through the site via grass and soil. The topographic survey has confirmed that the internal and boundary hedgerows contain ditches which convey flow to the Huntstown Stream to the east of the site during heavier rainfall events. These ditches only serve the subject site and the agricultural fields immediately to the west, located between the subject site and the Kilshane Road, and do not convey any upstream watercourse.

As described in detail in the accompanying Flood Risk Assessment screening report, there is no risk of flooding affecting the site from fluvial or coastal sources, since the site lies within Flood Zone C (i.e., where the probability of flooding from rivers is less than 0.1% or 1 in 1000). This takes full account of historical flood risk data and of standard allowances to take account of climate change effects.

### 16.3.3 SEISMIC ACTIVITY

Much of the Earth’s surface is covered by unconsolidated sediments which can be especially prone to instability. Water often plays a key role in lubricating the slope failure. Instability is often significantly increased by man’s activities in building houses, roads, drainage and agricultural changes. Landslides, mud flows, bog bursts (in Ireland) and debris flows are a result.

In general, Ireland suffers few landslides. Landslides are more common in unconsolidated material than in bedrock, and where the sea constantly erodes the material at the base of a cliff landslides and falls lead to recession of the cliffs. Landslides have also occurred in Ireland in recent years in upland peat areas due to disturbance of peat associated with construction activities.

There are no active volcanoes in Ireland.

In Ireland, seismic activity is recorded by the Irish National Seismic Network. The Geophysics Section of the School of Cosmic Physics, Dublin Institute for Advanced Studies (DIAS) has been recording seismic events in Ireland since 1978. The station configuration has varied over the years. However, currently there are five permanent broadband seismic recording stations in Ireland including IWEX on Carrickbyrne Hill, Co. Wexford, running from 01/01/2011 and operated by DIAS. The seismic data from the stations comes into DIAS in real-time and are studied for local and regional events.

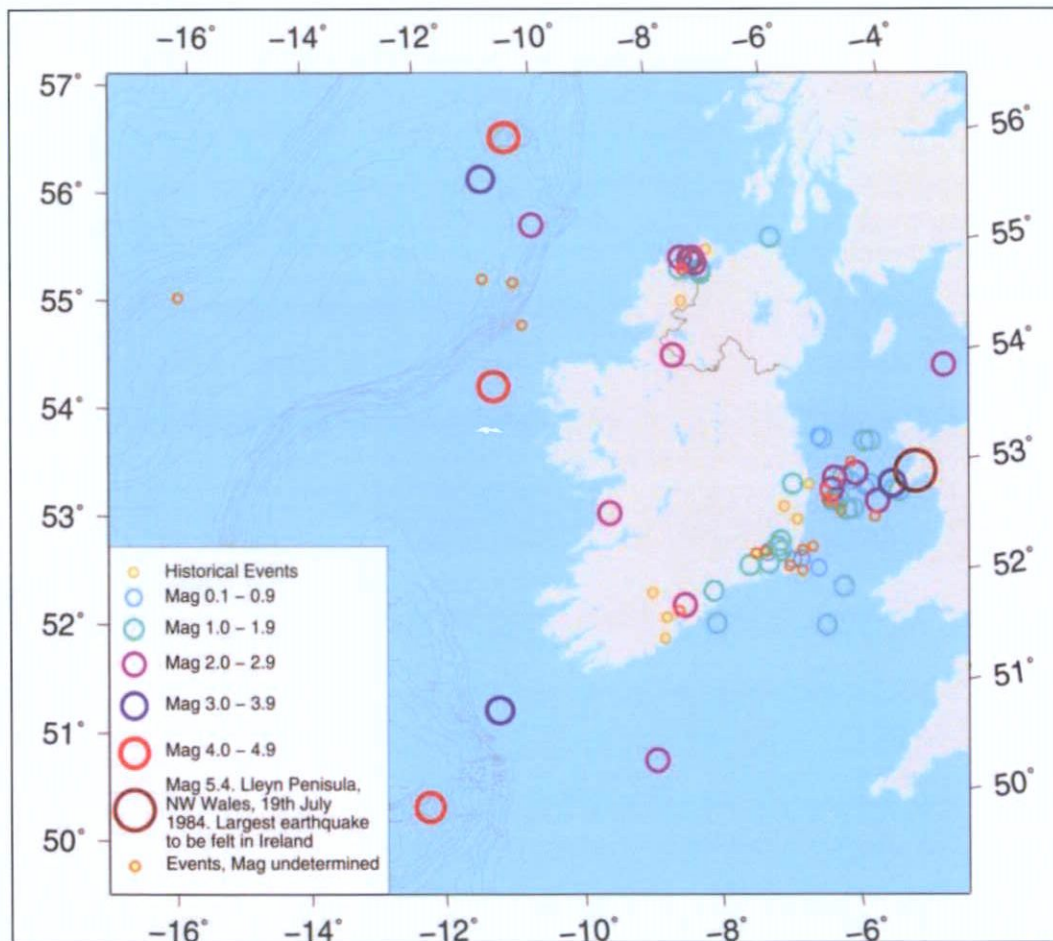


Figure 16.1 Seismic movements

Figure 16.1 above indicates the principal events have occurred along/ beyond the east, south-east and south of Ireland with seismic movements generally up to 1.9 magnitude recorded on land with no seismic events recorded in the vicinity of the Kilshane Energy site.

Records since 1980 show that the nearest seismic activity to the proposed location was in the Irish sea (1.0 – 2.0 MI magnitude) and ~55 km to the south in the Wicklow Mountains. There is a very low risk of seismic activity to the proposed development site.

There are no active volcanoes in Ireland so there is no risk from volcanic activity.

## 16.4 PREDICTED IMPACTS

Due to the comprehensive controls and design standards that have been followed during initial design and that will be followed during detailed design combined with the measures contained in the Preliminary PCEMP there is no significant potential for the proposed development to give rise to significant adverse effects on the environment due to accidents or disasters. This applies to accidents/disasters arising from external factors as well as accidents arising from activities at the site. All risks can be considered to be negligible.

The COMAH assessment concludes that the level of individual risk on and off-site is *acceptable*. While the risk of Major Accidents to the Environment (MATTE) finds that the catastrophic failure scenario of the proposed oil storage tank is As Low As Reasonably Practicable (ALARP)<sup>32</sup> and classifies the risks to the environment as *Tolerable* and *Broadly Acceptable*<sup>33</sup>.

As such the potential for environmental effects due to accident and disaster risks is considered to be **long term, imperceptible** and **neutral**.

## 16.5 MITIGATION AND MONITORING MEASURES

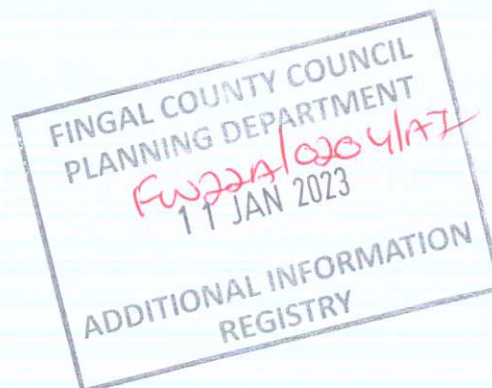
No specific measures are required or proposed as part of the EIA process.

## 16.6 MONITORING

No specific monitoring is required or proposed as part of the EIA process.

## 16.7 RESIDUAL IMPACT

The residual impact is considered to be *imperceptible* and *neutral*.



<sup>32</sup> classification per *Reducing Risks Protecting People* (UK HSE, 2001)

<sup>33</sup> in accordance with the environmental risk assessment methodology recommended by the Chemical and Downstream Oil Industries Forum (CDOIF, 2017) (report reference: 227501.0096RR02)

# 17 INTERACTIONS & CUMULATIVE EFFECTS

## 17.1 INTRODUCTION

Interactions between environmental effects addressed under the different environmental factors addressed in the EIAR are an important consideration in the evaluation of the environmental effects of with the proposed development. Cumulative effects are described in the EPA Guidelines as 'The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.'

This chapter outlines where and how such interactions and cumulative effects have been addressed in the specialist chapters this EIAR. This covers both the construction and operational phases of the proposed development.

Interactions and cumulative effects have been considered and addressed within each specialist chapter of this EIAR. Following the EPA Guidance, this chapter presents an overview, showing where these types of effects have been addressed, as relevant, throughout the EIAR. It does not present additional assessment of interactions or cumulative effects.

Section 17.2 below identifies areas of significant potential for interactions and outlines where different types of interactions have been addressed within the specialist chapters. Section 17.4 outlines how cumulative effects have been addressed.

## 17.2 INTERACTIONS

Following the EPA Guidance, this section of the EIAR provides a simple matrix identifying environmental components and showing where interactions between effects on different factors have been identified. The identified interactions are then expanded upon in the text that follows, explaining where each type of interaction has been addressed in the specialist chapters of the EIAR.



**Table 17.1 Matrix of Interactions**

Interaction	Population & Human Health		Biodiversity		Land, Soils, Geology & Hydrogeology		Water & Hydrology		Air Quality & Climate		Noise & Vibration		Landscape & Visual		Material Assets		Traffic & Transport		Waste Management		Archaeology & Cultural Heritage		
	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	Con.	Op.	
Population & Human Health			x	x	x	x	x	x	✓	✓	✓	✓	✓	✓	x	x	✓	x	x	x	x	x	x
Biodiversity					✓	x	✓	✓	✓	x	✓	x	x	x	x	x	x	x	✓	x	x	x	x
Land, Soils, Geology & Hydrogeology							✓	✓	✓	x	x	x	x	x	x	x	x	x	✓	x	✓	x	x
Water & Hydrology									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Air Quality & Climate											x	x	x	x	x	x	✓	x	x	x	x	x	x
Noise & Vibration														x	x	x	✓	x	x	x	x	x	x
Landscape & Visual																x	x	x	x	x	x	x	x
Material Assets																		x	x	x	x	x	x
Traffic & Transport																				✓	x	x	x
Waste Management																						x	x
Archaeology & Cultural Heritage																							

**Key**

x	No Interaction
✓	Weak Interaction
✓	Some Interaction
✓	Strong Interaction

Con. → construction phase  
Op. → operational phase  
See following pages for descriptions of interactions that correspond to grid boxes marked with a 'tick'.  
Boxes with a 'x' indicate that no interactions are likely to occur.

## 17.3 INTERATCIIONS

### 17.3.1 POPULATION & HUMAN BEINGS

#### Noise & Vibration

The increase in industrial activity due to the proposed development has the potential to increase ambient noise levels at nearby sensitive receptors for people – dwellings. The assessment of operational noise in this EiAR has identified that the proposed development sound emissions are unlikely to result in exceedances standard noise level limits at nearby residences or commercial premises.

The assessment of construction noise finds that the implementation of standard noise control protocols, which are set out as mitigation measures and contained in the Preliminary PCEMP, will ensure that significant construction noise effects will not be caused by the proposed development. The predicted construction traffic noise effects are anticipated to be not significant.

The Noise & Vibration effects of the proposed development are addressed in detail in Chapter 10.

#### Landscape & Visual Impacts

Increasing industrial development has the potential to reduce visual amenity for sensitive receptors. The Landscape & Visual impacts of the proposed development are addressed in Chapter 11. It predicts that effects on external views will range from *not significant* to *negligible*, except for views from a local stretch of the N2 dual carriageway which are predicted to be *moderate - significant*.

#### Traffic & Transportation

There will be increased traffic on local road networks particularly during the construction period – which has potential to affect the perception of local amenity. The assessment contained in Chapter 13 finds that construction traffic effects will be temporary and acceptable. Operational traffic effects are anticipated to be acceptable. As noted above, noise effects associated with predicted changes in traffic flows are found in Chapter 10 to be not significant.

The Traffic & Transportation impacts of the proposed development are addressed in Chapter 143.

### 17.3.2 BIODIVERSITY

#### Land, Soils, Geology & Hydrogeology

The assessment of effects on Land, Soils, Geology & Hydrogeology in Chapter 7 finds that there will be no significant effects on these topics during construction or operation. Spoil handling and storage during construction are detailed in the Preliminary PCEMP. The Land, Soils, Geology & Hydrogeology impacts of the proposed development are addressed in Chapter 7. The assessment of effects on biodiversity within Chapter 6 makes reference to Chapter 7 and the PCEMP in these respects, as relevant.

#### Water and Hydrology

Without careful preparation and safeguards such as construction surface water controls, there could be threats to biodiversity. The main contaminants arising from construction activities may include suspended solids, hydrocarbons and concrete/cement products. Measures included in Chapter 8 and the Preliminary PCEMP will ensure there is no impact as a result of this. Water and hydrology impacts of the proposed development are addressed in Chapter 8 and referred to as relevant in Chapter 6 *Biodiversity*.

### Air Quality & Climate

Sensitive species of flora and fauna could be affected by changes in air quality. During the construction phase measures to control fugitive emissions of dust will ensure there will be no significant effects on air quality beyond the construction site boundary. When operational, there will be no significant effects at any sensitive receptors. The Air Quality & Climate impacts of the proposed development are addressed in Chapter 9 and referred to in Chapter 6 *Biodiversity*, as relevant.

### Noise & Vibration

Construction activities and increasing industrial activity has the potential to increase ambient noise levels at sensitive habitats. No specifically sensitive ecological habitats or species are present at the site. The assessment of operational noise has identified that the proposed development sound emissions are unlikely to result significant effects at sensitive habitats during operation.

During construction the implementation of best practicable means and the measures included in the Preliminary PCEMP will ensure no significant effects are caused by the proposed development. The predicted construction traffic noise impacts are anticipated to be negligible. The Noise & Vibration impacts of the proposed development are addressed in Chapter 10 and referred to in Chapter 6 *Biodiversity*, as relevant.

### Waste Management

Construction waste removal has potential to spread invasive species. No species listed in Schedule 3 of the *Birds and Natural Habitats Regulations* have been identified on sites. Therefore, it has been determined that there is no likelihood that invasive species will be spread as result of the proposed development. The Waste Management impacts of the proposed development are addressed in Chapter 14. This includes reference to information on invasive species as presented in Chapter 6 *Biodiversity*.

## **17.3.3 LAND, SOILS, GEOLOGY & HYDROGEOLOGY**

### Water and Hydrology

Land, soils, geology & hydrogeology can affect surface water through a number of means which have potential to interact with surface water, particularly during construction activity – e.g. surface water management in excavations and construction dust. Measures included in Chapter 8 and in the Preliminary PCEMP will ensure that no significant effect occur as a result of this. Water and Hydrology impacts of the proposed development are addressed in Chapter 8, with cross referencing to Chapter 7 as relevant.

### Air Quality & Climate

Excavation and removal of soil and stone has the potential to impact on air quality through the generation of dust. Due to the small scale of these activities, it is considered that as a result of the good practice mitigation measures proposed, fugitive dust emissions will be negligible. The Air Quality & Climate impacts of the proposed development are addressed in Chapter 9 with cross referencing to Chapter 7 as relevant.

### Waste Management

The proposed development has been designed to minimise the quantity of material to be excavated, maximise reuse onsite and subsequently minimise the quantity of material requiring removal off-site as waste management. Chapter 14 Water Management refers to Chapter 7 as relevant.

### Archaeology

Excavation on a greenfield site presents a potential effect on buried archaeology. Pre-construction archaeological resolution of the site combined with appropriate licences archaeological monitoring of all subsequent topsoil removal associated with site preparation will ensure the full recognition and recording of any potential subsurface finds or features. It is not anticipated therefore that there will

be any residual impact on the archaeological heritage of the area. The Land, Soils, Geology and Hydrogeology impacts of the proposed development are addressed in Chapter 7 and Archaeology is addressed in Chapter 15.

### **17.3.4 AIR QUALITY & CLIMATE**

#### Traffic and Transportation

Increase in traffic volumes can affect air quality through increased emissions. Traffic impacts of the proposed development are addressed in Chapter 13 *Traffic and Transportation* and these are taken account of in Chapter 9 *Air Quality & Climate* as relevant.

### **17.3.5 NOISE & VIBRATION**

#### Traffic and Transportation

Increase in traffic volumes can affect noise levels. Traffic impacts of the proposed development as addressed in Chapter 13 *Traffic and Transportation* are taken account of in the assessment of noise effects in Chapter 10.

### **17.3.6 TRAFFIC & TRANSPORTATION**

#### Air Quality & Climate

Increase in traffic volumes can affect air quality through increased emissions. Traffic impacts of the proposed development as addressed in Chapter 13 *Traffic and Transportation* are taken account of in the assessment of effects on *Air Quality & Climate* as set out in Chapter 9.

## **17.4 CUMULATIVE EFFECTS**

Cumulative effects are addressed within each of the specialist chapters of this EJAR, Chapters 5 to 16, as relevant. A number of chapters present this under a distinct heading. In others it is addressed within the baseline and impacts sections where planned or permitted development is taken account of where relevant and significant.

A list of other projects that have been permitted or are currently at consent stage is contained as Appendix 17.1 of this EJAR. This list and specific projects within it are taken account of as relevant in individual chapters, as discussed within the chapters. The AGI and Gas pipeline connection and the GIS and Grid connection projects, as described in Chapters 2 and 4, are also taken account of and discussed where relevant. Relevant plans are also referred to within the specialist chapters where relevant to assessment of significant cumulative effects.

## LIST OF SOURCES

This list contains most of the sources used for the descriptions and assessments included in this EIA. Other sources are given in the body of the report

<sup>1</sup> Adapted from *Glossary of Impacts* contained in, draft revised *Guidelines on the information to be contained in Environmental Impact Assessment Reports*, EPA, 2017.

<sup>2</sup> Including *EIA Guidance - Screening*, *EIA Guidance - Scoping* and *EIA Guidance - EIA Report*, all EC, 2017.

<sup>3</sup> Schedule 6, 1 (d) of S.I. No. 296/2018, as transposed from Article 5, 1 (d) of Council Directive 2011/92/EC (as amended by Directive 2014/52/EU)

<sup>4</sup> *Guidelines on the Information to be contained in Environmental Impact Assessment Reports*, EPA, 2022.

<sup>5</sup> *Guidelines on the Information to be contained in Environmental Impact Assessment Reports*, EPA, 2022.

<sup>6</sup> *Directive 2010/75/EU Industrial Emissions Directive* (2010), European Commission

<sup>7</sup> *Environmental Protection Agency Act 1992, as amended* (1992), Government of Ireland

<sup>8</sup> *EPA (Industrial Emissions) (Licensing) Regulations, 2013, S.I. No. 137 of 2013* (2013), Government of Ireland

<sup>9</sup> *EPA (Industrial Emissions) (Licensing)(Amendment) Regulations 2020, S.I. No. 190 of 2020* (2020), Government of Ireland

<sup>10</sup> *European Union (Industrial Emissions) Regulations 2013, S.I. 138 of 2013* (2013), Government of Ireland

<sup>xi</sup> Leigh, J. M. 2022 Geophysical Survey Report. Kilshane, County Dublin (22R0092), unpublished report by J.M. Leigh Surveys.

<sup>xii</sup> Lynn, C., Long, C. 2022 Archaeological Test Excavation Report: Kilshane Energy, Co. Dublin (22E0348), unpublished report by Gahan and Long.

<sup>xiii</sup> [https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR\\_Guidelines\\_2022\\_Web.pdf](https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf)

<sup>xiv</sup> [www.maps.archaeology.ie/historicenvironment](http://www.maps.archaeology.ie/historicenvironment)

<sup>xv</sup> [https://www.archaeology.ie/sites/default/files/media/pdf/Archaeology-RMP-Dublin-Manual-\(1998\)-0013.pdf](https://www.archaeology.ie/sites/default/files/media/pdf/Archaeology-RMP-Dublin-Manual-(1998)-0013.pdf)

<sup>xvi</sup> [https://www.archaeology.ie/sites/default/files/media/pdf/Archaeology-RMP-Dublin-Map-\(1998\)-0014.pdf](https://www.archaeology.ie/sites/default/files/media/pdf/Archaeology-RMP-Dublin-Map-(1998)-0014.pdf)

<sup>xvii</sup> [www.maps.archaeology.ie/historicenvironment](http://www.maps.archaeology.ie/historicenvironment)

<sup>xviii</sup> <https://www.archaeology.ie/sites/default/files/media/pdf/monuments-in-state-care-dublin.pdf>

<sup>xix</sup> [www.archaeology.ie](http://www.archaeology.ie)

<sup>xx</sup> [www.excavations.ie](http://www.excavations.ie)

<sup>xxi</sup> <https://consult.fingal.ie/system/files/materials/2018/App%202-Record%20of%20Protected%20Structures.pdf>

<sup>xxii</sup> [https://www.fingal.ie/sites/default/files/2019-03/Fingal%20Development%20Plan%202017-2023%20-%20Written%20Statement\\_compressed\\_compressed.pdf](https://www.fingal.ie/sites/default/files/2019-03/Fingal%20Development%20Plan%202017-2023%20-%20Written%20Statement_compressed_compressed.pdf)

<sup>xxiii</sup> <https://www.buildingsofireland.ie/>

<sup>xxiv</sup> Leigh, J. M. 2022 Geophysical Survey Report. Kilshane, County Dublin (22R0092), unpublished report by J.M. Leigh Surveys.

<sup>xxv</sup> Lynn, C., Long, C. 2022 Archaeological Test Excavation Report: Kilshane Energy, Co. Dublin (22E0348), unpublished report by Gahan and Long.

<sup>xxvi</sup> Leigh, J. M. 2022 Geophysical Survey Report. Kilshane, County Dublin (22R0092), unpublished report by J.M. Leigh Surveys.

<sup>xxvii</sup> Lynn, C., Long, C. 2022 Archaeological Test Excavation Report: Kilshane Energy, Co. Dublin (22E0348), unpublished report by Gahan and Long.

<sup>28</sup> Leigh, J. M. 2022 Geophysical Survey Report. Kilshane, County Dublin (22R0092), unpublished report by J.M. Leigh Surveys.

<sup>29</sup> Lynn, C., Long, C. 2022 Archaeological Test Excavation Report: Kilshane Energy, Co. Dublin (22E0348), unpublished report by Gahan and Long.

<sup>30</sup> [https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR\\_Guidelines\\_2022\\_Web.pdf](https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf)

