

13-09-2022FW22A/0204
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NON-TECHNICAL SUMMARY
of
Environmental Impact Assessment Report
for
Kilshane Power Generation Station Project
at
Kilshane, Co. Dublin

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September 2022

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Status of this version	Final	

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1 BACKGROUND

1.1 ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

Planning regulations require that certain types of projects be subject to Environmental Impact Assessment as part of the planning consent process. The report on this assessment is called an Environmental Impact Assessment Report (EIAR). The purpose of an EIAR is to publicly provide information about the effects of the project on the environment *before* any decision is made.

An EIAR is usually prepared during the design stage of a project. This allows environmental experts to advise the designers about how to improve the project by avoiding potential environmental problems. Experience has shown that it is much better to try to avoid environmental problems at the design stage than to try to reduce or fix them after the project has been built.

An EIAR is prepared on behalf of the developer and must follow the legislation that sets out all of the information that needs to be presented so that all aspects of the environment are covered and so that the full effects of the project can be clearly understood.

It has been recognised that an EIAR can become quite large and complex in order to satisfy these legal requirements. This can make people feel unable to easily understand what the effects of the project will be. To try to address this problem, the regulations also require the preparation of a summary, in non-technical language, of the main content and findings of the EIAR.

The following pages provide a summary of the main information that is contained in this EIAR. It is laid out in the same order and using the same headings as the EIAR, where a summary says 'this chapter' it is referring to the section of the EIA with the same name. If you feel that you need to know more about any topic that is summarised here you can look it up under the same heading in the main EIAR.

Here are explanations of a key terms that are used and may need some clarification:

EIA	E nvironmental I mpact A ssessment - The <i>process</i> of preparing and assessing the EIAR
EIAR	E nvironmental I mpact A ssessment R eport - The <i>document</i> that describes the impacts
Scope	The coverage of the EIAR
Likely Impacts	Effects that are expected to occur
Mitigation Measures	Steps taken to avoid, reduce or repair unwanted effects

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2 MAIN ELEMENTS OF THE PROPOSED DEVELOPMENT

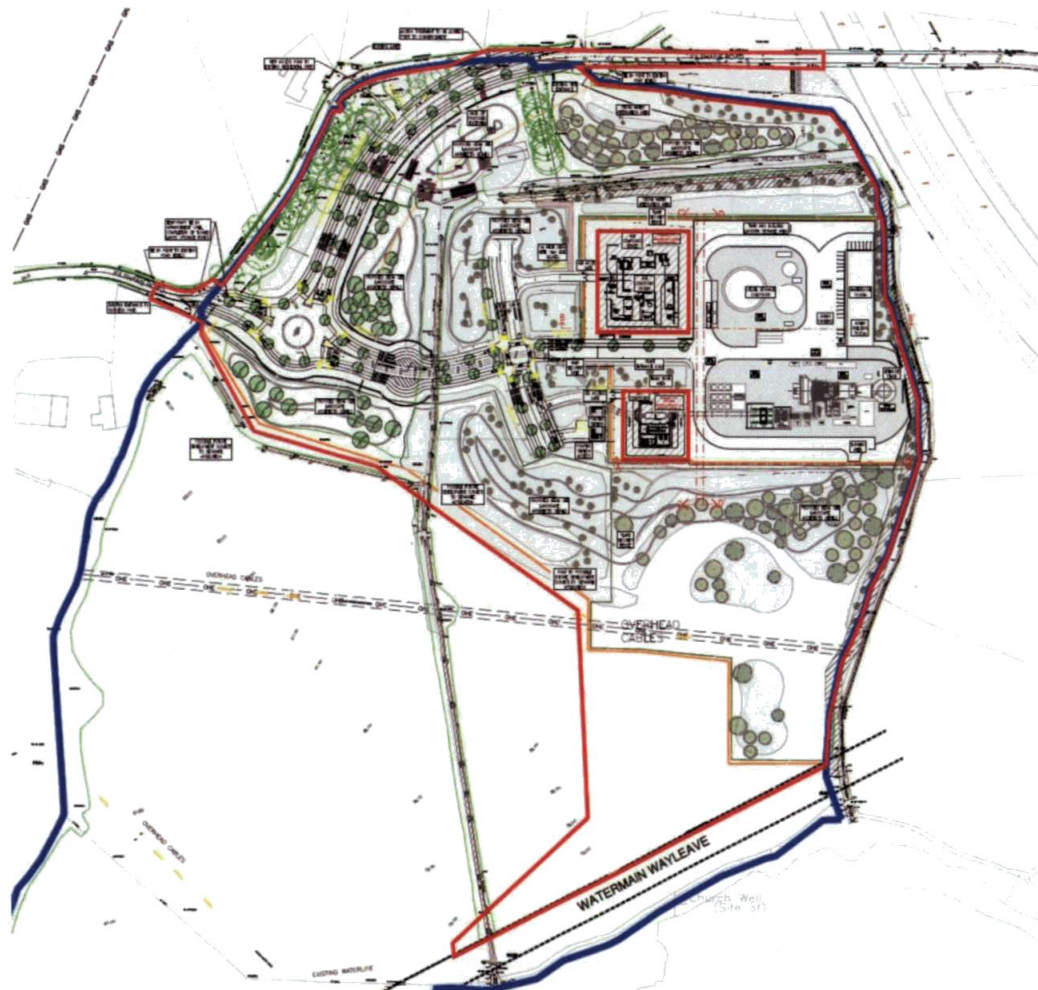


Figure 2.1 Layout of Proposed Development— note separate application will be made for a Gas-Insulated Switchgear Substation (GIS), Air Insulated Switchgear Substation (AIS) [also outlined in red] and grid connection to serve the development. and a subsequent Strategic Infrastructure Development (SID) application will also be submitted for an Above Ground Installation (AGI) compound [outlined in red], underground gas supply installation.

Planning permission is being sought by Kilshane Energy Ltd. for the construction of a Gas Turbine Power Generation Station consisting of the construction of a Gas Turbine Power Generation Station with an output of up to 293 Megawatts at Kilshane Road, Kilshane, Finglas, Dublin 11.

In summary, the proposed development will consist of the following;

- The construction of a new Gas Turbine Power Generation Station with an output of up to 293 Megawatts
- The demolition of a detached residential dwelling and associated farm buildings
- Road improvement works to 493.34 m Kilshane Road (L3120), including the realignment of a portion of the road (293.86 m) within the subject site boundary and the provision of new footpaths, off-road cycle ways, together with the construction of a new roundabout

Full details of the development are contained in the drawings and Planning Report that accompany the application.

3 ENVIRONMENTAL EFFECTS

3.1 POPULATION & HUMAN HEALTH

Overview

This chapter evaluates the impacts of the Proposed Development on demographic profile and human health.

Impacts

The potential impact on the local population during the construction phase is considered to be 'neutral, moderate and temporary' while during the operational phase this impact is assessed as 'non-significant'.

The potential impact on employment and economic activity during the Construction Phase is likely to be 'slight and positive' in the area and 'short term' in duration. The Proposed Development is also likely to have a 'long term, slight effect' on the area in relation to employment and economic activity.

In respect of Health and Safety it is concluded that the level of individual risk on and off-site will be acceptable as a result of the proposed development.

There will be 'Imperceptible, short-term and neutral' impacts to human health during the construction phase of the proposed development as a result of air quality and climate. It is determined that this impact to human health during the Operational Phase will be 'long term, negative and ranging from imperceptible to slight'.

This chapter indicates that the predicted noise impact on human health during the construction phase of the development will be 'not significant, negative and short term'. The noise impact on human health during the operational phase of the proposed development will be 'negative, not significant and slight to long term'.

The potential impact on human health resulting from traffic during the construction phase will be short-term in the nature and slight in terms of effect. The potential impact on human health resulting from traffic during the operational phase is predicted to be 'permanent and insignificant'.

3.2 BIODIVERSITY (FLORA & FAUNA)

Overview

This chapter assesses potential impacts of the proposed development on biodiversity.

Impacts

The existing site has relatively low levels of biodiversity overall; consisting of a majority of agricultural grassland habitat in crop systems. However, the proposed site does contain hedgerows also, some of which are of high local value. There is a drainage ditch running down the eastern boundary of the site, that is dry for most of the year. This drain connects to the Huntstown Stream to the south of the site, which eventually joins the Ward River and then reaches Dublin Bay. During heavy rainfall, it is possible for surface water to drain into this ditch and outflow into the Huntstown Stream. These characters increase the local value and sensitivity of the site, but it remains of low level overall.

On completion of the development there will be no net decrease in terms of the ecological value of the site and the integrity of the site will be maintained (in terms of maintaining higher value hedgerow). On implementation of a range of mitigation measures, the potential impacts to the flora and fauna of the existing local environment are foreseen to be negligible, and of a short-term duration.

This is due to the maintenance of the overall resource availability by the retention of hedgerows on site and management of appropriate ecologically sensitive lighting on site, and the introduction of increased micro habitat diversity across the site in the landscaping plan which includes replanting of lost hedgerow and scrub habitat.

It is predicted that residual effects on the ecology of the site and its environs due to the construction phase will be negligible and temporary and due to the operational phase will be localised, negligible and long-term.

3.3 LAND, SOILS GEOLOGY & HYDROGEOLOGY

Overview

This chapter assesses and evaluates the potential impacts of the proposed development on the land, soils, geological and hydrogeological environment

Impacts

During the construction and operational phases, the implementation of mitigation measures will ensure that the predicted impacts on the geological and hydrogeological environment be negligible short-term-imperceptible-neutral. No cumulative impacts are anticipated with neutral or minimal cumulative potential for change in soil quality or the natural groundwater regime.

3.4 WATER & HYDROGEOLOGY

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This chapter assesses and evaluates the potential impacts of the proposed development on the hydrological environment.

The site is comprised of multiple fields separated by hedgerows, and generally slopes from west to east. Surface water, 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.

The Huntstown Stream generally flows in a north-easterly direction to join the River Ward to join the Ward River which flows towards Malahide Estuary, a Natura 2000 Site (SPA/SAC/pNHA) located approximately 9.8 km to the northeast of the site after joining the Broadmeadow River.

There is extremely low risk of flooding affecting the site from fluvial or coastal sources,

The importance of the hydrological features at this site is rated as low importance, based on the assessment that the attribute has a low quality significance or value on a local scale.

The potential impacts of construction and operation and mitigation measures proposed have been identified and will be included in the Construction Environmental Management Plan (CEMP) for the proposed development.

The implementation of mitigation measures will ensure that the potential impacts on the surface water environment do not occur during the construction phase and that the residual impact will be short-term-imperceptible- neutral.

During operation there are limited risks to surface water receptors from the storage and use of fuel oil. The fuel will be stored in belly-tanks situated at ground floor level within compound yards. These bunded areas will be greater than 110% of the storage capacity. Any accidental emissions of oil, petrol or diesel could cause contamination if the emissions enter the water environment unmitigated. However, any accidental discharge will be mitigated through petrol interceptors.

The implementation of mitigation measures will ensure that the potential impacts on the surface water environment do not occur during the operational phase and that the predicted impact will be long-term-imperceptible- neutral.

3.5 AIR QUALITY & CLIMATE

The likely impacts on air quality and climate as a result of the proposed gas fired power generation facility at Kilshane, Co. Dublin have been assessed.

The existing air quality environment, indicates that levels of nitrogen dioxide and particulate matter are generally well below the National and European Union (EU) ambient air quality standards.

Air Quality

During the construction phase there is the potential for dust emissions to impact nearby sensitive receptors resulting in potential dust soiling and human health impacts. Provided the mitigation measures are implemented, then construction dust impacts will be short-term, negative, localised and imperceptible at nearby sensitive receptors.

Air dispersion modelling of operational phase emissions from the installation of a gas turbine associated with the development was carried out to assess the contribution of operational emissions of nitrogen dioxide (NO₂), carbon monoxide (CO), sulphur dioxide (SO₂) and particulate matter (PM₁₀) from the proposed development operating to off-site levels of this pollutant. The results of the modelling assessment determined that emissions from the proposed emission points on site will be in compliance with the ambient air quality standards for NO₂, CO, SO₂ and PM₁₀.

Climate

Based on the scale and short-term nature of the construction works, the potential impact on climate change from the construction of the proposed development is deemed to be short-term and imperceptible in relation to Ireland's obligations under the EU 2030 target.

No significant on-site CO₂ emissions will occur as a result of the proposed development. The generation of electricity by the proposed development using natural gas would result in emissions of approximately 508,603 tonnes CO₂eq per annum. This is based on the maximum electricity generation capacity for the facility (operational 98% of the year), where in reality the facility will not operate at this level year round. An analysis of the impact of the facility on the single electricity market's carbon emissions predicts a reduction in 10 kt of CO₂ by 2040 due to displacement of higher emitting plants, with an annual average of 46 operational hours. The overall impact to climate is deemed direct, negative, long-term and slight.

Human Health

The impact of construction of the proposed development is likely to be short-term, localised, negative, imperceptible with respect to human health.

Air pollution concentrations due to operations has been assessed and is predicted to be compliant with all National and EU ambient air quality limit values and, therefore, will not result in a significant impact on human health.

Sensitive Ecosystems

The impact to air quality from operation of the proposed development on designated habitat sites has been assessed and is predicted to be long-term, imperceptible, localised and negative.

Mitigation Measures

A dust management plan will be implemented during the construction phase of the proposed development to ensure that no significant dust nuisance occurs outside the site boundary.

With regards to the operational phase, provided the stack is built to the height determined by the air dispersion modelling, no further mitigation measures are required.

Residual Impacts

If the mitigation measures outlined in this assessment are implemented, there will be no residual impacts of significance on air quality or climate from the construction or operational phases of the proposed development.

3.6 NOISE & VIBRATION

The baseline noise environment has been established through environmental noise surveys conducted at the site in order to quantify the existing noise environment and to assess the effects of the construction and operation of the proposed development.

Construction Phase

Construction noise levels at nearest sensitive properties are predicted to be below the threshold for significant impact during the general construction phase. At noise sensitive locations in the surrounding area have been assessed and is predicted to have negative, not significant and short-term effects Operational Phase.

The primary sources of outward noise in the operational context are long term and will comprise plant noise from the proposed gas turbine.

Detailed computer-based noise modelling of the site has been assessed and shows that the noise levels of the subject site are within the noise criteria. The effect is therefore neutral, not significant and long-term.

3.7 LANDSCAPE & VISUAL**Overview**

A landscape and visual impact assessment was prepared to identify and assess the effects on the appearance and character on the local environs arising from the proposed development.

It analysed the existing landscape character and significance, and provided an evaluation of the potential for landscape and visual impacts of the development by assessing the sensitivity of the landscape to change relative to the proposed development.

Impacts

Visual Impacts are a combination of effects on visibility and on the overall character of the area. The main landscape features and landscape character areas were identified through a combination of site visit and documentation surveys.

However, the analysis shows that the majority of the landscape and visual impacts arising will consist of imperceptible or not significant residual impacts – with the exception of one localised moderate - significant impact on the local appearance and character of the landscape in the immediate vicinity of this elevated viewing point at View 3 where there will be localised visibility of the proposed development from an bridge across the N2. [See Figure 3.1]



Figure 3.1 Landscape Impact from View 3 – the most exposed view of the development

3.8 MATERIAL ASSETS

Overview

This section examines potential effects of operations on built services and infrastructure comprising, energy demand and supply (electrical and gas) and water services. Impacts on traffic are considered separately.

Impacts

Electricity Supply

The proposed development will connect to a 220kV transmission system. The high voltage transmission line will supply back feed power for facility loads when the combustion turbine is offline, and will serve as the transmission line for the combustion turbine when it is generating grid power.

Gas Connection

Gas will be provided from the proposed gas yard to be owned and operated by Gas Networks Ireland. This has been sized to accommodate the additional demand from this proposal which is predicted to be a maximum hourly quantity of is c.850MWt.

There will be no significant impacts on gas connection because Gas Networks Ireland (GNI) have confirmed that the proposed demand is feasible within the existing network.

3.9 WATER

Foul Water [Sewage]

There is no existing foul water connection on the site for the proposed development. It is proposed that an 80mm diameter foul rising main will be constructed from the on-site pumping station for a distance of 1,823m to the existing gravity foul network on Mitchelstown Road. A pre-connection enquiry has submitted to Irish Water who are currently assessing this submission.

Water Supply

The water demand of the proposed development will be 2,200l/day. It is proposed to connect to the watermain located to the southwest of the site on Kilshane Road to the 50.8 uPVC watermain adjacent to the site via a new 150mm Ø watermain. A pre-connection enquiry has been submitted to Irish Water.

3.10 TRAFFIC & TRANSPORTATION

The impact of construction traffic on the local receiving environment site has been assessed and is predicted to be short-term in the nature and slight in terms of effect.

The operational phase of traffic from the proposed development has been assessed and shows that the residual impact upon the local receiving environment will have permanent and not significant effects.

3.11 WASTE MANAGEMENT

An assessment was carried out of the potential impacts associated with waste management during the construction and operational phases of the proposed development.

A carefully planned approach to waste management and adherence to the site-specific Resource & Waste Management Plan during the construction phase will ensure that the effect on the environment will be short-term, neutral and imperceptible.

During the operation phase, a carefully planned approach to waste management and adherence to the mitigation measures will be implemented then a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be long-term, neutral and imperceptible.

3.12 ARCHAEOLOGY & CULTURAL HERITAGE**Overview**

This section examines potential effects of the proposed development on on archaeology & cultural heritage.

The site has been extensively examined and assessed – both by electronic and excavation investigations. It has been determined that 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 that were identified as a result of archaeological investigations.

As a result, there will be 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 has been carried out and is currently ongoing.

Further monitoring will be carried out of all groundworks associated with the proposed development. There will be 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.

As a result of this monitoring, excavation and recording, the residual effects are likely to be neutral and none.

An Archaeological Impact Assessment was also carried out for the GIS and Grid connection. These 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, where archaeological

monitoring of groundworks will be carried out. 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 proposed routes for the AGI (Above Ground Installation) and Gas infrastructure. The project is still at a pre-planning stage, and each route will require a full archaeological assessment in due course. The proposed routes A and B will impact archaeological remains. This impact, however, can be mitigated through preservation by record (excavation). Route C crosses fields that have not been assessed to date.

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

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3.13 ACCIDENT & DISASTER RISKS

Overview

An assessment was carried out of the potential impacts associated with accident & disaster risks during the construction and operation of the proposed development.

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 CEMP 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.

An assessment has been carried out that concludes that the level of individual risk on and off-site is acceptable. As such the impact is considered to be long term, imperceptible and neutral.

3.14 INTERACTIONS & CUMULATIVE EFFECTS

Impacts

Cumulative effects are addressed within Chapters 5 to 16 of this EIAR. 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.

Other projects considered in undertaking this assessment are as referred to in individual chapters and as listed in the Planning Application Report which also accompanies the application. They also include the AGI and Gas pipeline connection and the GIS and Grid connection projects as outlined in Chapters 2 and 4.