

1.0 INTRODUCTION

1.1 BACKGROUND

Greener Ideas Limited is proposing to construct a 110kV electrical substation (hereafter referred to as the “Baldonnell Substation”) and associated grid connection at a site located in Profile Park, Dublin 22. The proposed substation is being developed to provide a connection for the adjacent gas fired peaker power plant to the existing electricity transmission system. The gas fired power plant will have a capacity to generate up to 102MW of electricity.

Electrical power will be exported from the power plant’s main transformers through the proposed Baldonnell Substation to the existing Barnakyle 110kV substation, which is operated by EirGrid and owned by ESB. The associated grid connection works will consist of underground cabling.

The associated gas fired peaking power plant will operate when electricity demand is higher than average, typically during morning and evening peak usage times. The plant will regularise energy provision in the electricity grid especially in the context of an increase in use of renewable energy technologies, such as wind and solar power. The plant technology allows the delivery of an efficient, safe and secure electricity system by helping to manage fluctuating electricity demands and compensate for shortages occurring from wind or solar power. This will accommodate and support Ireland’s transition to a low-carbon economy and mean that Ireland can continue to invest in renewable sources of power in order to meet future national and EU targets. The design of the plant and its ultimate usage is flexible such that it may provide power directly to the national electricity grid. Natural gas, supplied from the Gas Networks Ireland national grid, will be the primary fuel source for the plant.

Information on the design of the proposed Baldonnell Substation is provided in Chapter 3 ‘Description of Development’. The key design characteristics will include:

- EirGrid/ ESNB Control Room building
- Associated Internal 15kV and 110kV Underground Cabling
- Installation of a 15/110kV Transformer (TRAFO) with associated 110kV switchgear equipment including:
 - Cable Sealing End
 - Surge Arrestor
 - Earth Disconnect
 - Current /Voltage Transformer
 - House Transformer
 - Circuit Breaker
- 110kV underground cable to Barnakyle 110kV substation 3 No Power Ducts and 2 No Telecoms Ducts.
- Diesel Generator
- Security Fencing, Security Cameras and Poles
- Lights/Lamp Poles
- Lightning Masts
- Temporary Construction Compound

- And all other associated site development plant and equipment and other works including surface water and foul wastewater drainage, within an overall redline boundary measuring approximately 2.6 hectares.

Natural gas, supplied from the Gas Networks Ireland national grid, will be the primary fuel source for the gas fired power plant. However, in order to comply with Commission for Regulation of Utilities (CRU) requirements for security of energy supply, the gas fired power plant will also have capacity to operate on low sulphur diesel oil as a backup fuel in the event of interruption to the natural gas supply.

This Environmental Impact Assessment (EIA) Report has been prepared in order to inform the planning application for the proposed Baldonnell Substation, which has been submitted to An Bord Pleanála for statutory approval. It should be noted that the application seeks a 10-year planning permission.

1.2 APPLICANT

Greener Ideas Limited (GIL) is a joint venture company comprising of Bord Gáis Energy and Mountside Properties Limited. GIL is developing a portfolio of energy projects and has secured planning permission for gas fired power plants and battery energy storage plants in Kilkenny, Tipperary and Roscommon. It is envisaged that these plants will make a significant contribution towards Irelands renewable energy targets for 2030 and beyond as they will help regularise the electricity grid and facilitate additional renewables integration onto the grid in line with EirGrid's DS3 Programme (refer Section 4.4.1).

Bord Gáis Energy (BGE) has been in operation in Ireland since 1976. Today, BGE provides gas, electricity and home care services to over 730,000 residential and business customers throughout the country. It operates the 445 MW Combined Cycle Gas Turbine (CCGT) power plant in Whitegate, County Cork. BGE's sustainable principles include:

- To provide products and services to customers that support a low carbon future;
- To support the creation of a sustainable low carbon energy system for Ireland; and
- To strive for a net zero internal carbon footprint from our own corporate operations.

In 2014, BGE became part of the global Centrica plc Group. Centrica is a leading international energy services and solutions provider. Centrica supplies energy and services to over 26.2 million customer accounts mainly in Ireland, the UK and North America through its brands including BGE, British Gas and others.

Mountside Properties Limited are shareholders in the operation of the 400 MW CCGT power plant in Tynagh, County Galway.

1.3 SITE LOCATION

The site of the proposed Baldonnell Substation is located in Profile Park, Dublin 22. This is a 100 acre (40.5 Ha) fully enclosed, private business park which has been developed to the highest of standards. It is easily accessible from the major arterial roads in the city including the M50, M7 and M4, and is served by excellent public transport links.

Within Profile Park the proposed substation will be located on greenfield lands immediately adjacent to the associated gas fired power plant, and near to the existing Digital Realty data centre. The proposed Kilcarbery Substation will be located along the western boundary of the proposed Baldonnell Substation site.

The site of the proposed substation has been identified by South Dublin County Council in its County Development Plan 2022-2028 as Zoning Objective 'EE' which is 'To provide for enterprise and employment related uses'. The siting of a power plant and proposed substation together in Profile Park would bring additional opportunity to further accommodate data centre development. In this context it should be noted that Profile Park is connected directly onto the Dublin metropolitan fibre network called the T50. The T50 is a multi-duct fibre carrying system which extends over 44 km and provides connectivity to 24 business parks and from these into the global networks through.

Existing tenants within Profile Park and the surrounding business and enterprise parks include Google, Microsoft, Digital Realty Trust, Telecity and others. Immediately adjacent to Profile Park is the Castlebaggot 110 / 220 kV substation which provides electrical transmission connectivity to the national electricity transmission grid system.

The nearest residential properties are located some 400m to the south of the site and some 450 m to the north east. Grange Castle Golf Course is located approximately 120m east of the site and Baldonnell Aerodrome 450m south of the site.

The proximity to the transmission grid, natural gas connections and local data centre development are key drivers for the siting of the gas fired power plant and associated proposed substation. The location of the proposed Baldonnell Substation is indicated on Figure 1-1 and Figure 1-2.

1.4 LAND OWNERSHIP

Greener Ideas Ltd. is the owner of the site on which the proposed substation will be located, with different ownership titles for the grid connection route.

Documentary evidence in relation to the owner's consent for the submission of the planning application for the proposed development to An Bord Pleanála has been provided with the planning application documentation.

1.5 STATUTORY CONSENT OVERVIEW

1.5.1 Proposed Baldonnell Substation Consenting Process

Under the strategic infrastructure provisions of the Planning Acts, electricity transmission development referred to in section 182A(1) is strategic infrastructure development (SID).

Section 182A (1) to (3) and subsection (9) of the Planning Acts provide as follows:

- 1) *Where a person (hereafter referred to in this section as the 'undertaker') intends to carry out development comprising or for the purposes of electricity transmission, (hereafter referred to in this section and section 182B as 'proposed development'), the undertaker shall prepare, or cause to be prepared, an application for approval of the development under section 182B and shall apply to the Board for such approval accordingly.*
- 2) *In the case of development referred to in subsection (1) which belongs to a class of development identified for the purposes of section 176, the undertaker shall prepare, or cause to be prepared, an environmental impact statement or Natura impact statement or both of those statements, as the case may be, in respect of the development.*
- 3) *The proposed development shall not be carried out unless the Board has approved it with or without modifications. [...]*

- 9) *In this section 'transmission', in relation to electricity, shall be construed in accordance with section 2(1) of the Electricity Regulation Act 1999 but, for the purposes of this section, the foregoing expression, in relation to electricity, shall also be construed as meaning the transport of electricity by means of—*
- a. *a high voltage line where the voltage would be 110 kilovolts or more, or*
 - b. *an interconnector, whether ownership of the interconnector will be vested in the undertaker or not.*

"Transmission" is defined in subsection 2(1) of the Electricity Regulation Act 1999 as follows:

"transmission", subject to section 2A, in relation to electricity, means the transport of electricity by means of a transmission system, that is to say, a system which consists, wholly or mainly, of high voltage lines and electric plant and which is used for conveying electricity from a generating station to a substation, from one generating station to another, from one substation to another or to or from any interconnector or to final customers but shall not include any such lines which the Board may, from time to time, with the approval of the Commission, specify as being part of the distribution system but shall include any interconnector owned by the Board.

"electric plant" is defined as follows:

"any plant, apparatus or appliance used for, or for purposes connected with, the generation, transmission, distribution or supply of electricity, other than—

- a) *an electric line,*
- b) *a meter used for ascertaining the quantity of electricity supplied to any premises, or*
- c) *an electrical appliance under the control of a consumer".*

The applicant entered into pre-application consultation with An Bord Pleanála in relation to the proposed 110kV electrical substation and its grid connection (Ref: ABP-312984-22). An Bord Pleanála has confirmed that the proposed Baldonnell Substation falls within the scope of section 182A of the Planning and Development Act 2000, as amended and is therefore Strategic Infrastructure Development (SID). Please refer to Appendix 1-1 for a copy of the SID Determination.

1.5.2 Gas Fired Power Plant Consenting Process

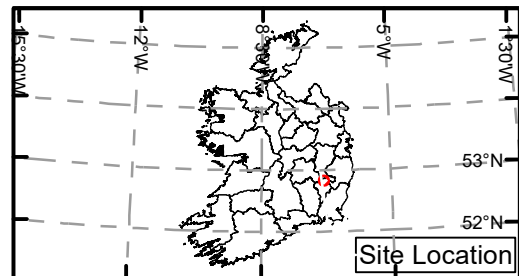
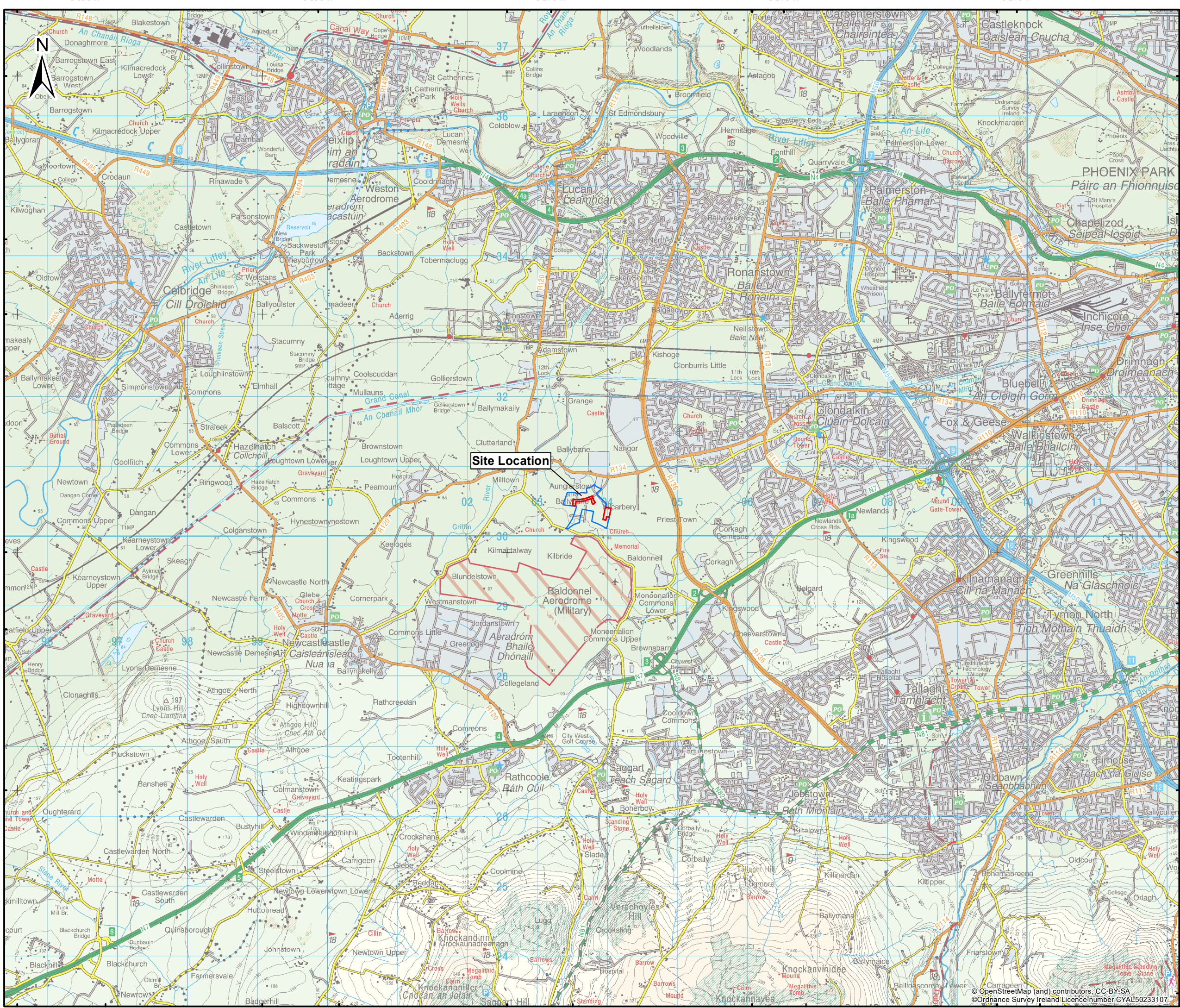
It should be noted that the associated gas fired power plant received planning permission from South Dublin County Council on the 30th of August 2022, with 17 conditions attached (Reg. Ref.: SD21A0167).

1.6 STRUCTURE OF EIA REPORT

The structure of this EIA Report is set out in Table 1-1 below:

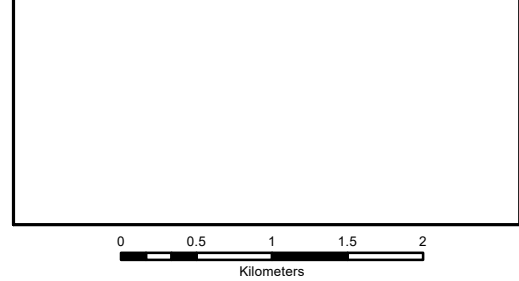
Table 1-1: Structure of EIA Report

Chapter No.	Chapter Title
1	Introduction
2	EIA Report Methodology
3	Description of Development
4	Need for the Development
5	Consideration of Alternatives
6	Planning
7	Population and Human Health
8	Land, Soils and Geology
9	Hydrology and Hydrogeology
10	Air Quality and Climate
11	Noise and Vibration
12	Biodiversity
13	Cultural Heritage
14	Landscape, Townscape and Visual
15	Traffic and Transportation
16	Material Assets
17	Major Accidents
18	Interactions of the Foregoing



Legend

- Planning Application Boundary
- Ownership Boundary



NOTES

- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
- ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
- ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
- ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd
A	23/05/2023	Final issue	S.P.	C.N.

Client:

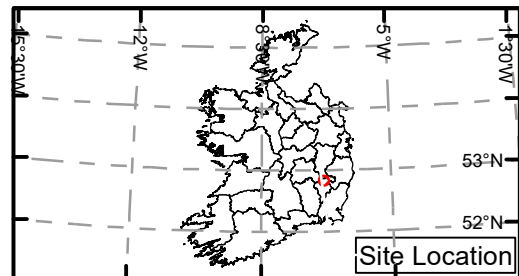
Project: Profile Park power plant - Substation Application

Title: Figure 1-1: Regional Site Location Plan

Scale @ A3: 1:50,000
 Prepared by: S.Pezzetta
 Checked by: C.Naughton
 Date: May 2023

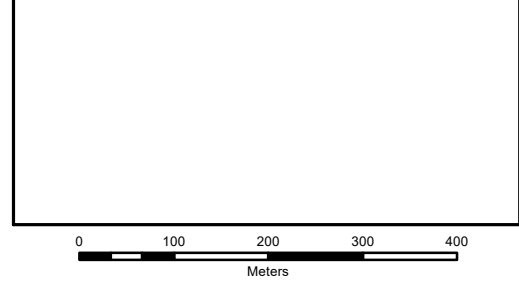
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Map Ref: 11069-001-S.BO-Reg-TOB-A
 Draft: A



Legend

- Planning Application Boundary
- Ownership Boundary



NOTES

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Rev	Date	Description	By	Chkd.
A	23/05/2023	Final issue	S.P	C.N

Client:

Project: Profile Park power plant - Substation Application

Title: Figure 1-2: Site Location Plan

Scale @ A3: 1:8,000

Prepared by: S.Pezzetta
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 Date: May 2023

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