7.0 POPULATION AND HUMAN HEALTH

7.1 INTRODUCTION

This chapter examines the existing environment and addresses the potential impacts on population and human health arising from the proposed substation in Profile Park.

The proposed 110kV electrical substation (hereafter referred to as the "Baldonnell Substation") and associated grid connection are being developed to provide a connection from the adjacent peaking power plant to the existing electricity transmission system. 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 two environmental factors of population and human health are addressed under separate headings. The assessment on population considers the current land use of the proposed substation site, the current activities occurring within and in the vicinity of the site, local population information, employment profiles and tourism.

The study area for population and human health includes review of relevant information on a county and national scale but is mainly concentrated on the Electoral Districts (ED) within which the project is located.

The potential effects of the proposed substation on other environmental factors which may also have an impact on human beings, as set out in Chapter 8 (Land, Soils and Geology); Chapter 9 (Hydrology and Hydrogeology); Chapter 10 (Air Quality and Climate); Chapter 11 (Noise and Vibration); Chapter 14 (Landscape and Visual Impact Assessment) and Chapter 15 (Traffic and Transport), are addressed in this chapter and discussed in more detail in the relevant chapters of this EIAR. A separate section setting out the likely interactions between this assessment and other technical assessments is presented in Chapter 18 (Interaction of the Foregoing).

7.1.1 Proposed Development

7.1.1.1 Substation

The proposed Baldonnell 110kV substation site measures approximately 87.75m long, 22.25m wide and will be bounded by a 2.6m high palisade fence.

The compound will house a 126m² EirGrid 110kV substation control building which will measure 14m long x 9m wide x 6.7m high and will be finished externally with scud render & float in sand, white cement plaster, nap finish. The roof of the building will consist of standard Selected Blue/Black slate finish.

Associated outdoor electrical equipment will include:

- 1 no. 110kV transformer.
- 110kV Switchgear.
- an associated internal 15kV underground cable.
- an internal access track.
- a diesel generator.
- Lightning masts* measuring 18m in height.

- Approximately 15 Light Poles** measuring 3.5m in height.
- 2 no. security cameras and poles will be installed.

The site has been designed to meet EirGrid's specifications.

Access to the substation compound will be provided via the adjacent gas fired power plant site, with 2 no. 4.9m wide access gates proposed along the eastern boundary of the proposed substation site.

*Lightning Mast Design will be subject to a lightning survey and confirmed during the detailed design stage of the project.

** Lamp Poles will be the subject of a light survey and the exact number to be provided will be confirmed during the detailed design stage of the project.

7.1.1.2 Grid Connection

The proposed grid connection will consist of underground cabling (UGC). The underground cable route exits the proposed Baldonnell 110kV Substation from the northside fence and heads in a westerly direction. The route follows the private road (Falcon Avenue) west for approximately 250m until it reaches the entrance to Barnakyle 110kV Substation. The cable then turns south to enter the Barnakyle substation through existing ducts. This section of the route is almost entirely within the road except for the crossover into the substation.

The UGC works will consist of the installation of 6 No. ducts in an excavated trench to accommodate 3 No. power cables, 2 No. fibre communications cable to allow communications between the Baldonnell and ESB Barnakyle 110kV Substation and one earth continuity conductor (ECC).

7.1.1.3 Temporary Construction Compound

A temporary construction compound will be provided approximately 185m southeast of the proposed development site. The compound will comprise of areas for temporary site offices (portacabins), staff welfare facilities, car parking, material and equipment storage and material laydown areas. Potable water, foul water and electrical connections will be provided to accommodate the above. The site of the temporary construction compound will be fully reinstated following the completion of the works.

7.1.2 Statement of Authority

This assessment has been carried out by Serena Byrne, Assistant Project Manager in TOBIN Consulting Engineers. Serena has over 11 years' multidisciplinary experience in engineering and environmental consultancy. Serena has a Master's in Environmental Sustainability from University College Dublin.

7.2 METHODOLOGY

7.2.1 General

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

- Department of Housing, Planning and Local Government (DoHPLG), Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018);

- Environmental Protection Agency (EPA), Guidelines on the Information to be contained in Environmental Impact Assessment Reports (May 2022); and
- European Commission (EC), Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (2017).

7.2.2 Population

A desktop study was carried out in order to examine relevant information pertaining to population impact assessment. Aerial photography (Google Maps / Google Earth) was used to verify descriptions and information of the local area, and inform the impact assessment.

Maps from Ordnance Survey Ireland (OSI) and the EPA (EPA Maps[1] - CORINE 2018) were used to identify current and historical land use in the area as well as relevant amenity facilities within the main settlement areas proximal to the proposed substation.

The following key information sources and guidance have been used in the completion of the population aspect of this Chapter:

- Central Statistics Office (CSO) - 2006-2016 Census and associated data;
- CSO - Census of the Population 2022 - Preliminary Results;
- Discover Ireland Website - https://www.discoverireland.ie/;
- Fáilte Ireland website - https://www.failteireland.ie/
- Fáilte Ireland, EIAR Guidelines for the Consideration of Tourism and Tourism Related Projects;
- Ireland's Visit Dublin website – https://www.visitdublin.com/
- Fáilte Ireland website information regarding Dublin;
- South Dublin County Development Plan 2022-2028;
- OSI – Mapping and aerial photography.

The effects of the proposed substation on the human environment are assessed in compliance with the EIAR Guidelines as outlined in Chapter 1 (Introduction) of this EIAR.

7.2.2.1 Employment

Information on population statistics, employment and social data for the areas surrounding the proposed substation have been obtained from the CSO and predominantly from the 2016 and 2011 Census records, and 2022 preliminary census data where available. Data has been captured on an Electoral District (ED) basis as this is the most appropriate scale for collated census data and is commonly used for defining the existing population profile. The ED within which the proposed project is located comprised the study area for this assessment.

7.2.2.2 Tourism

Information on other tourist attractions and initiatives in the area have been sourced from relevant websites, such as Discover Ireland, Visit Dublin, Tourism Ireland, those hosted by the Dublin Tourism Board and published literature.

7.2.3 Human Health

Aspects examined in this section primarily relate to impacts from the proposed development on socio-economic activities and on local community health. These two themes are discussed

[1] https://gis.epa.ie/EPAMaps/

primarily in this chapter but may be further addressed in other technical chapters, where relevant.

The following specific guidance documents have been consulted in the completion of the human health impact aspect of this Chapter:

- Institute of Environmental Management and Assessment (IEMA), Health in Environmental Impact Assessment - A Primer for a Proportionate Approach (2017);
- Institute of Public Health Ireland, Health Impact Assessment (2009);
- US Environmental Protection Agency, Health Impact Assessment Resource and Tool Compilation (September 2016);
- World Health Organisation (WHO), Environmental Noise Guidelines for the European Region (2018);
- WHO, Night-time Noise Guidelines for Europe (2009); and
- WHO, Global Air Quality Guidelines (2021).

7.2.3.1 EIA Directive

The 2014 amendment to the 2011 EIA Directive (2014/52/EU) directs that population and human health factors be assessed in an EIAR. The EIA Directive does not define the term 'human health', however the 2017 EC Guidance on the preparation of the EIAR states that *"human health is a very broad factor that would be highly project dependent. The notion of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation and decommissioning of a Project in relation to workers on the Project and surrounding population".*

7.2.3.2 EPA EIAR Guidelines (2022)

The 2022 EPA EIAR Guidelines[2] published by the EPA state that *"while no specific guidance on the meaning of the term Human Health has been issued in the context of Directive 2014/52/EU, the same term was used in the SEA Directive (2001/42/EC). The Commission's SEA Implementation Guidance states 'The notion of human health should be considered in the context of the other issues mentioned in paragraph (f)'"*. Paragraph (f) of Annex I of the SEA Directive lists the environmental factors including soils, water, landscape, air etc.)[3].

The 2022 EPA EIAR Guidelines also state that the above health assessment approach is *"consistent with the approach set out in the 2002 EPA EIS Guidelines where health was considered through assessment of the environmental pathways through which it could be affected, such as air, water or soil"*. The 2022 EPA Guidelines state *"The evaluation of effects on these pathways is carried out by reference to accepted standards (usually international) of safety in dose, exposure or risk. These standards are in turn based upon medical and scientific investigation of the direct effects on health of the individual substance, effect or risk. This practice of reliance upon limits, doses and thresholds for environmental pathways, such as air, water or soil, provides robust and reliable health protectors* [protection criteria] *for analysis relating to the environment"*.

[2] https://www.epa.ie/publications/monitoring--assessment/assessment/guidelines-on-the-information-to-be-contained-in-environmental-impact-assessment.php

[3] Implementation of Directive 2001/42 on the assessment of the effects of certain plans and programmes on the Environment - https://ec.europa.eu/environment/archives/eia/pdf/030923_sea_guidance.pdf

The 2022 EPA EIAR Guidelines also note that in an EIAR, *"the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g. under the environmental factors of air, water, soil, etc."* and that *"assessment of other health & safety issues are carried out under other EU Directives, as relevant. These may include reports prepared under the Integrated Pollution Prevention and Control, Industrial Emissions, Waste Framework, Landfill, Strategic Environmental Assessment, Seveso III, Floods or Nuclear Safety Directives. In keeping with the requirement of the amended Directive, an EIAR should take account of the results of such assessments without duplicating them".*

7.2.3.3 IEMA Discussion Document (2017)

The Institute for Environmental Management and Assessment (IEMA) in the UK issued a discussion document in 2017 (IEMA, 2017) which it describes as a primer for discussion on what a proportionate assessment of the impacts on health should be in EIA. It is a useful document when considering what can and should be assessed in the context of EIA. Regard has been given to the general approach advocated in this document when compiling this chapter.

One of the messages in the IEMA document in terms of assessing health in EIA, is that there should be a greater emphasis on health outcomes (i.e., the potential effects on human health), rather than simply the health determinants (i.e., the agents or emissions which could have the potential to have health effects). This change in emphasis does not mean a complete change in practice.

The IEMA document notes that *"public health is defined as the science and art of promoting and protecting health and well-being, preventing ill-health and prolonging life through the organised efforts of society and has three domains of practice: health protection, health improvement and improving services"*. The IEMA document suggests that these three domains should be considered in the assessment of health in EIA. Examples of health protection issues to be considered could include issues such as chemicals, radiation, health hazards, emergency response and infectious diseases whilst health improvement issues could include lifestyles, inequalities, housing, community and employment. Examples of improving services issues could include service planning, equity and efficiencies.

The WHO defined health, in its broader sense, in its 1948 constitution as *"a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity"*. Therefore, whilst the Irish EPA EIAR Guidance is useful in terms of health protection, for a more holistic assessment, as per the IEMA document, it is also worthwhile to look at broader health effects in terms of opportunities for improvement of health and for improvement of access to services. While it is important to do this, it is also important not to attribute every conceivable event as being a health effect. To further rely on the WHO definition, a health effect would be something that would have a material impact on somebody's physical, mental and social well-being, be that positive or negative.

7.2.3.4 Health Impact Assessment and Environmental Impact Assessment

The 2017 IEMA Discussion Document notes that Health Impact Assessment (HIA) and EIA are separate processes and that whilst a HIA can inform EIA practice in relation to human health, a HIA alone will not necessarily meet the EIA human health requirement. HIA is not routinely carried out for major infrastructure schemes in Ireland.

Guidance on HIA was issued by the Institute of Public Health in Ireland (IPHI) in 2009 (IPHI, 2009). There are, however, considerable difficulties in performing a HIA as outlined by the IPHI

for infrastructural projects such as the proposed development. Not least of these is the difficulty of getting baseline health data. It is quite difficult due to patient confidentiality, and other reasons, to accurately determine levels of even relatively common medical conditions in a relatively defined population that might be affected by a proposed project. In the absence of an accurate baseline, it is very difficult to assess qualitative and quantitative changes that might occur. One could use more generalised data that might exist for larger areas such as a city or county, but these would be at most an estimate of the local baseline and not accurate enough to allow for meaningful interpretation.

The 2017 IEMA Discussion document also notes that the WHO provides an overview of health in different types of impact assessment (WHO, 2014) and presents the WHO perspective on the relationship of HIA to other types of impact assessment as follows:

"The health sector, by crafting and promoting HIA, can be regarded as contributing to fragmentation among impact assessments. Given the value of impact assessments from a societal perspective, this is a risk not to be taken lightly...The need...and justification for separate HIA cannot automatically be derived from the universally accepted significance of health; rather, it should be demonstrated whether and how HIA offers a comparative advantage in terms of societal benefits...Health issues can, and need to, be included [in impact assessment] *irrespective of levels of integration. At the same time, from a civic society perspective, it would be unacceptable for HIA to weaken other impact assessments. A prudent attitude suggests optimizing the coverage of health along all three avenues*:

- *better consideration of health in existing impact assessments other than HIA;*
- *dedicated HIA; and*
- *integrated forms of impact assessment."*

It is clear, therefore, that the WHO does not support a stand-alone HIA unless it could be demonstrated to be of advantage over an EIAR. It is for these reasons that this health assessment is part of the EIAR and there is no stand-alone HIA.

The HIA is defined as a combination of procedures, methods and tools that systematically judges the potential, and sometimes unintended, effects of a policy, plan, programme or project on both the health of a population and the distribution of those effects within the population, whilst the health assessment in the context of EIA focuses the attention of the assessment on likely significant effects, i.e. on effects that are deemed likely to occur and, if they were to occur, would be expected to be significant (as per the requirements of the EIA Directive). Conducting a HIA will not necessarily meet the EIA Directive population and human health assessment requirement.

7.2.3.5 Health Protection

The assessment of human health for the proposed development, in terms of health protection, follows the approach set out in the 2022 EPA EIAR Guidelines and in the EC's Guidance on the preparation of the EIAR. It is also similar in nature to the US Environmental Protection Agency (USEPA) Guidance, entitled *Health Impact Assessment Resource and Tool Compilation (*USEPA, 2016). Human health protection is considered through the assessment of the environmental factors (pathways) through which health could be affected such as air, noise, water and soils. The USEPA Guidance includes a four-step approach which is represented graphically below.

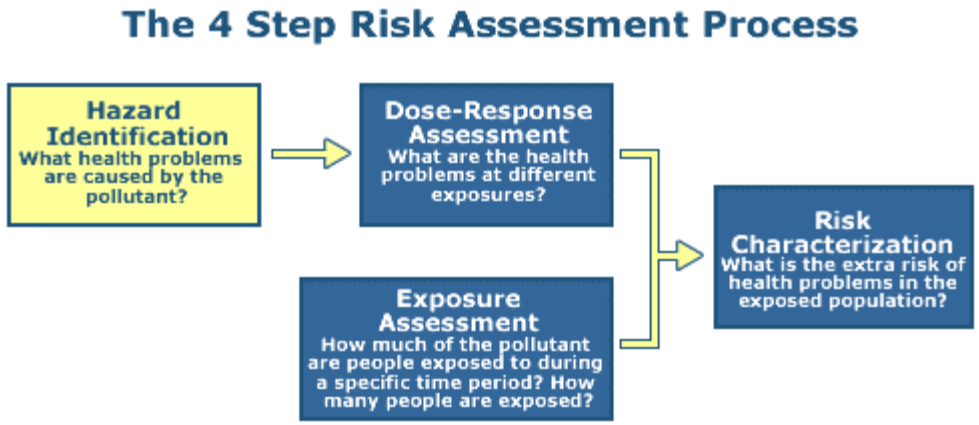

Figure 7-1: Four-step Risk Assessment Process (Source: USEPA, 2016)

This USEPA risk assessment process is similar to the Irish 2022 EPA EIAR Guidelines in that the potential noise, air, soils and water impacts which could affect human health are identified (Hazard Identification), the scale of these potential impacts (Dose-Response Assessment) and their duration (Exposure Assessment) are assessed and the significance of the potential impact on human health is determined (Risk Characterisation).

It should be noted that the identification of individual environmental hazards and the associated potential impacts and duration are undertaken in other chapters of this EIAR namely, Noise, Material Assets, and Air Quality and Climate. The associated significance in terms of the potential impact on human health is then considered in this chapter.

7.2.4 Consultation

A consultation letter on the proposed substation was sent to Fáilte Ireland on 8th December 2022. No response was received however this assessment has taken account of Fáilte Ireland's EIAR Guidelines for the Consideration of Tourism and Tourism Related Projects. The Fáilte Ireland Guidelines state that *"the character of an area from a tourism perspective should be described and the principal types of tourism in the area. Where relevant, the specific environmental resources or attributes in the existing environment which each group uses or values should be stated and where relevant, indicate the time, duration or seasonality of any of those activities".* The Guidelines also note that *"Where possible the value of the contribution of such tourism assets and activities to the local economy should be provided".*

7.3 EXISTING ENVIRONMENT

7.3.1 Population

7.3.1.1 Land Use

The site of the proposed substation is located in Profile Park, Dublin 22 which is c.3 km west of Clondalkin town centre.

Profile Park is a 100 acre (40.5 Ha) fully enclosed, private business park. 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 site of the proposed substation is greenfield. The northern boundary of the site is bounded by the internal road network within Profile Park, while the east, south, and west boundaries of the site are bordered by greenfield.

The existing Google PPK Data Centre Campus and Digital Realty Trust are located immediately to the south-west and south-east of the site respectively. The are no land use/activities on the existing site. The immediate area is predominantly commercial / industrial in nature. Outside of this, Grange Castle Golf Course is located c.250 m east of the site and Baldonnel Aerodrome c.500 m south of the site.

The nearest residential properties are located c.450 m to the south of the site and c.450 m to the north east.

The nearest primary schools to the proposed site include St. Ronan's School, Deansrath, Clondalkin, located c.1.4 km north-east, and Scoil Mochua (Primary School and Special Services) located c.1.3 km north-east. Other primary schools identified within the vicinity of the proposed substation site include:

- Talbot Senior National School, located c.2.3 km north-east;
- Nano Nagle Junior National School, located c.2.3 km north-east;
- Sacred Heart National School, located c.2.6 km east;
- St. John The Evangelist National School, Adamstown, located c.2.6 km north-west;
- Adamstown Castle Educate Together, located 2.6 km north-west;
- Esker Educate Together National School, Adamstown, located 2.6 km north-west;
- Lucan East Educate Together School, located c.2.6 km north;
- Griffeen Valley Educate Together National School, located c.3 km north;
- Lucan Community National School, located c.3.2 km north-east;
- Gaelscoil Chluain Dolcain, Clondalkin, located c. 2.9 km east.

The nearest secondary school identified within the vicinity is Deansrath Community College c.1.7 km north-east of the proposed substation site. Other secondary schools identified within the vicinity of the proposed substation site include:

- Adamstown Community College, located c.2.6 km north-west;
- Colaiste Chilliain, Clondalkin, located c.2.9 km east;
- Griffeen Community College, Lucan, located c.2.6 km north-east;
- Kishoge Community College, Lucan, located c.2.6 km north-east;
- Moyle Park College Clondalkin, located c.3 km east.

TU Tallaght (Technological University Dublin) campus is the nearest third level campus at 5.7 km south east of the site. Maynooth University Campus is located c.12.7 km north-west of the site, TU Blanchardstown is located c. 11km north-east, and a number of third level institutions are located c.12 km or further from the site in Dublin City Centre to the east, including Trinity College Dublin and TU Dublin Campuses (including Bolton Street and Grangegorman).

Public transportation available in the around the proposed site and the vicinity, and includes a Dublin Bus Route no. 68 and Nightlink Route no. 69N. The LUAS tram service (red line) serves the west Dublin area, with the nearest stop located to the south of the proposed site at City West (c.3.4 km south). The nearest Irish Rail line is situated c.2.5 km north of the site, serving Adamstown Station, c.2.8 km north-west, and Clondalkin-Fonthill Station, c.2.3 km north-east.

A number of community facilities and amenities are available in the vicinity and wider geographical area, including:

- Peamount Hospital (c.2.4 km west) , Cherry Orchard Hospital (c. 5.4 km north-east) and Tallaght University Hospital (c.5 km south-east);
- Deansrath Health Centre (c.1.5 km north-east), Nangor Medical Centre (c.2.1 km north-east), Clondalkin Medical Centre (c.2.4 km east), Primacare / Griffeen Medical Centre (c.2.9 km north), and Primacare / Citywest Medical and Dental Centre (c.3.8 km couth);
- Clondalkin Garda Station (c.3.4 km north-east), Rathcoole Garda Station (c.3.9 km south), and Tallaght Garda Station (c.5.9 km south-east);
- Tallaght Fire Station (c.4 km south-east);
- St. Ronan's Church (c. 1.5 km north-east), Sacred Heart Presbytery Church (c.2.5 km east); Church of the Transfiguration (Bawnogue) (c.2.3 km north-east), Immaculate Conception Church (c. 3 km east)and St .John's Church of Ireland (c. 3 km north-east);
- The Mill Centre (c.3.2 km north-east), Riverwalk Plaza (c.3.1 km south), and Citywest Shopping Centre (c.3.8 km south).

Further detailed description of the proposed project is provided in Chapter 3 (Description of the Proposed Development) of this EIAR.

7.3.1.2 Population Trends

An examination of the existing population in the study area has been carried out to identify population trends, density and to define the properties/receptors surrounding the proposed site.

Census data from the period 2006 – 2016 available from the CSO has been summarised in Table 7-1. The proposed substation would be located in the local authority area of South Dublin County Council (SDCC) and within the Electoral Division (ED) Clondalkin Village:

Table 7-1 Population Trends 2006-2016

Area	Population 2006	Population 2011	Population 2016	% Change from 2006 - 2016	Population 2022 (Preliminary)
State	4,239,848	4,588,252	4,761,865	+12%	5,123,536
Leinster	2,295,123	2,504,814	2,634,403	+15%	2,858,501
South Dublin	246,935	265,205	278,767	+12%	299,793
Clondalkin Village ED (03010)	8,718	8,492	9,152	+5%	9,430

During the period of 2006 to 2016, the population increased nationally by approximately 12% with the population of South Dublin County increasing by 12%. During this time, the population of Clondalkin Village ED increased by 5%, which represents an increase of 434 persons for the area. This illustrates that the population of the local area is increasing at a slower rate than rates at county, regional and national level.

Population density measures the number of persons occupying a geographical area in proportion to the size of that area. It is a useful indicator of settlement patterns in the area surrounding the proposed project and South Dublin County overall.

Table 7-2 Population Density 2016 Census

Area	Population Density 2016 (persons/km^2)
South Dublin County	1251.53
Clondalkin Village ED	57.56*

Table 7-2 shows population density (Census 2016) for the study area as well as SDCC and shows generally sparser population in the study area compared with the overall county.

Census 2022- Preliminary Results

The first publication by the Central Statistics Office (CSO) providing insights into Ireland's Census of Population and housing figures for 2022 was published in June 2022. This publication of the preliminary results is the first release in a series of results that will be published of the Census 2022. The main results will be published over several months, which the CSO states will begin from the end of May 2023.

The preliminary results indicate that the population of Ireland as of Census Night 2022 (Sunday 3rd of April 2022) was 5,123,536 persons; this population result is the first time in over 170 years (since 1841) that a census has recorded a population in Ireland of over 5 million people. The population increased by 361,671 persons (8%) since the previous census (April 2016), with an average annual population increase of 1.2% a year since 2016. The key findings of the preliminary results in terms of population growth are:

- Between 2016 and 2022 population growth occurred in every county;
- The population increase (361,671 persons) comprises a natural increase of 171,338 persons and an estimated net inward migration of 190,333 persons;
- Between 2016 and 2022 Ireland's housing stock increased by more than 120,000 units (6%) to over 2.1 million. This represents a marked increase compared to the intercensal period between 2011 and 2016 where housing stock increased by less than 1% (8,800);
- The number of occupied households increased by over 9% (150,000), while the number of vacant dwellings decreased by over 16,500 (-9%), from 183,312 in 2016 to 166,752 in 2022;
- In 2022, at a State level the census vacancy rate has decreased to less than 8%, down from over 9% in 2016, and 12% in 2011;
- The preliminary results indicate that the sex ratio has declined to the lowest level since 1871. A decline from 97.8 to 97.5 was experienced between 2016 and 2022.

The preliminary results for the 2022 Census indicate that the Dublin Region has seen a 7.7% increase in population since the previous 2016 Census.

In terms of statistics relating to local level, Electoral Divisions (EDs) are the most detailed administrative areas published for these preliminary census results. Of the 3,409 EDs in Ireland, 60 showed population increases of +30%, while a further 128 EDs showed increases between 20% and 30%. However, the population decreased in 17% of EDs (576) with 34 EDs recording decreases of over 10%, and 34 EDs (1% of EDs) had no change in population. The population for

the Clondalkin Village ED (03010), as of the 2022 Census preliminary results[4], stood at 9,430 people, an increase of 3% since 2016.

Table 7-3 Population Trends 2016 to 2022 (Preliminary Results)

Area	Population 2016	Population 2022 (Preliminary)	% Change from 2016 -2022
State	4,761,865	5,123,536	8%
Leinster	2,634,403	2,858,501	9%
South Dublin	278,767	299,793	8%
Clondalkin Village ED (03010)	9,152	9,430	3%

7.3.1.3 Property Receptors

The locations of properties and buildings (referred to as receptors) in the vicinity of the proposed substation have been identified using address data from the GeoDirectory database which is used to populate Eircodes. The validity of the GeoDirectory data has been confirmed by way of publicly available mapping, aerial imagery, and street-level imagery. All receptors within 1 km of the proposed site boundary have been identified and used to inform assessments within this EIAR.

Approximately 130 no. property receptors were identified within 1 km of the proposed substation location from the GeoDirectory database (January, 2023). The locations of these receptors in relation to the proposed substation are shown in Figure 7-2 below.

[4] https://www.cso.ie/en/releasesandpublications/ep/p-cpr/censusofpopulation2022-preliminaryresults/geographicchanges/#:~:text=Population%20growth%20across%20all%20counties,(%2B11%25%20in%20each).

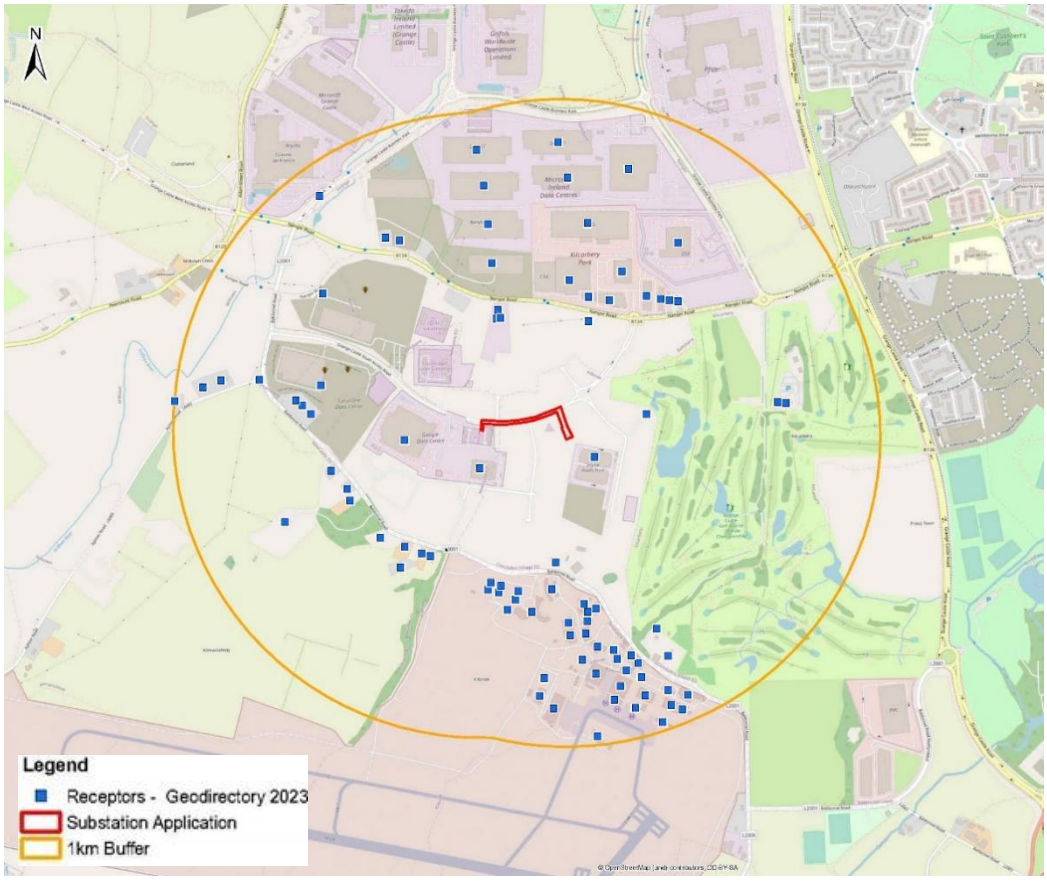

Figure 7-2: Property Receptors identified within 1 km of the proposed substation (GeoDirectory, 2023)

A review of this data using aerial photography indicates that the majority of these property receptors are present along the local road network to the north, south and west of the proposed substation location. To the south, the highest volume of properties are present along the sections of the Baldonnel Road (L2001) and Aylmer Road (L6003) which lie within the 1 km buffer. This includes a number of individual residential properties (a number with a commercial element), a creche, Baldonnel House & Orchard, and Kilbride House.

Approximately 30 of the identified sensitive property receptors present just off Baldonnel Road (L2001) are situated within Casement Aerodrome (Baldonnel). From a review of GeoDirectory data and aerial photography the properties appear to comprise a mix of buildings (accommodation and operations), infrastructure, and facilities associated with Defence Force and Garda operations at the Aerodrome. There is evidence of agricultural buildings/sheds in the lands along Baldonnel Road (L2001).

Table 7-4 Property Receptors within 1 km of the Proposed Substation

Property Receptor	Count
All	130
Non-Sensitive Receptors (Commercial / Industrial)	63
Sensitive Receptors (Dwellings / Aerodrome / Church / Golf Club)	67

Properties are present along Nangor Road (R134) to the north of the proposed substation, these are typically industrial and commercial in nature and include properties within Kilcarbery Park and the Microsoft Data Centres. A number of sensitive receptors are present along or off the Nangor Road (R134), including apartments, a number of individual residential properties (a number with a commercial element), and Grangecastle Golf Course and Kilcarberry House.

7.3.1.4 Property Values

Data available from the CSO on property values is presented in terms of Eircode Routing Key areas. The proposed site is located within Eircode Routing Key Area of Dublin 22.

In May 2023, the CSO published the Residential Property Price Index (RPPI) data for the 12-months to March 2023[5]. The latest RPPI data release shows that overall residential property prices rose by 3.9% nationally in the 12-months to March 2023, a change of -0.6%on the previous CSO RPPI release for February 2023. Overall, property prices in Dublin increased by 1.7%, with a 1.6% rise in terms of houses, and 2.1% for apartments. The highest house price growth in the Dublin region was in South Dublin (6.9%). Dublin City saw a decline of 1.2%.

Outside of Dublin, property prices outside increased by 5.7% on the same period a year earlier; house prices increased by 5.9% and apartment prices grew by 2.6%. Beyond the Dublin region, the greatest increase in house prices was in the Border region (Cavan, Donegal, Leitrim, Monaghan, Sligo) at 8.4%, compared to the Mid-West region (Clare, Limerick, Tipperary) which experienced a 2.8% increase.

Nationally, the lowest median price paid for a dwelling was in County Longford at €154,000, and the highest in Dún Laoghaire-Rathdown, County Dublin at €635,000. The RPPI currently shows that the national median price for a dwelling purchased in the 12-months to December 2022 was €310,000[6]. The CSO states the most expensive Eircode area over the 12-months to March 2023 according to the RPPI was A94 'Blackrock' (median price of €750,000), while F35 'Ballyhaunis' was the least expensive (median price of €126,000).

7.3.1.5 Employment and Economy

Employment is an important indicator of the economic situation of an area or region. This section examines employment status and unemployment levels in the region of the proposed substation. The Labour Force Survey undertaken by the CSO, in accordance with standard International Labour Organisation (ILO) criteria, and provides details of unemployment on a regional level. As the site is located in the Dublin Region (IE061 (EU NUTS3 Region))[7] data for this region is used to illustrate unemployment in the area. The findings from the Q1 2023 Labour Force Survey (latest available data) published by the CSO[8] are outlined in the following sections.

The first case of Covid-19 was reported in Ireland at the end of February 2020 and measures required in accordance with the public health guidance were introduced on 12 March 2020. As a result, the Labour Force Survey statistics from Q1 2020 to present (Q1 2023) are affected by the crisis. Therefore, over the past three years employment figures have fluctuated since the

[5]https://www.cso.ie/en/releasesandpublications/ep/p-rppi/residentialpropertypriceindexmarch2023/ (Accessed on 26 May 2023)
[6] https://visual.cso.ie/?body=entity/rppi (Accessed on 26 May 2023)
[7] https://ec.europa.eu/eurostat/web/nuts/nuts-maps - NUTS 3 – Nomenclature of Territorial Units for Statistics (NUTS) created by Eurostat.
[8] https://www.cso.ie/en/releasesandpublications/ep/p-lfs/labourforcesurveyquarter12023/ (Accessed on 26 May 2023)

beginning of the Pandemic due to public health measures including lockdowns and business closures.

Nationally, there were 2,608,500 persons (aged 15-89) in employment in Q1 2023, an increase of 102,700 or +4.1% over the year from Q1 2022 (2,505,800 persons), and an increase of 377,900 persons or +17% on the same period in 2021 (2,230,600 persons); this shows national employment is increasing as Ireland recovers after the Pandemic.

In the Dublin Region, there were 785,800 persons (aged 15-89) in employment in Q1 2023, an increase of 23,000 persons or +3% over the year from Q1 2022 (762,800 persons); this shows that there has been a marginal increase in the Dublin Region over the 2022-2023 period, in line with the national trend which has indicated an increase nationally.

The unemployment rate in Table 7-5 is the number of unemployed persons expressed as a percentage of the total labour force (aged 15-74). The unemployment rate for the State in Q1 2023 was 4.1%, while the unemployment rate for the Dublin Region (in Q1 2023) was 5.1%, marginally above (1%) that of the State.

Nationally, the number of persons aged 15-74 years who were unemployed decreased by 16,000 (-13%) to 110,700 in the year to Q4 2022. The unemployment rate for persons aged 15-74 years decreased from 4.8% to 4.1% over the year to Q1 2023.

Unemployment decreased nationally by 6,100 (-9%) for males to 62,700 in the year to Q1 2023 compared with a decrease of 10,000 (-17%) to 48,000 for females over the same period.

The unemployment rate for males was 4.4% in Q1 2023 down from 5.0% a year earlier while the corresponding rate for females was 3.8%, down from 4.7% in Q1 2022.

The unemployment rate (Persons aged 15-74) in the Dublin Region decreased from 5.8% to 5.1% over the year period from Q1 2022 to Q1 2023.

There were 2,719,100, persons aged 15-89 years in the labour force in Q1 2023. This represented an increase of 86,600 or 3% over the year from Q1 2022. In the Dublin Region, 827,600 persons aged 15-89 were in the labour force in Q1 2023; this is an increase of 18,300 persons on the same period in 2022.

The participation rate is the number of persons available to the labour force (i.e. persons from 15-74 years old either working or looking for work) expressed as a percentage of the total population. In Q1 2023, the participation rate in the State was 64.9% compared with 68.4% in the Dublin Region; this demonstrates that the participation rate in the Dublin Region is higher than the current trend nationally.

Table 7-5 Labour Force Survey (Q1 2023)

Location	Unemployment Rate	Participation Rate
State	4.1%	64.9%
Dublin Region (IE061)	5.1%	68.4%

The CSO also publishes figures relating to the Live Register. These figures are not strictly a measure of unemployment as they include persons who are legitimately working part-time and signing on part-time. However, the Register can be used to provide an overall trend within an

area. All counties saw an increase in the number of persons on the Live Register in the 12-months to April 2023; 44,595 persons were on the Live Register in the Dublin Region in April 2023. The figures in Table 7-6 show that over the 12-month period of April 2022 – April 2023, there was an 1.13% increase in the number of persons on the Live Register[9] in the State as a whole, and a 6.45% increase in the number of persons on the Live Register in the Dublin Region.

Table 7-6 Live Register Figures (April 2022 – April 2023)

Location	April 2022	April 2023	% Change
State	177,004	179,001	+1.13%
Dublin Region (IE061)	47,668	44,595	-6.45%

Chapter 9 of the SDCC Development Plan 2022-2028 sets out the Economic Development and Employment Policy Objectives for South Dublin to facilitate and support economic growth in an environmentally sustainable manner. Chapter 9 of the SDCC CDP sets out *"a broad spatial framework for enterprise and employment including the retail strategy for the County. Potential growth sectors are identified, and policies are included to encourage more labour-intensive sectors, promoting compact growth in appropriate locations, while recognising the need for a broad based, inclusive, and resilient economy within the County".*

The vision of the SDCC CDP in terms of economic development and employment is: *"The creation of a strong and resilient economic base providing expanded opportunities for employment and facilitating a good quality of life within vibrant and attractive places to live, work, visit and invest".*

Some of the overarching policy objectives identified in the SDCC Development Plan (2022-2028) in support of the above:

- Policy EDE1: *Overarching Support sustainable enterprise and employment growth in South Dublin County recognising the County's role in the Dublin region as a driver of economic growth.*
- EDE1 Objective 1: *To enable a strong, inclusive and resilient economy, supported by enterprise, innovation and skills through the creation of places that can foster enterprise and innovation and attract investment and talent, consistent with National Strategic Outcomes 4, 5 and 6 of the NPF.*
- EDE1 Objective 2: *To develop and support the Dublin Metropolitan Area Strategic Plan (MASP) through growth in the identified strategic development and employment areas of South Dublin County, as part of the growth of the Dublin Region to a sufficient scale and quality to compete internationally and to be drivers of national and regional growth, investment, and prosperity consistent with NSO 5 of the NPF.*
- EDE1 Objective 3: *To ensure that there is a sufficient supply of zoned and serviced lands at suitable locations to accommodate a range of enterprise and employment development types and to promote compact growth by strengthening the integration between employment, housing and transportation.*
- EDE1 Objective 4: *To support the implementation of the RSES Economic Strategy to create economic opportunity to diversify local and rural economies and create quality jobs, to achieve a sustainable, competitive, inclusive, and resilient region, through the promotion of:*
    - *Smart Specialisation for industry, enterprise agencies, Higher Institutes of Education, communities, and stakeholders;*

[9]https://www.cso.ie/en/releasesandpublications/ep/p-lr/liveregisterapril2023/ (Accessed 26 May 2023)

- *Clustering: Create, maintain, or upgrade economic strongholds in a favourable business ecosystem;*
- *Orderly Growth reflecting the identified strategic employment locations within the County;*
- *A broad, resilient, economic base.*

- EDE1 Objective 5: *To support the implementation of the Metropolitan Area Strategic Plan to support the objectives for the South - West Corridor and the area within the M50 by the:*
  - *Promotion of high tech, manufacturing and research and development in Grange Castle Business Park and Citywest;*
  - *Intensification of industrial lands and mixed-use development at the City Edge / City Edge Strategic Framework area and in Tallaght Town Centre / Cookstown while ensuring, to the greatest extent possible, the sustainability of existing businesses and employment.*
- EDE1 Objective 6: *To ensure that economic and enterprise related development is provided in a manner which facilitates a reduction in greenhouse gas emissions by supporting and promoting the following measures:*
  - *An increase in employment densities within walkable distances of communities and on public transport routes;*
  - *Promotion of walking and cycling and use of public transport through increased permeability and mobility management measures within and outside employment areas;*
  - *The sourcing of power from district heating and renewables including wind, hydro and solar;*
  - *Additional native tree planting and landscaping on existing and proposed enterprise zones and development sites to aid with carbon sequestration, contribute to the green infrastructure network of the County and promote quality placemaking.*
- EDE1 Objective 7: *To ensure a co-ordinated approach to policy and objectives contained within the County Development Plan and the Local Economic and Community Plan.*

The SDCC CDP 2022-2028 recognises that policies and objectives of the Development Plan must be consistent with national and regional planning policy as set out in the National Planning Framework (2018) (NPF) and the Regional Spatial and Economic Strategy (2019) (RSES). The NPF National Strategic Outcome 5 seeks *"a strong economy for the country supported by enterprise, innovation, and skills"*. The SDCC CDP recognises that this depends on creating places that can encourage enterprise and innovation, as well as attract investment and talent.

7.3.1.6 Tourism

The area surrounding the proposed site is characterised by industrial land uses and activity. Tourism therefore is not present within the immediate vicinity of the site. Notwithstanding this, it is helpful to understand the site within a national, regional and county wide context.

National Tourism Development Authority (Fáilte Ireland) periodically collates statistics on overseas visitors to Ireland and regions within the country. Table 7-7 shows the most recent

overseas tourism statistics from 2018[10] and 2019[11] for the country and the Dublin region, which includes SDCC.

Table 7-7 Overseas Tourism Statistics (2018 & 2019)

Location Travelled To	Tourist No.s	Revenue Generated
Ireland (2019)	9.7 million	€5.17 billion
Dublin Region (2019)	6.6 million	€2.21 billion
Ireland (2018)	9.6 million	€5.21 billion
Dublin Region (2018)	6.3 million	€2.09 billion

Fáilte Ireland statistics show that County Dublin (of which SDCC is part of) attracted 6,309,000 overseas visitors, with associated revenue generation of €2.09 billion, in 2018, and 6,644,000 overseas visitors, with associated revenue generation of €2.21 billion, in 2019.

In relation to domestic tourism (tourism involving residents of one country traveling only within that country), the Fáilte Ireland 2018 data reports 10.9 million domestic trips in 2018 (+13% on 2017 trips), and 11.6 million domestic trips in 2019 (+6.4% on 2018 trips). Typically, the majority of these domestic trips were recorded as short (1-3 days) holiday trips, with trips to visit friends/relatives reported highest as the purpose of travel for all domestic trips. Most of these trips are shown to occur in the late summer period (July-September) with the majority of domestic holidaymakers engaging in hiking/walking. Fáilte Ireland statistics show that County Dublin supported 1,700,000 and 1,763,000 domestic trips in 2018 and 2019 respectively.

To enhance visitor experiences across the whole of county Dublin, Fáilte Ireland has launched a tourism initiative and website called Visit Dublin[12] to provide comprehensive information on attractions and events across the area.

SDCC seek to support and facilitate the development of the County's tourism and leisure sector. The county enjoys a variety of natural, cultural and built heritage resources with the South Dublin Tourism Strategy 2015[13] identifying a range of actions to develop tourist products. Furthermore, Destination Dublin, A Collective Strategy for Tourist Growth to 2020 was developed to aid development of the tourist product. Some of the attractions within the vicinity of the proposed site are:

- Grange Castle Golf Course is the closest tourist attraction to the proposed substation; Located approximately c.221 m south east of the site, the course is owned by SDCC;
- Corkagh Park is located c.1.28 km south east of the proposed site, it encompasses c.120 hectares and originally formed part of a manor house and estate;
- Camac Valley Tourist: Caravan & Camping Park is located c.1.7 km south east of the proposed site, within the Corkagh Park demesne;
- Clondalkin Round Tower is located c.3.23 km north east of the proposed substation. The tower, built on the site of a monastery, dates back to the 7th century and is one of only four remaining round towers in Dublin;

[10] Key Tourism Facts 2018 Failte Ireland Research (December, 2019) available at: https://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/Key-Tourism-Facts-2018.pdf?ext=.pdf
[11] Key Tourism Facts 2019 Failte Ireland Research (March, 2021) available at: https://www.failteireland.ie/FailteIreland/media/WebsiteStructure/Documents/3_Research_Insights/4_Visitor_Insights/KeyTourismFacts_2019.pdf?ext=.pdf
[12] https://www.visitdublin.com/
[13] https://www.sdcc.ie/en/services/sport-and-recreation/tourism/south-dublin-tourism-strategy/

- The leading attraction in the vicinity of the proposed substation is the Dublin Mountains Park, which is located c.5.24 km to the south. This area provides high quality recreation amenity and experience for both domestic and overseas visitors.

The SDCC CDP 2022-2028 (Section 9.9) sets out policy and objectives related to Tourism and Leisure including:

- Policy EDE19 regarding Tourism Infrastructure: *Support the development of a sustainable tourism industry that recognises the recreational and tourism potential of the County, building on the actions in the South Dublin County Tourism Strategy, 2015 or any superseding strategy.*
    - EDE19 Objective 1: *To support the development of tourism infrastructure, attractions, activities, accommodation and facilities at appropriate locations subject to sensitive design and demonstrated environmental safeguards.*
    - EDE19 Objective 2: *To primarily direct tourist facilities into established centres, in particular town and village centres, where they can contribute to the wider economic vitality of urban centres.*
    - EDE19 Objective 5: *To continue to engage and collaborate with tourism stakeholders including Fáilte Ireland to deliver on the Tourism objectives for the County.*

7.3.2 Human Health

Evidence shows that different communities have varying susceptibilities to health effects both positive and negative as a result of social and demographic structure, behaviour and relative economic circumstance. Whilst specific health data for individuals in the vicinity of the proposed substation is confidential and difficult to establish, a community profile has been identified to establish the baseline health profile of the area and compare this profile to the rest of the country.

CSO Irish Health Survey 2020

In 2020, the Central Statistics Office (CSO) published its second "Irish Health Survey"[14], the data for which was collected in 2019 and early 2020. The first survey was collected for reference year 2015. This publication is part of an EU wide health survey and as other EU countries report on their data, it will be possible to compare how the Irish health experience compares to that of our EU neighbours. Some key findings of the survey included:

- *"Affluent people are more likely to feel their health status is Very good or good than people who are disadvantaged - 92% of Very affluent persons compared to 78% of persons who are Very disadvantaged;*
- *Over a quarter of persons aged 15 years and over report having a long lasting condition, with older persons reporting higher levels;*
- *Majority of persons (82%) report no limitations in everyday activities due to a health problem;*
- *Over a fifth (21%) of Unemployed persons report some form of mental ill-health compared to 9% of those in employment;*
- *Prevalence of hospital in-patient admissions rises with age and disadvantage level;*
- *In general, females and older people more likely to use a preventive health service;*

[14] https://www.cso.ie/en/releasesandpublications/ep/p-ihsmr/irishhealthsurvey2019-mainresults/introductionandkeyfindings/

- *Physical activity declines with age and relative disadvantage level;*
- *Younger persons more likely to drink 6 or more units of alcohol in one sitting; and*
- *Over half of persons aged 15 years and over in the State are overweight or obese" (CSO 2020).*

The Census 2016[15] responses regarding general health[16] found that 87% of the Ireland's population felt they had 'Very Good' or 'Good' health, down slightly from 2011 when it was 88.3%. Nearly six in ten or 59.5% of men felt their health was 'Very Good', compared with 59.3% of women. The census results also clearly show the decline in general health with age, with 79% of 15-19 year olds in 'Very Good' health, compared with those aged 40-44 (58.6%) and 65 to 69 (31.3%). Census 2016 responses for Longford indicated the percentage of persons with 'Very Good' and 'Good' health was 85.3% (17,577 Males / 17,278 Females), while 9.7% indicated they were in 'Fair' health (1,983 Males / 2,002 Females), and 2.1% (399 Males / 440 Females) indicated they were in 'Bad' to 'Very Bad' health; 2.9% of respondents did not state the status of their general health. The 2016 census also indicated that there are 5,916 (2,922 Males / 2,994 Females) with disabilities living in Longford, and that there are 1,760 (747 Males / 1,013 Females) carers in the County.

Healthy Ireland Survey 2022

In December 2022, the Government released it's Healthy Ireland Survey Summary Report[17]. This is an interviewer-administered survey, commissioned by the Department of Health and carried out by Ipsos, of the health and health behaviours of people living in Ireland. The Survey has been undertaken since 2015, however, due to the COVID-19 pandemic it was not possible to complete the 2020 survey. The Survey is a key component of the 'Healthy Ireland Framework' and informs the Healthy Ireland Strategic Action Plan, by contributing to the research, monitoring and evaluation required to assess the impact of policy implementation. Approximately 7,500 individuals representative of the population aged 15 and older are surveyed. The Survey covers a variety of health-related topics, including; general health, alcohol, smoking, weight, dental, female health, skin protection, and mental health.

In terms of General Health, respondents were asked to rate their health on a 5-point scale from 'very good' to 'very bad'. Overall, 82% of respondents perceived their health as 'good' or 'very good', which is a 2-point decline since 2021. 83% of men and 81% of women rated their health as 'good' or 'very good'. Overall, 3% of respondents perceived their health as 'bad' or 'very bad'. General 'good' health decreases with age, with 92% of 15–24-year-olds rating their health as 'good' or 'very good', in contrast to 64% of respondents aged 65 and older. The Survey notes that those with Leaving Certificate education or higher are considerably more likely to report themselves as being in good health than those who did not attain a Leaving Certificate (87% and 69% respectively). Employment status is also stated as indicative of self-reported health, with those who are employed (90%) or students (91%) significantly more likely to report good health than those who are unemployed (76%).

With regard to the occurrence of health conditions, the Survey results indicate that 31% have a long-standing illness or health problem, lasting at least 6 months or longer; females are more likely than males to report long-standing health conditions (34% and 28% respectively); and respondents aged 65 and older (53%) are considerably more likely to report a long-standing illness or health problem than those aged under 45 (18%). Furthermore, based on a list of 25 of the most common conditions, respondents were asked to report whether they had been

[15] https://www.cso.ie/en/csolatestnews/presspages/2017/census2016profile9-healthdisabilityandcarers/
[16] https://www.cso.ie/en/statistics/health/
[17] https://www.gov.ie/en/publication/f9e67-healthy-ireland-survey-2022/

medically diagnosed with a long-term illness. Of the responses, high blood pressure (7%), diabetes (5%), arthritis (5%), asthma (4%), psychiatric diagnoses (such as anxiety or depression) (3%), and high cholesterol (3%) were the most common conditions reported by respondents.

South Dublin County Council Area Health Profile

A group made up of the Health Services Executive (HSE) and the Irish Health Repository (IHP), known as Lenus, have published separate health profiles for all the Local Authorities areas in Ireland. The most recent County Health Profiles published are from 2015[18] (Lenus, 2015) and have been used to establish a community health profile for SDCC in which the proposed substation is situated.

The key facts in the 2015 Health Profile relating to SDCC are:

- The proportion of the population for the area are aged over 65 years is 8.7%, which is considered low when compared with the national rate of 11.7%;
- The South Dublin area has the highest rate of lone parent households (2.9% higher than the national rate) and an above average number of households which are local authority rented;
- Average birth rate for the South Dublin area is 18.8%, which is above average when compared to the national rate of 15.8 %;
- Cancer incidence rates for certain cancers (male colorectal cancer, female malignant melanoma, and male and female lung cancers) are above the national average;
- Mortality rates are also above the national average for heart disease and stroke in those aged under 65 years.

It is important to note when viewing these figures that they relate to the entire administrative area of SDCC and a population of 265,205 in the 2011 Census. While the published data can be taken as being correct, it may not necessarily accurately reflect the health profile of smaller areas which are within the study area and close to the proposed substation.

The map of deprivation included in the County Health Profile shows that SDCC experiences higher levels of Disadvantage when compared with levels of the nation overall as shown in Figure 7-3 below.

[18] https://www.hse.ie/eng/services/list/5/publichealth/publichealthdepts/pub/profiles.html (Accessed 14 March 2023)

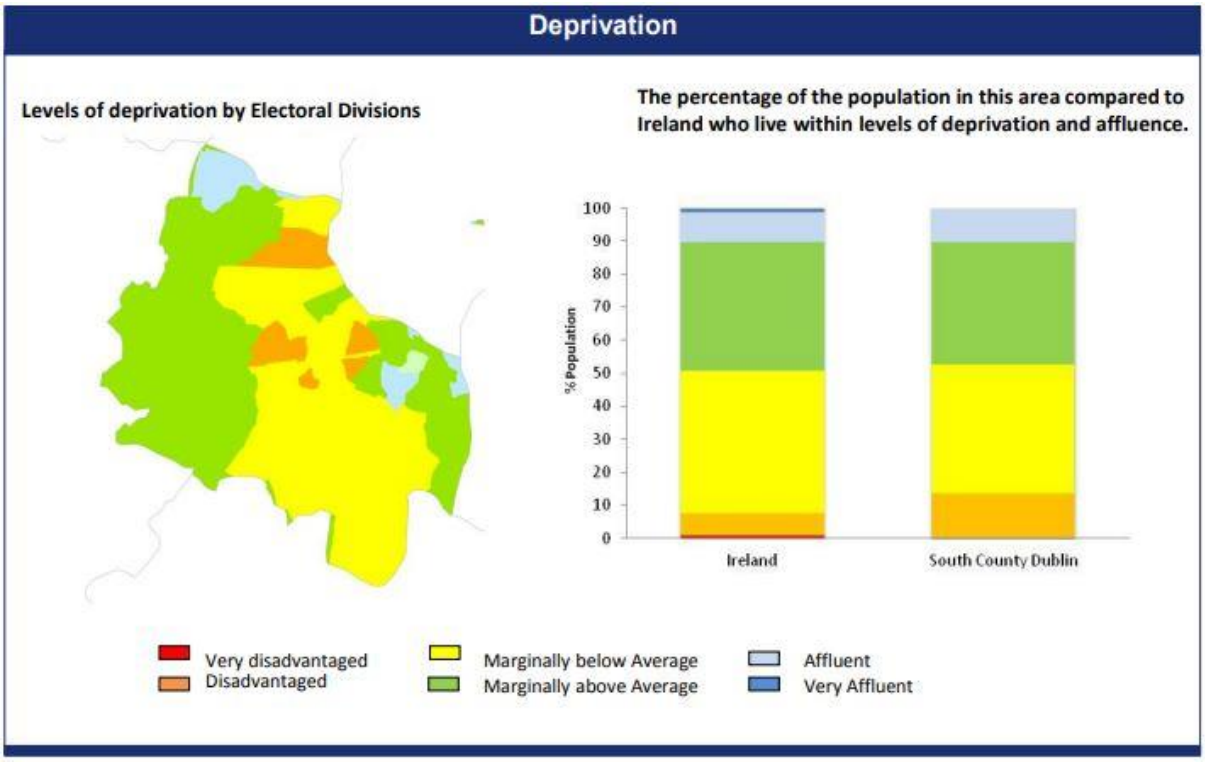

Figure 7-3 - Map indicating Deprivation Levels in South County Dublin (HSE 2015 Health Profile for South Dublin)

Pobal[19] the organisation for administering and managing Government and EU funding to address disadvantage and support social inclusion provides a Deprivation Indices for Ireland, which can be accessed and viewed online[20], with data available regarding deprivation levels at small area statistics and electoral division levels. According to the Pobal Deprivation Index for the ED of Clondalkin Village deprivation is 'marginally above average' based on 2016 CSO data.

As outlined previously, it is not possible or necessary to identify every vulnerable individual. However, every human community contains vulnerable individuals; be those the old, the very young or because they have conditions which may make them more susceptible. Examples are diverse and can include asthma, autism, and those with psychological illness. It is important to note that Health Standards are set for the vulnerable and not for the robust.

The emergence of the Covid-19 virus in Ireland in the early part of 2020 has presented a new human health risk and concern amongst the general public across the country and within the proposed substation study area. The medium to long term effects of the virus on national and local human health is not currently known. In May 2023, the WHO announced that it had determined that COVID-19 is now an established and ongoing health issue which no longer constitutes a public health emergency of international concern (PHEIC)[21].

[19] Pobal administers and manages Government and EU funding to address disadvantage and support social inclusion / Pobal works on behalf of Government to support communities and local agencies toward achieving social inclusion and development - https://www.pobal.ie/

[20] Pobal Deprivation Indices web viewer - https://maps.pobal.ie/WebApps/DeprivationIndices/index.html

[21] Statement on the fifteenth meeting of the IHR (2005) Emergency Committee on the COVID-19 pandemic - https://www.who.int/news/item/05-05-2023-statement-on-the-fifteenth-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-coronavirus-disease-(covid-19)-pandemic (Accessed 26 May 2023)

7.4 ASSESSMENT OF SIGNIFICANT EFFECTS ON POPULATION

7.4.1 Do Nothing Effects

Under a Do-Nothing Scenario, the existing lands would remain unchanged as a greenfield site. As such there would be no emissions generated from the construction or operation of the proposed substation or potential effect associated with noise, vibration, air, visual or traffic. The opportunities for local employment and additional economical spend from the construction and operation of the proposed substation would not be realised.

7.4.2 Construction Phase

7.4.2.1 Land Use

As set out Section 3.4.1, Chapter 3, of the EIAR, it is expected that construction will commence in 2023 with design, construction, and commissioning activities lasting for approximately 12 months. The proposed Baldonnell 100kV substation is expected to become fully operational, along with the gas fired power plant , which is currently expected to be operational in 2024, subject to timely receipt of the necessary statutory consents.

The total number of construction staff on-site will vary during the construction phase of the works but are expected to peak at approximately 20 persons per day.

7.4.2.2 Population Trends

It is anticipated that there would be a positive direct effect on local population trends as a result of the construction of the proposed substation. Employment generation is considered to involve 20 persons during peak activities on site and this short-term increase in employment may also result in a short-term increased need for accommodation locally. This short-term positive effect will add value to the local economy. Otherwise, the construction of the proposed substation would not result in any permanent change to local population trends within the area or across SDCC. There will be a short-term and imperceptible effect on population.

7.4.2.3 Property Receptors

Access to the proposed substation site will be provided via the adjacent gas fired power plant site. The adjacent gas fired power plant site is accessed via an entrance off the existing industrial estate roadway, with access to the Profile Park industrial estate provided north of the site via the R134 (New Nangor Road).

The potential traffic effects are discussed in detail in Chapter 15 (Traffic and Transportation) of this EIAR.

Negative effects on the local population as well as residential properties as a result of construction work, including construction related traffic movements, could impact on noise and air quality. In addition, there is potential for works to impact local residential amenity, i.e., a resident's enjoyment of their home.

The delivery of construction equipment and materials is proposed via existing public roads, which are currently used by heavy goods vehicles (HGV)s. As a result, there will be a short-term increase in traffic related effects during the construction phase. These effects are assessed in detail in the Chapter 10 (Air Quality and Climate) and Chapter 11 (Noise and Vibration) of this EIAR.

It is considered that any negative effects arising during construction will be slight and short term in nature. In addition, it should be noted that properties located along the R134 (New Nangor Road), which will experience an increase in construction traffic movements are located at a distance from the proposed substation site, with the nearest residential dwellings in the area surrounding the proposed development located c.400 m or further from the site.

7.4.2.4 Property Value

The construction works for the proposed substation will not have any impact on the local property values. Profile Park and its surrounding business parks are zoned for 'Employment and Industry' and there is significant construction being undertaken in this area with no evidence of a reduction in house prices arising from this construction activity. The effect on property value will be neutral.

7.4.2.5 Employment/Economy

The proposed substation will lead to the support and creation of direct and indirect employment during construction. At a local level, employment will rise due to the staff required on site. At a regional and national level, employment will be created through specialised construction services as well as through the supply of building equipment and materials. It is anticipated that the proposed substation will have the following effects locally:

- Increased generation of development activities such as site monitoring/surveys, site investigations, legal fees, consultancy studies during pre-construction and construction works, etc.;
- Increased spending locally by construction employees; and
- Increased demand for local accommodation and sustenance will be required for workers on site.

As a result, the construction phase of the proposed substation will have a short-term, slight positive effect on employment and economy in the local area.

7.4.2.6 Tourism

There are a number of tourism attractions and public amenities within the study area including the Grange Castle Golf Course, Corkage Park, Clondalkin Round Tower, and the Dublin Mountains Park. Due to its location and distance from tourist amenities, is not considered that construction work for the proposed substation will have any direct or negative impact on tourist amenities. Furthermore, there are no negative effects arising from construction for local recreational users is anticipated.

Overall, effects are predicted to be neutral. Potential effects on receptors with regards to air quality, noise and vibration, traffic, and landscape and visual appearance are assessed in their respective chapters of this EIAR.

7.4.3 Operational Phase

7.4.3.1 Land Use

The site of the proposed substation will change from a greenfield site zoned for 'Enterprise and Employment' development to a substation. This will result in a long-term and significant effect on land use which is consistent with the land use zoning of the site and its environs.

7.4.3.2 Population Trends

The substation will be unmanned, with routine maintenance and security services being carried out intermittently over its operational lifetime. It is not anticipated that the operation of the proposed substation will have any direct or negative impact on population trends. Effects are predicted to be neutral.

7.4.3.3 Property Receptors

It is not anticipated that the proposed substation whilst in operation will have any significant or long-term effect on sensitive local receptors (dwellings) within the area. As set out in section 7.4.2.3, the nearest residential dwellings are located over c.400 m or further from the proposed substation site. Potential effects on receptors with regards to air quality, noise and vibration, traffic, and landscape and visual appearance are assessed in their respective chapters of this EIAR.

7.4.3.4 Property Values

The proposed substation is not predicted to have any impact on the local property values. Profile Park and its surrounding business parks are zoned for 'Employment and Industry' and there is significant development of a similar nature, commercial and industrial infrastructure, in this area with no evidence of a reduction in house prices. The effect on property value will be neutral.

7.4.3.5 Employment /Economy

The substation will be unmanned, with routine maintenance and security services being carried out intermittently over its operational lifetime.

There will be a neutral direct effect on employment, however, the indirect effects of the substation may include facilitating additional data centre development. In the event that this was to occur this would result in employment and other commercial opportunities which would have a slight to moderate indirect positive effect.

7.4.3.6 Tourism

The Fáilte Ireland Guidelines state that *"The impact upon tourism can be considered within this section through the sensitivities of hospitality, safety and pace of life. Changes in population can impact the perception of pace of life or safety in a particular location"*. The Guidelines also note that *"Impacts upon these issues in areas which rely heavily on tourism or have a particular sensitive tourism generator should be considered in this section"*.

As noted previously, there are a number of relevant tourism attractions and public amenities within the study area including the Dublin Mountains Park, as well as the adjacent Grange Castle Golf Course and Corkagh Park. It is not anticipated that the operation of the proposed substation will have any direct or negative impact on tourist amenities or local recreational amenities. Effects are predicted to be neutral.

7.4.4 Decommissioning Phase

The proposed Baldonnell 110kV substation is expected to be operational in accordance with the adjacent gas fired power plant. The power plant is expected to be operational for at least 25 years. On cessation of activities, the plant will either be redeveloped as a power related facility or the site will be redeveloped in an alternative form.

In the event that the substation is decommissioned, the following programme will be implemented:

- All plant equipment and machinery will be emptied, dismantled, and stored under appropriate conditions until it can be sold. If a buyer cannot be found, the material will be recycled or disposed of through licensed waste contractors and hauliers. If plant and machinery is required to be cleaned on site prior to removal, all necessary measures will be implemented to prevent the release of contaminants;
- All waste will be removed from the facility; and
- The site and all associated buildings will be secured.
- Waste will be recycled wherever possible. All waste movement, recycling, and disposal operations will be controlled by licensed waste contractors.

Details of provisions to decommission and render safe or remove all materials, waste, ground, plant, or equipment contained on or in the site that may result in environmental pollution will be agreed with the Environmental Protection Agency as part of the Industrial Emissions Licensing process.

7.5 ASSESSMENT OF SIGNIFICANT EFFECTS ON HUMAN HEALTH

The following sections provide a summary of some of the available material in relation to potential effects of the proposed substation on human health.

7.5.1 Do Nothing Effects

Under a Do-Nothing Scenario, the existing lands would remain unchanged as a greenfield site. The health benefits to the country associated with proposed substation supporting the peaking power plant in the replacing fossil fuels with sustainable forms of energy development would be lost.

7.5.2 Construction Phase

7.5.2.1 Air Quality and Dust Emissions

The greatest potential effect on air quality during the construction phase of the proposed substation is from construction dust emissions as a result of excavation works, infilling and landscaping activities and storage of soil in stockpiles. This leads to the potential for nuisance dust. While construction dust tends to be deposited within 350 m of a construction site, the majority of the deposition occurs within the first 50 m (IAQM, 2014)[22]. The extent of any dust generation depends on the nature of the dust (soils, sands, gravels, silts etc.) and the nature of the construction activity. In addition, the potential for dust dispersion and deposition depends on local meteorological factors such as rainfall, wind speed and wind direction.

The construction of the proposed substation will take place away from residential properties (receptors) with the nearest receptor located over c.400 m from the site. As set out in Chapter 10 (Air Quality and Climate), dust and particulate matter effects from the site will be imperceptible, direct, neutral, and short-term in nature, and therefore is predicted to pose no nuisance to nearby sensitive receptors.

[22] IAQM Guidance on the Assessment of Dust from Demolition and Construction Version 1.1 (2014) - https://iaqm.co.uk/text/guidance/construction-dust-2014.pdf

7.5.2.2 Noise and Vibration

During the construction phase of the proposed substation there will be some effect on nearby noise sensitive properties due to noise emissions from typical construction activities. However, given the scale of the proposed development, the distances between the main construction works and nearby noise sensitive properties, and that the construction phase of the proposed substation is temporary in nature, it is expected that the various noise sources will not be excessively intrusive.

As set out in Chapter 11 (Noise and Vibration), in the majority of cases, construction noise effect will not be significant; in a small number of cases, a slight effect is predicted. Furthermore, due to the distance of the proposed works from sensitive locations significant vibration effects are not expected, and construction vehicle movements are not expected as a significant source of vibration along the existing road networks.

Appropriate noise and vibration control measures will be implemented, and will ensure that noise and vibration effect is kept to a minimum. Noise effects are predicted to be slight and short term. Vibration effects are predicted to be not significant and momentary.

7.5.2.3 Health and Safety

All activities carried out by the appointed Contractor on the proposed substation will be in accordance with the requirements of the Safety, Health and Welfare at Work Act 2005 as amended and Regulations made under this Act.

The CEMP sets out the Health and Safety requirements for the project including the erection of fencing, signage and notification of commencement of works to the Health and Safety Authority (HSA).

7.5.3 Operational Phase

7.5.3.1 Air Quality

As set out in Chapter 10 (Air Quality and Climate), emissions from the site will not result in a significant effect on human health. It can be concluded that dust and particulate matter effects from the site will be long-term, direct, neutral and imperceptible in nature, and therefore is predicted to pose no nuisance to nearby sensitive receptors.

7.5.3.2 Noise and Vibration

With respect to the operational phase of the proposal, the predicted noise and vibration levels are expected to be within best practice noise limits. As set out in Chapter 11 (Noise and Vibration), review of the predicted increases in noise level at the nearest residential noise sensitive locations conclude that the associated effect is 'not significant' at all locations for daytime, evening and night time periods. Therefore, in relation to noise, the associated effect is predicted to be not significant and long-term.

There are no expected sources of vibration associated with the operational phase of the proposed development. In relation to vibration the associated effect is predicted to be imperceptible and long-term.

7.5.3.3 Health Benefits

Aside from the potential socio-economic benefits previously discussed, there are environmental benefits to the proposed substation. The current and historical practice of fossil fuel combustion with the associated release of a range of pollutants including particulate matter, oxides of nitrogen, sulphur dioxide, carbon dioxide and many others is well documented. The release of these pollutants from the power generation sector is also a major contributor to global warming and the resulting changing effects on our climate.

The phasing out of coal, gas and peat burning substations in Ireland is a key step in achieving Ireland's 2030 decarbonisation ambition as set out in the Climate Action Plan 2023 and the placement of fossil fuels in electricity generation by clean renewable wind energy will have significant benefits for air quality and slowing down global warming.

The contribution of the proposed substation, in supporting the Profile Park Power Plant to achieve a decrease in reliance on fossil fuel combustion will have a moderate to significant positive long-term effect on the health and well-being of the general population.

7.5.3.4 Residential Amenity

Residential amenity relates to the human experience of a person's home, derived from the general environment and atmosphere associated with the residence. The quality of residential amenity is influenced by a combination of factors, including site setting and local character, land-use activities in the area and the relative degree of peace and tranquillity experienced at the residence. The nearest dwellings to the proposed substation are located approximately 400 m or further from the site.

Access to the proposed substation site will be provided via the adjacent gas fired power plant site. The adjacent gas fired power plant site is accessed via an entrance off the existing industrial estate roadway, with access to Profile Park provided north of the site via the R134 (New Nangor Road), and therefore these properties will be unaffected by the proposed substation. There will therefore be a neutral effect on amenity.

As noted previously, there are no anticipated negative effects on residential amenity arising from the operation of the proposed substation. Further detail on the assessment of air quality, noise, vibration, and traffic are set in their respective chapters of this EIAR.

7.5.4 Decommissioning Phase

As set out in Section 7.4.4, the proposed substation is expected to be operational for at least 25 years. On cessation of activities, the substation will either be redeveloped / upgraded and continue in its current use as a substation, or the site will be redeveloped in an alternative form.

In the event that the substation is decommissioned, the following programme will be implemented:

- All plant equipment and machinery will be emptied, dismantled, and stored under appropriate conditions until it can be sold. If a buyer cannot be found, the material will be recycled or disposed of through licensed waste contractors and hauliers. If plant and machinery is required to be cleaned on site prior to removal, all necessary measures will be implemented to prevent the release of contaminants;
- All waste will be removed from the facility; and
- The site and all associated buildings will be secured.

- Waste will be recycled wherever possible. All waste movement, recycling, and disposal operations will be controlled by licensed waste contractors.

Details of provisions to decommission and render safe or remove all materials, waste, ground, plant, or equipment contained on or in the site that may result in environmental pollution will be agreed Environmental protection Agency as part of the Industrial Emissions Licensing process.

7.6 MITIGATION AND MONITORING MEASURES

7.6.1 Construction Phase

No specific mitigation or monitoring measures are proposed for the construction phase in terms of population and human health outside of those specified in the respective technical chapters of this EIAR as referenced in Section 7.1.

7.6.2 Operational Phase

No specific mitigation or monitoring measures are proposed for the operational phase in terms of population and human health outside of those specified in the respective technical chapters of this EIAR as referenced in Section 7.1.

7.6.3 Decommissioning Phase

It is envisaged that the proposed substation will be operational for at least 25 years and on cessation of activities, the plant will either be redeveloped / upgraded and continue in its current use as a substation, or the site will be redeveloped in an alternative form. In the event where the substation is decommissioned, details of provisions to decommission and render safe or remove all materials, waste, ground, plant, or equipment contained on or in the site that may result in environmental pollution will be agreed and undertaken as required by the relevant planning conditions.

No specific mitigation or monitoring measures related to decommissioning are proposed in terms of population and human health outside of those specified in the respective technical chapters of this EIAR as referenced in Section 7.1.

7.7 CUMULATIVE EFFECTS

In the assessment of cumulative effects, any other existing, permitted or proposed developments in the surrounding area have been considered where they have the potential to generate in-combination or cumulative effects with the proposed substation. The potential for cumulative effects on the local population and human health, in particular with regard to noise, vibration, air, traffic and visual effects are discussed in the relevant chapters as identified in Section 7.1.

7.8 RESIDUAL EFFECTS

7.8.1 Construction Phase

The proposed substation will have a slight positive residual impact on the local economy through construction worker spending.

7.8.2 Operational Phase

The proposed substation will provide a connection to the existing electricity transmission network for the adjacent peaking power plant, supporting the power plant in the balancing of the grid to enable greater renewable development on a national scale and help to achieve targets in national energy and climate change policies as well as provide the possibility for the future connection of data centre development to a direct energy supply. This is a direct positive long-term residual effect at a national level.

7.8.3 Decommissioning Phase

With an operational life expectancy of 25-years, the plant will either be redeveloped / upgraded and continue in its current use as a substation, or the site will be redeveloped in an alternative form.

In the event where the substation is decommissioned, details of provisions to decommission and render safe or remove all materials, waste, ground, plant, or equipment contained on or in the site that may result in environmental pollution will be agreed and undertaken as required by the relevant planning conditions.