

## 4.0 NEED FOR THE OVERALL DEVELOPMENT

### 4.1 INTRODUCTION

This chapter of the EIAR sets out the strategic policy context at a European and national level, for the proposed substation and its associated gas fired power plant, both of which are required to assist in reducing the use of fossil fuels in the generation of electricity in Ireland.

The key driver in the requirement for low-carbon generation technology is set out in binding European targets to reduce greenhouse gas emissions. The current and future demands of electricity generation are detailed and highlight the importance of gas power plants during Ireland’s transition to a low-carbon future, as well as their potential to support expanding offshore wind generation in the Dublin region.

### 4.2 EUROPEAN POLICY CONTEXT

#### 4.2.1 European Green Deal

The energy sector is responsible for more than 75% of the EU’s greenhouse gas emissions. Increasing the share of renewable energy across the different sectors of the economy is therefore a key building block to achieving an integrated energy system that delivers on Europe’s ambition of climate neutrality. The European Green Deal moreover sets out the EU’s path to climate neutrality by 2050, through the deep decarbonisation of all sectors of the economy, and higher greenhouse gas emission reductions for 2030. The figure below illustrates the various elements of the Green Deal.

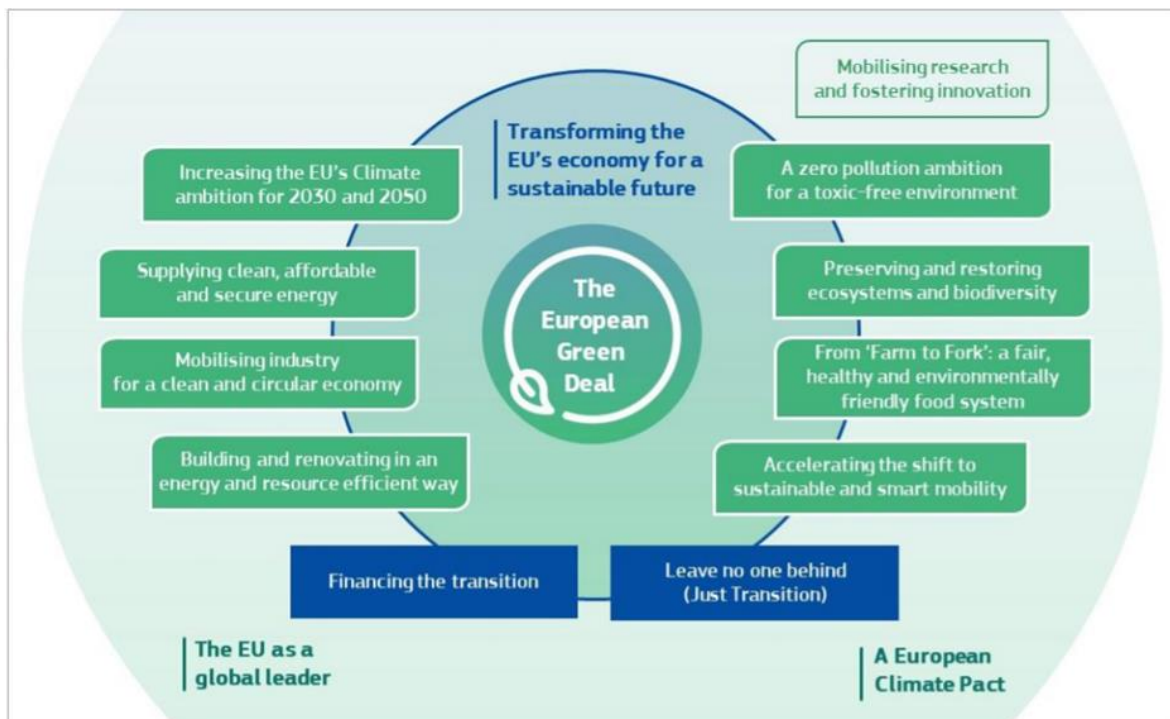


Figure 4-1: European Green Deal

To deliver the European Green Deal, there is a need to rethink policies for clean energy supply across the economy, industry, production and consumption, large-scale infrastructure,

transport, food and agriculture, construction, taxation and social benefits. The climate action initiatives under the Green Deal include:

- European Climate Law to enshrine the 2050 climate-neutrality objective into EU law;
- European Climate Pact to engage citizens and all parts of society in climate action;
- 2030 Climate Target Plan to further reduce net greenhouse gas emissions by at least 55% by 2030;
- New EU Strategy on Climate Adaptation to make Europe a climate-resilient society by 2050, fully adapted to the unavoidable impacts of climate change; and

In July 2021, the European Commission launched the first tranche of its 'Fit for 55%' measures that will support Europe's climate policy framework and put the EU on track for a 55% reduction in carbon emissions by 2030, and net-zero emissions by 2050.

A REPowerEU Plan was published by the European Commission in 2022 with the purpose of saving energy, producing clean energy and diversifying the supply of energy. The plan was produced in response to the Ukraine war, and aimed to reduce Europe's dependence on Russian fossil fuels. The Plan contains strategies and measures to phase out the EU's dependency on Russian fossil fuels by the end of the decade by building on the implementation of the European Green Deal and the EU's "Fit for 55" proposals (seeking to cut emissions by at least 55% by 2030). The Plan focuses on diversifying energy sources, accelerating a transition from fossil fuels to clean energy, saving energy, smart investment and reinforcing preparedness.

#### 4.2.2 A Clean Planet for all: A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy (2018)

The aim of this long-term strategy is to confirm Europe's commitment to lead in global climate action and to present a vision that can lead to achieving net-zero greenhouse gas emissions by 2050 through a socially fair transition in a cost-efficient manner.

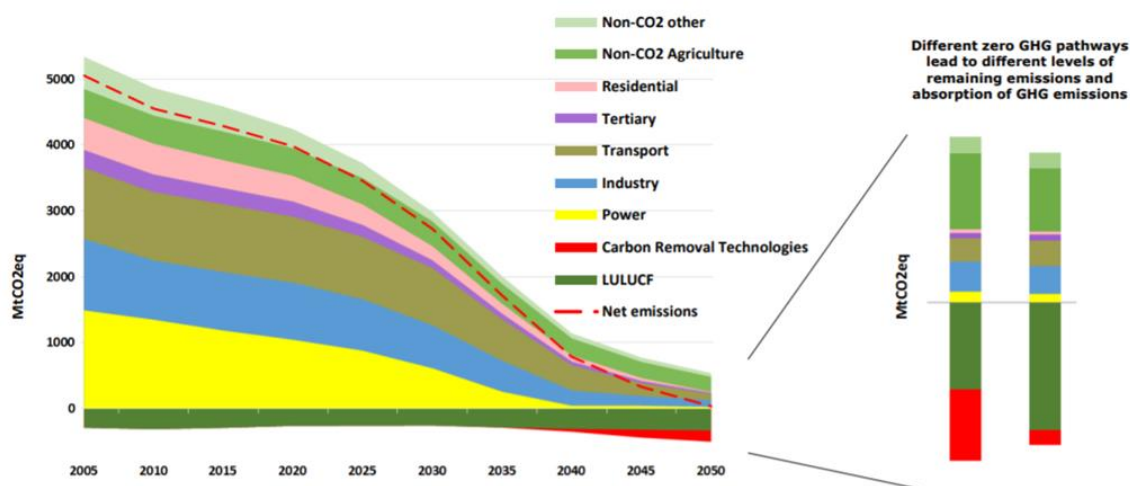


Figure 4-2: GHG emissions trajectory in a 1.5 degrees C scenario

There are several pathways to achieve a climate neutral net-zero greenhouse gas emissions in line with the above aim and include:

- Accelerate the clean energy transition, ramping up renewable energy production, high energy-efficiency and improved security of supply, with increased focus on reducing cyber security threats, while ensuring competitive energy prices, all of which power the modernisation of our economy;

- Recognise and strengthen the central role of citizens and consumers in the energy transition, foster and support consumer choices reducing climate impact and reap collateral societal benefits improving their quality of life;
- Roll out carbon-free, connected and automated road-transport mobility; promote multi-modality and shifts towards low-carbon modes such as rail and waterborne transport; restructure transport charges and taxes to reflect infrastructure and external costs; tackle aviation and shipping emissions using advanced technologies and fuels; invest in modern mobility infrastructure and recognise the role of better urban planning;
- Boost the EU's industrial competitiveness through research and innovation towards a digitalised and circular economy, that limits the rise of new material dependencies. Start testing at scale breakthrough technologies. Monitor the implications on the EU's terms of trade, for the energy intensive industries and suppliers of low carbon solutions. Ensure competitive markets that attract low carbon industries, and that are in line with international obligations. Alleviate competitive pressures that could lead to carbon leakage and unwanted industrial relocation.
- Promote a sustainable bioeconomy, diversify agriculture, animal farming, aquaculture and forestry production. Increase productivity, while also adapting to climate change, preserving and restoring ecosystems, and ensuring sustainable use and management of natural resources.
- Strengthen infrastructure and make it climate proof. Adapt through smart digital and cyber-secure solutions to the future needs of electricity, gas, heating and other grids allowing for sectoral integration starting at local level and with the main industrial/energy clusters;
- Accelerate near-term research, innovation and entrepreneurship in a wide portfolio of zero-carbon solutions, reinforcing the EU's global leadership.

### ***4.2.3 Europe 2030 Climate and Energy Framework***

EU leaders agreed in October 2014 on new climate and energy objectives for 2030 following a proposal put forward by the European Commission. The 2030 framework aims to make the EU's economy and energy system more competitive, secure and sustainable.

A centrepiece of the 2030 framework is the binding domestic target to reduce greenhouse gas emissions by 40% below 1990 levels by 2030. This will put the EU on the most cost-effective path towards its agreed objective of an 80-95% reduction by 2050. EU leaders also agreed on raising the share of renewable energy to at least 27%.

As of June 2018, the EU has increased its target of 27% of energy from renewable sources by 2030 to 32% which also includes a clause to allow for a further increase in the target by 2023. This amended target is a clear indication that increased renewable energy and related facilitatory power generation infrastructure will remain at the forefront of both EU and national energy policy.

As part of the European Green Deal, the Commission proposed in September 2020 to raise the 2030 greenhouse gas emission reduction target, including emissions and removals, to at least 55% compared to 1990. It looked at the actions required across all sectors, including increased energy efficiency and renewable energy, and started the process of making detailed legislative proposals by June 2021 to implement and achieve the increased ambition.

This will enable the EU to move towards a climate-neutral economy and implement its commitments under the Paris Agreement by updating its Nationally Determined Contribution.

#### 4.2.4 Renewable Energy Directive 2009/28/EC & 2018/2001/EU

The Directive 2009/28/EC on the promotion of the use of energy from renewable sources, known as the “Renewable Energy Directive”, implemented the targets associated with the EU’s 2020 climate and energy framework. The main target was:

*“Raising the share of EU energy consumption produced from renewable resources to 20%”*

The Directive set national binding targets for all EU countries with the overall aim of making renewable energy sources account by 2020 for 20% of EU energy and for 10% of energy specifically in the transport sector (both measured in terms of gross final energy consumption, i.e. total energy consumed from all sources, including renewables).

In 2018, the Directive was recast (2018/2001/EU) to move the legal framework to 2030 targets, setting a new binding target of at least 32% with a clause for a possible upwards revision by 2023. The recast Directive includes new provisions for enabling self-consumption of renewable energy, an increased 14 % target for the share of renewable fuels in transport by 2030 and strengthened criteria for ensuring bioenergy sustainability. The revision aims to ensure that renewable energy fully contributes to achieving the higher EU climate ambition for 2030, in line with the 2030 Climate Target Plan. The strategy will help build an integrated energy system, based on renewable energy and fit for climate neutrality, and help reach the objectives of the European Green Deal.

### 4.3 NATIONAL POLICY CONTEXT

#### 4.3.1 Project Ireland 2040 - Our Plan (National Planning Framework)

Ireland 2040 - National Planning Framework, hereafter referred to as the NPF, published by the Government in February 2018, is a 20-year planning framework designed to guide public and private investment, to create and promote opportunities for Irish citizens, and to protect and enhance Ireland’s built and natural environment. The new framework sets out five strategic actions required to achieve this vision:

- Developing a new region-focused strategy for managing growth;
- Linking this to a new 10-year investment plan, the Project Ireland 2040 National Development Plan 2018-2027;
- Using state lands for certain strategic purposes;
- Supporting this with strengthened, more environmentally focused planning at local level; and
- Backing the framework up in law with an Independent Office of the Planning Regulator.

The NPF notes that the population of Ireland is projected to increase by approximately 1 million people by 2040 which will result in a population of roughly 5.7 million. This growth will place further demand on both the built and natural environment as well as the social and economic fabric of the country. In order to strengthen and facilitate more environmentally focused planning at the local level, the NPF states that future planning and development will need to

*“tackle Ireland’s higher than average carbon-intensity per capita and enable a national transition to a competitive low carbon, climate resilient and environmentally sustainable economy by 2050, through harnessing our country’s prodigious renewable energy potential.”*

The NPF states that Ireland’s National Energy Policy is focused on three pillars: Sustainability; Security of Supply; and Competitiveness. In line with these principals, the National Strategic Outcome 8 (Transition to Sustainable Energy), notes that in creating Ireland’s future energy

landscape, new energy systems and transmission grids will be necessary to enable a more distributed energy generation which connects established and emerging energy sources, i.e., renewables, to the major sources of demand.

To facilitate this, NPF acknowledges the need to:

*'Reinforce the distribution and transmission network to facilitate planned growth and distribution of a more renewables focused source of energy across the major demand centres.'*

Some of the key National Policy Objectives identified in the NPF which are relevant to the proposed substation and associated gas fired power plant are below:

- National Policy Objective 52: The planning system will be responsive to our national environmental challenges and ensure that development occurs within environmental limits, having regard to the requirements of all relevant environmental legislation and the sustainable management of our natural capital;
- National Policy Objective 54: Reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emission reduction; and
- National Policy Objective 55: Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.

In addition to the above objectives, it should be noted that National Strategic outcome 5 of the NPF relates to the creation of "*A Strong Economy Supported by Enterprise, Innovation and Skills*". This strategic outcome is underpinned by a range of objectives relating to job creation and the fostering of enterprise and innovation, including the promotion of Ireland as a sustainable international destination for ICT infrastructure such as data centres and associated economic activities.

#### **4.3.2 Revised National Development Plan 2021-2030**

The revised National Development Plan (NDP) 2021 – 2030, published in 2021 and hereafter referred to as the NDP, sets out the investment priorities at national, regional and local planning levels that will facilitate the implementation of the NPF. In the context of the energy sector, the principle objective of the NDP is to assist in ensuring a 'long-term, sustainable and competitive energy future for Ireland'. Targeted investment within regulated network infrastructure ensures that Ireland's power grid is:

- Maintained to the highest international safety standards;
- Fit for purpose in the medium to longer-term in order to meet projected demand levels; and
- Meets the challenge of integrating world-leading levels of renewable energy.

Similar to the precedent set out in the NPF, the NDP states that investments within grid infrastructure are an important enabler of economic growth, and as such, the energy sector will play a critical role in meeting priority infrastructural needs at both national and local levels. The proposed substation and associated gas power plant presents the type and nature of investment described within the NDP required to achieve the NPF's strategic outcomes.

### 4.3.3 Government White Paper – Ireland’s Transition to a Low Carbon Energy Future 2015-2030

The Government White Paper entitled *Ireland’s Transition to a Low Carbon Energy Future 2015-2030* sets out a framework to guide Ireland’s energy policy development. This White Paper is an update of the 2007 White Paper and sets out a framework to guide policy and actions that the Irish Government intends to take in the energy sector up to 2030 and also reaching out to 2050. The framework was developed in the context of the significant role played by European institutions in determining energy policy, markets and regulation. Similarly, it takes account of European and international climate change objectives, in particular the Renewable Energy Directive.

The Energy Vision 2050 established in the White Paper describes a ‘radical transformation’ of Ireland’s energy system which it is hoped will result in Green House Gas emissions from the energy sector reducing by between 80% and 95%, compared to 1990 levels. This means that the diversification of energy supply during the national transition to a renewable energy system will need to shift away from carbon-intensive fuels such as peat and coal in favour of lower carbon fuels like natural gas.

The White Paper notes that:

*“Renewable energy will also play a central role in the transition to low carbon energy. No single renewable energy technology – existing or emerging – will alone enable Ireland to overcome the low carbon challenge. Rather, a diverse range of technologies will be required along the supply chains for electricity, heat and transport”.*

*“Onshore wind continues to be the main contributor (18.2% of total generation and 81% of RES-E in 2014). It is a proven technology and Ireland’s abundant wind resource means that a wind generator in Ireland generates more electricity than similar installations in other countries. This results in a lower cost of support. Due to the variability of wind conditions, wind generation poses challenges to the operation of electricity grids. In Ireland, these challenges are being addressed by the electricity system operators under their DS3 programme.”*

In addition to this and of direct relevance to the proposed substation and associated power plant, the White Paper acknowledges that an uninterrupted supply of energy is vital to the functioning of Irish society and economy. Thus, adequate infrastructure and the diversification of energy supply which avoids overdependency on any particular fuel, supplier, route or region is necessary. Natural gas will therefore remain a significant element of Ireland’s energy supply.

### 4.3.4 Climate Action Plan 2023 (CAP23) Changing Ireland for the Better

CAP23 sets out the government’s ongoing and urgent response to the climate crisis. The Plan implements carbon budgets and sectoral emission ceilings, first introduced in 2022 and builds on previous climate action plans, which set a roadmap to halve Ireland’s emissions by 2030 and reach net zero no later than 2050.

The Plan sets out how Ireland can accelerate the actions that are required to respond to the climate crisis, putting climate solutions at the centre of Ireland’s social and economic development.

The updated action plan has a greater focus on system change and recognises the milestones already achieved such as the start of Ireland’s offshore wind energy programme. The Plan lists

six vital high impact sectors, with Powering Renewables identified as being critical to decarbonising the power section as well as enabling the electrification of other technologies.

The Plan outlines the current state of play across key sectors including Electricity, Transport, Built Environment, Industry and Agriculture and charts a course towards ambitious decarbonisation targets. The Plan also acknowledges that some sectors and communities will be more impacted than others with the costs of transition to a low carbon economy. To address this, the Plan embodies Just Transition principles and a Just Transition Commission will be established to provide advise to the Government.

The Plan retains one of the most important measures of the previous action plan (CAP21) which is to increase the share of electricity demand generated from renewable energy sources to up to 80% by 2030.

The Plan notes that in 2020 42% of all electricity generated in Ireland came from renewable sources, while in 2021 electricity accounted for just 14.4% of Ireland's greenhouse gas emissions.

Prior to CAP21, climate action plan policies estimated a reduction in electricity emission to 4-5 MtCO<sub>2</sub> eq by 2030. Under CAP21 and CAP23, it is recognised that a significant step up is now required to meet 2030 targets and to deliver a decarbonised economy for Ireland by 2050

In the context of rising energy demand, significant progress in renewable electricity deployment will need to continue, with an increased deployment rate of all renewable electricity technologies, to be delivered by 2030:

- At least 5 GW of offshore wind capacity;
- 8 GW of solar PV capacity including 2.5 GW of non-new grid solar; and
- 9 GW total of onshore wind capacity.

The Plan identifies the following key measure to ensure a security of electricity supply and a reduction in emissions:

“The CRU and EirGrid will ensure an adequate level of conventional dispatchable generation capacity and deliver at least 2 GW of new flexible gas-fired generation.”

## 4.4 NATIONAL POWER GENERATION CAPACITY CONTEXT

### 4.4.1 DS3 Programme

In response to the binding European and national total energy consumption targets EirGrid began a multi-year programme, “Delivering a Secure, Sustainable Electricity System” known as the DS3 Programme. To date the DS3 Programme has enabled EirGrid to increase levels of renewable generation on the system from 50% to 65%, with the aim to increase levels to 75% gradually over the coming years and ultimately achieve 95% renewable generation by 2030.

The DS3 Programme is designed to ensure that the increasing amount of renewable energy required on the Irish power system can operate in an efficient, secure and safe manner. The national power system operates on a synchronous system, whereby electricity is generated at a single synchronised AC frequency. Ireland and Northern Ireland form such a system – all of the conventional generators on the island run in synchronism, producing electricity at 50Hz.

Synchronous generation produces the same amount of electricity all the time. It is reliable and predictable and, therefore, easy to bring onto the grid. Fossil fuel generation, using coal, oil and gas are a type of synchronous generation.

Non-synchronous generation produces a different amount of electricity depending on the energy available. It does not produce the same amount of electricity all the time. This makes it less reliable, and more difficult to bring onto the grid. Most renewable forms of energy, such as wind and solar, are types of non-synchronous generation. This is because the amount of wind and light is always changing and therefore, they cannot produce power predictably.

The growth of renewable energy generation, which is a non-synchronous system of power generation, presents a range of operational challenges for the power system. This non-synchronous technology poses challenges for EirGrid in maintaining power system stability and security due to the inherent variability of renewable energy which is dependent upon climatic conditions. This variability must be managed to ensure demand for electricity is met at all times.

One of the key areas in the DS3 Programme is System Services. EirGrid wants to make sure that the system operates securely and efficiently, while facilitating higher levels of renewable energy. To achieve this aim, it is working to obtain a range of services from as wide a pool of generators and market participants as possible. This includes the development of financial incentives for better plant performance.

The provision of the proposed substation as part of the associated power plant in Profile Park will help EirGrid in managing the integration of renewable energy generators into the electricity grid by providing quick response capabilities in two ways. Firstly, the associated power plant will have the capability of providing DS3 services that EirGrid will require to maintain system stability. Secondly, when requested by the grid operator, the power plant will have the capability to start up and reach full load quickly, so assisting in providing electricity, during periods of high demand. These capabilities will mean that Ireland can continue to invest in renewable sources of power.

The proposed substation will facilitate this connection by exporting electrical power generated 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.

#### ***4.4.2 Strategy 2020-25 Transform the Power System for Future Generations***

EirGrid Group published a five-year strategy in September 2019 outlining a strategic response to the transition of electricity generation to a sustainable low-carbon future. EirGrid Group has a unique role in leading the transformation of the All-Ireland electricity system as the operator and developer of the transmission grid on an all-island basis.

The primary goal of the strategy is to support the continued decarbonisation of electricity generation within Ireland in response to the climate crisis. As coal, peat and oil-burning electricity generation is phased out during the period up to 2030 the generation of renewable energy will be pivotal in the significant transformation of the All-Ireland electricity system. The future operation of the electricity system will be required to be more dynamic and responsive, consequently, improvements to infrastructure are required to consolidate the strength and flexibility of the transmission grid to accommodate for an additional 10,000 megawatts of renewable generation to the electricity system. EirGrid aim to achieve this through using both innovative and proven technologies to ensure the reliability of the electricity system. This includes gas fired power plant which provide the system services as outlined in the DS3 Programme in Section 4.2.1.





Source: Strategy 2020-25, EirGrid Group, September 2019

*Figure 4-3: Primary and Supporting Goals of Strategy 2020-25*

#### **4.4.3 East Coast Generation Opportunity Assessment (EirGrid, February 2019)**

In this assessment, EirGrid acknowledges that offshore wind generation will play a key part in meeting Ireland’s 2030 climate change targets. It is expected that the initial phases of offshore wind generation development in Ireland will be focused on the East coast of the country.

In tandem with the development of offshore wind generation, EirGrid note that it has also had numerous enquiries about the connection of large, conventional thermal generation projects in and around Dublin. Electricity demand is increasing rapidly in the greater Dublin region primarily due to the growth of data centres which require large amounts of power. It is likely that both offshore wind and new thermal generation will be required to meet the growing electricity demands in the eastern region.

The East Coast Generation Opportunity Assessment presents analysis that EirGrid has undertaken to identify the opportunities for connecting new power generation sources in the East coast region of Ireland from a grid capacity perspective. The analysis provides useful information for developers seeking to connect generation in the region.

The results indicated that locations close to the Dublin load centre and/or with multiple 220 kV connections into the Dublin area have the best opportunities for new generation capacity.

#### **4.4.4 Shaping our Electricity Future Roadmap (2021)**

In autumn 2021 EirGrid published “Shaping Our Electricity Future Roadmap”, a policy document to advise and guide stakeholders on the optimal path for delivery of a renewable-based power system. As set out in Section 1.3.4 above, the National Energy and Climate Plan 2021 – 2030 set a target of 70% RES-E.

This paper indicates that Ireland has an installed dispatchable generation capacity of 7,252 MW with Section 2.2.1.2. stating that:

*“New dispatchable resources are needed to ensure that the generation portfolio continues to meet reliability standards and that demand can met on low RES output days. Gas-fired generation is expected to continue to play an important role, replacing retiring conventional plant and providing the multi-day capacity required to ensure security of supply during prolonged periods of low wind. This capacity is especially important when large continental scale weather patterns affect the availability of RES in Ireland and in neighbouring electricity systems.”<sup>1</sup>*

In addition, the paper provides a breakdown of anticipated energy requirements from each sector up to the year 2030. This assessment has identified large energy users such as data centres as the primary driver of demand, requiring 9.8-12.6 TWh by 2030.

#### **4.4.5 Generation Capacity Statement 2022-2031**

The Generation Capacity Statement (GCS), is an annual report from EirGrid and System Operator Northern Ireland (SONI), produced to examine the balance between electricity demand and supply on the island of Ireland for the following 10 years.

This year’s GCS predicts a challenging outlook for Ireland with capacity deficits identified during the 10 years to 2031. In the short term the deficits will increase due to the deteriorating availability of power plants, resulting in their unavailability ahead of intended retirement dates.

The GCS identifies Data Centres as key drivers of electricity demand in Ireland for the next number of years. It further states that “demand from data centres and new large energy users is expected to continue to rise as these customers build out towards their contracted load. Almost all of this is in the Dublin region.”

Under a medium demand scenario, energy demand is forecasted to increase 37% by 2031, as illustrated in figure 4-4 below.

---

<sup>1</sup> Shaping our electricity Future.,” 2021, EirGrid, p.9

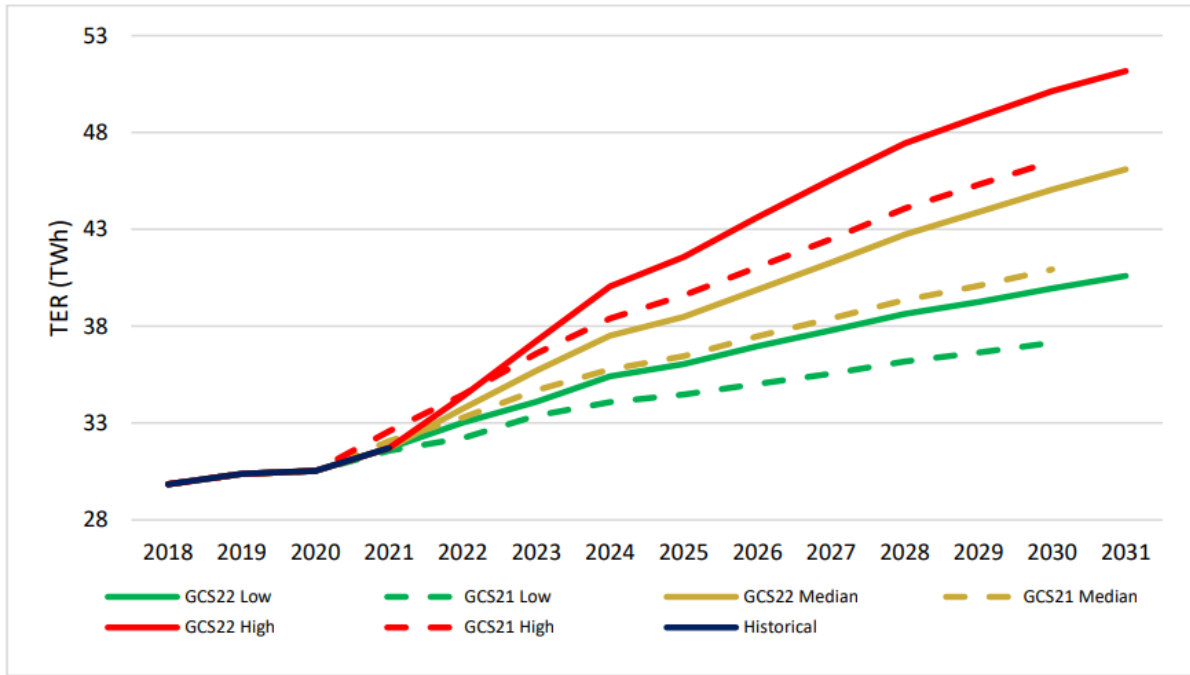


Figure 4-4: Total Electricity Requirement Forecast for Ireland 2021 -2031

Figure 4-5 below indicates that traditional residential, commercial and industry sectors will remain relatively consistent across the decade with the largest growth in demand estimated to come from Data Centres and new large energy users, as well as increased demand as a result of an increased uptake of electric vehicles and heat pumps.

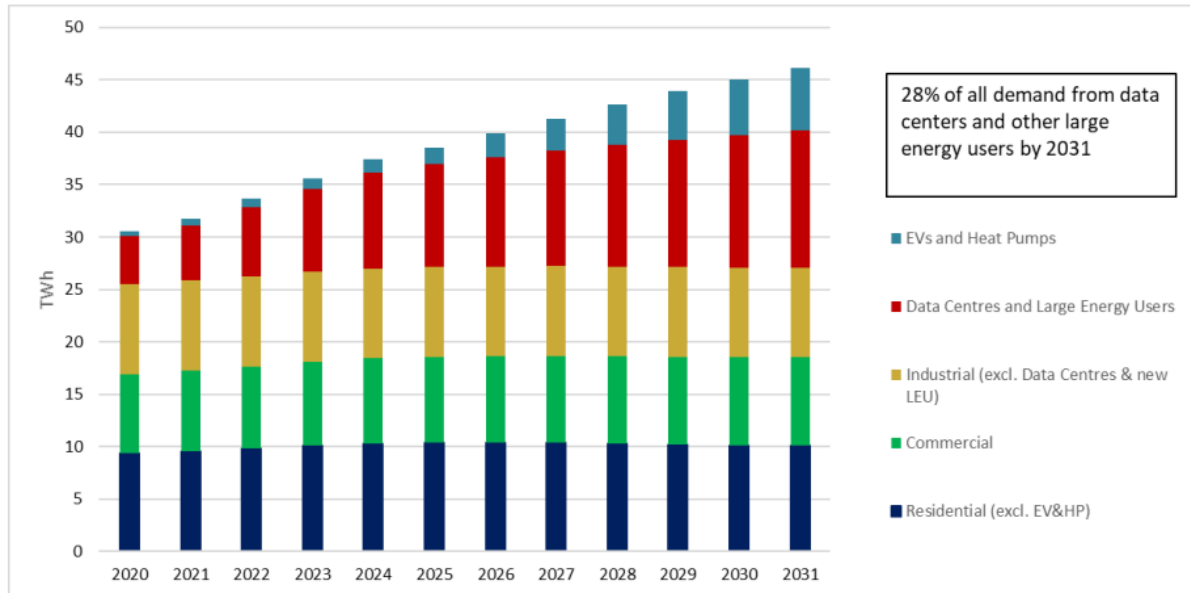


Figure 4-5: Ireland Median Demand Scenario illustrating the approximate split into different sectors

The adequacy assessment of Ireland system shows an initial deficit position in all of the core scenarios and remains in deficit over the study horizon, with significant capacity deficits in 2024 and 2025:

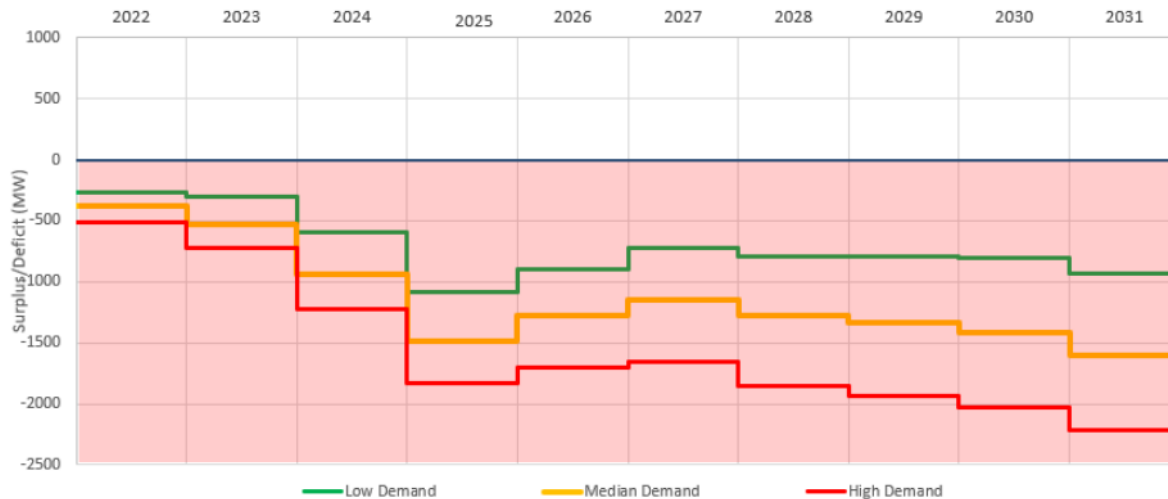


Figure 4-6: Core Scenario Adequacy Results for Ireland, in terms of surplus or deficit of plant.

#### 4.4.6 Government Statement on the Role of Data Centres in Ireland’s Enterprise Strategy (2022)

This government policy recognises that data centres are core digital infrastructure and play an indispensable role in our economy and society. The policy seeks to facilitate “twin transitions’ with respect to the digitalisation and decarbonisation of Ireland, meaning that digital infrastructure and climate change policies must be jointly deployed and complementary of each other.

The strategic approach aims of this Government Statement is to:

- Drive Ireland’s ambition in the digital economy as a location of choice for investment and a seedbed for technology entrepreneurship across a range of sectors and activities;
- Contribute to regional development, deliver associated economic activities and support the creation of high quality, sustainable jobs;
- Align enterprise electricity demand with generation capacity and transmission planning; and
- Ensure that potential downside costs are minimised and that economic impact is optimised.

The plan-led approach aligns with the objective set out in the NPF for the ‘promotion of Ireland as a sustainable international destination for ICT infrastructures such as data centres and associated economic activities’ and to deliver on the National Strategic Outcome 5 ‘A strong economy supported by enterprise, innovation and skills’.

The Government Statement acknowledges that data centres are central to the digital economy. They generate added economic benefit across the value chain. Data centres provide remote support functions for other firms which themselves undertake production, research and development, marketing, sales, service, and support activities in locations with no physical/geographic connection to the data centre.

Specifically in the case of the proposed substation and associated power plant in Profile Park, the following is noted:

*“Ireland’s electrical power needs are serviced by just over 10,000 MW of generation capacity, a 500 MWEWIC Interconnector to Britain, and 185,785 km of 400 kV, 275 kV,*

*220 kV, 110 kV, 38 kV, medium and low voltage transmission and distribution circuits, of which the high and medium voltages all serve data centres.*

*The last 4 years have seen annual increases in electricity demand usage of around 600 GWh from data centres alone – equivalent to the addition of 140,000 households to the power system each year. EirGrid predicts that if all contracted capacity were connected, data centres would make up between 25% and 33% of Ireland’s electricity demand by 2030. These forecasts are based on data centre projects already contracted to connect to the electricity system, which are all located in the Greater Dublin region. New data centre projects, not yet contracted to the electricity system, would only further increase electricity demand. EirGrid is aware of up to 1GW of these prospective data centre projects. This would present additional challenges for grid capacity and the emissions targets set for the electricity sector in the Climate Action Plan.*

*In addition, many of these data centres require significantly large loads at a specific site. The average size of a data centre connection request to EirGrid is for a capacity of 80 MW. This has ramifications not only for the resilience of transmission network in those regions, but also to power system adequacy at a national level.*

#### **4.4.7 Letter of Support**

*Appendix 4-1 of this EIAr contains a letter of support for the proposed development issued by the CRU.*

## **4.5 SUMMARY OF NEED FOR THE OVERALL DEVELOPMENT**

It is now widely recognised that Ireland has substantially and continually failed to meet past climate targets and that it must now significantly improve its performance in terms of decarbonisation in order to meet the 2030 targets that are becoming more important. As demonstrated by the strategic policies and binding targets on greenhouse gas emissions set out within European and national plans, investment in lower carbon technologies for electricity generation is a key prerequisite in achieving Ireland’s 2030 renewable energy target and subsequent net zero carbon energy system by 2050. The transformation of the electricity system in Ireland will require the system to be more dynamic and responsive as the challenges of introducing non-synchronised generations sources, such as wind and solar, to a synchronised transmission system are overcome.

Electricity demand is increasing rapidly in the greater Dublin region, mainly due to the growth of data centres. As large consumers of electricity, data centres pose particular challenges to the future planning and operation of a sustainable power system. The growing energy demand within Dublin is recognised within the NPF as it states that improving energy sustainability within Dublin and its surrounding Environs will be a key future growth enabler with regard to population and employment.

The development of onshore and offshore renewable energy is dependent on the implementation of enabling infrastructure, such as the proposed substation and associated power plant at Profile Park.

The proposed substation and associated power plant in Profile Park is considered consistent with the overarching strategy to achieve the binding 2030 emission targets, as a lower-carbon generation source it will also be a vital technology to mitigate the deficiency in electricity generation following the planned closure of fossil fuel power plants across the island of Ireland in the next six years. The power plant also represents an important electricity generation source

for Ireland's transition to a low carbon economy, which will require local agile distributed generation rather than relying on large, centralised power generation. Gas fired power 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.

The proposed substation and its associated power plant at Profile Park will support the expansion of offshore wind generation in the Dublin region and the reinforcement of Ireland's energy distribution network will facilitate planned growth and energy provision across the country.