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# West Offaly Power - Transition to Biomass Project

Planning Report

ESB

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## Executive Summary

The Electricity Supply Board (ESB) proposes to transition the existing West Offaly (WOP) peat-fuelled electricity generating station to be fuelled by sustainable biomass.

WOP Station is located in the townland of Clonifeen, Shannonbridge, Co. Offaly. It is one of three stations developed in the Midlands to generate electricity using indigenous peat. Two of these – WOP Station and Lough Ree Power Stations in Co. Longford, are owned by ESB. The third, Edenderry Power Limited in Edenderry, Co Offaly, is owned by Bord na Móna.

WOP Station was commissioned in 2005 on lands that had been used for the production of electricity since the mid-1960's. It was constructed adjacent to the original Shannonbridge station which was demolished in parallel with the construction of the new station. WOP Station has an installed electrical capacity of 150 MegaWatts (MW) and is currently fired on milled peat with fuel oil used for start-up and combustion support. Peat is supplied by Bord na Móna Energy Limited from existing bogs licensed by the EPA. The Station produces ash which is disposed of at a dedicated ash disposal facility (ADF) on a remote area of cutaway bog some 5.5 km from the Station in the townlands of Clonfinlough, Clondelara, Leitira, and Derrylahan. The current planning permission for the Station and ADF states that permission will expire on the 31<sup>st</sup> December 2020.

The Station is currently supported by the peat Public Service Obligation (PSO) levy – which promotes fuel diversity and security of supply by supporting the generation of electricity using indigenous fuel (peat). PSO support for peat ends in December 2019 and from that date there will be no fiscal support for the combustion of peat.

Both the Station and the ADF are operated in accordance with an Industrial Emissions Licence issued by the Environmental Protection Agency (EPA). The Station also operates in accordance with the European Union Emission Trading Scheme and under a Greenhouse Gas Permit – also administered by the EPA.

Today, WOP Station is a modern, highly maintained station which makes a valuable contribution to electricity generation in the Midlands. The Station's development and maintenance has been facilitated by significant investment by ESB. It represents a significant infrastructural asset – both to the ESB and the Midlands Region. In 2017 the Station exported 928,875 MWhrs of electricity to the national grid - equivalent to the needs of approximately 220,000 households. The Station – and the associated activities of Bord na Móna, are important employers in the Midlands Region, with WOP Station and the associated peat harvesting activities currently directly employing 358 people – or the full-time equivalent (FTE) of 280 people in 2018, and further indirectly supporting the FTE employment of an additional 96 people in ancillary support services. The Station makes a significant contribution to the commercial rates base of County Offaly. In the period 2006 to 2018, WOP Station contributed €16.8 million in rates to Offaly County Council. In 2018, that contribution amounted to €1.648 million – accounting for 9% of the County's total rates base.

With planning permission due to expire at the end of 2020, ESB has considered the future of the Station in-line with strategic commitments to de-carbonise its electricity generation activities. In looking at options for future development, it is noted that the Station is a viable asset whose operation is limited only by consent – namely the end-date specified in the original grant of planning permission. The Company has examined a range of alternatives and now proposes to extend that operational life and convert WOP Station to low-carbon, electricity generation fuelled by sustainable biomass. ‘Biomass’ describes a range of non-waste materials such as non-pelleted woody biomass; products, co-products, by-products and residues from energy crops and agricultural industries; and manufactured wood pellets. As per the recast European Union Renewable Energy Directive (REDII), where sourced and supplied in-line with relevant sustainability criteria, biomass is classified as a zero-carbon fuel.

To facilitate this transition, planning permission is sought to:

- continue operating WOP Station and the associated ADF after the permitted end date of 31<sup>st</sup> December 2020;
- transition the station from peat to biomass, reducing the volume of peat by at least 40% (of current levels) from early 2020 (subject to consent of planning permission) and progressively replacing peat with biomass, until the end of 2027 after which the Station will be fuelled by biomass only;
- develop fuel management and handling facilities at WOP Station;
- accommodate the disposal of an additional 880,000 tonnes of ash at the existing ADF.

The transition to full biomass will be phased over the period 2020 to 2027 for a number of reasons. First, it is important that the Midlands’ economy has an orderly transition away from its traditional reliance on peat harvesting. Bord na Móna have, as of October 2018 revised their original proposal to cease the commercial harvesting of peat for energy generation by 2030, and indicated this change in operations will now happen by 2028. ESB proposes to align its strategy for the WOP Station with these plans to allow time for the emergence of alternative activities thereby minimising the socio-economic impacts of this change on the Region. Secondly, in the absence of a higher level of support for biomass that currently available under REFiT3, the co-firing stage is necessary to render the project commercially viable. Thirdly, though there are some volumes of indigenous biomass available at present, estimates indicate that increased volumes of indigenous material – from the forestry and biomass crop sectors, will become available from the mid 2020’s. Finally, as ESB moves into increased reliance on biomass, the Company is committed to ensuring adherence to strict sustainability criteria. Building supply chains to meet these criteria – for both indigenous and international biomass streams, requires a lead-in time which the transition period will facilitate.

When fully transitioned onto biomass (i.e. from the end of 2027), WOP Station will continue to operate under the European Union Emission Trading Scheme as a low-carbon renewable electricity generating station. This will be reflected in greenhouse gas certificates which will issue for the Station. The Station and ADF will continue to operate under an Industrial Emissions Licence.

Fuelled on biomass, WOP Station will play an important role in contributing to Ireland meeting targets for renewable energy generation. Operating as a low-carbon

renewable source of generation, WOP Station will contribute to the proportion of renewable generation on the grid, and also support the development of other renewable sources of electricity generation sources such as wind and solar, by offering a readily dispatchable renewable electricity source when supply from these sources is reduced.

The transition of WOP Station to sustainable biomass is strongly supported by EU, national, regional and local policies. European Policy Statements and Directives – such as REDII, promote the development of the renewable energy sector with the principle aim that Member States will achieve targets for the reduction of greenhouse gases as a key means of tackling climate change. Specifically, the European Commission-approved a fiscal support scheme – REFIT3, in 2013, which is specifically designed to support biomass, including co-fired facilities i.e. those fuelled by peat and biomass. WOP Station was approved by DCCAE for this support in 2017. This will provide a financial support for a portion (30%) of the biomass burn at WOP Station - but will not provide any subsidy for the peat fuel used.

Irish energy policies are likewise highly supportive of the development of the renewable energy sector and the increased contribution of renewables to energy generation. Strategies including the National Renewable Energy Action Plan; The Strategy for Renewable Energy: 2012 – 2020; The National Climate Change Adaptation Framework; and the National Policy Position on Climate Action and Low Carbon Development emphasise the need for a low-carbon future. The White Paper - Ireland's Transition to a Low Carbon Energy Future, 2015-2030 set out a vision for transforming Ireland's fossil fuel-based energy sector into a clean, low carbon system by 2050 and – among other policies, set a target of 40% for the renewable energy sector. The National Peatlands Strategy provided a historical commentary on the role and importance of the peat fuelled stations in the Midlands, and identified co-firing and the transition to biomass as both offering the advantage of reducing the carbon-emissions from peat-only plants and also stimulating the demand for indigenously sourced biomass. Both the Sustainable Energy Authority of Ireland's (SEAI) report on Energy Security in Ireland (2016) and the Authority's report Energy in Ireland, 1990 – 2016, emphasised the reduction in energy security attributed to the move away from indigenous peat, and the increased dependence on gas – a fossil fuel; also noting that generating our own renewable electricity is crucial to achieving energy and climate ambitions. The National Mitigation Plan states both WOP Station and the ESB facility at Lough Ree Power, are expected to convert to co-firing given Government policy and their approval for support under REFIT3 support. Under that Plan it is noted that the Department of Communications, Climate Action and Environment are due to complete a review of the future for the peat generation plans – in line with Action 24, a development which will may further inform both ESB's and Bord na Móna's strategies in this area.

As a measure of the social significance attached to addressing climate change, in November 2017 the Citizen's Assembly voted overwhelmingly in favour of Ireland taking measures to address climate change making 13 recommendations for State action. Critical recommendations include 97% of delegates voting in favour of climate change being at the centre of government policy-making; with a similar majority

recommending that the State should end all subsidies for peat extraction and instead spend that money on initiatives to restore bogs and make provisions for affected communities to make a just transition away from the activity of peat harvesting. Though such recommendations have yet to be reflected into stated Government policy, they clearly indicate the public opinion is supportive of the Midlands economy moving away from peat in a manner that if ‘just’ – and the proposed timeframe for transition between 2020 and 2027 is strongly supportive of this.

As noted above, in October 2018 Bord na Mona issued a revised timeframe for that company’s strategy to move away from the traditional peat business, into renewables, resource recovery and new sustainable businesses. The company’s ‘Brown to Green’ strategy aligns the company with national and EU decarbonisation policies and sets out a number of actions – including the acceleration of the company’s cessation of using peat for energy by 2028 – two years earlier than the previous date of 2030. The ESB proposal to cease using peat at WOP Station by the end of 2027 accords with the Bord na Móna plans, with ESB - a key customer sustaining demand for peat for the majority of that period.

Related planning policies – namely those set out in national documents including the National Spatial Strategy, 2002 – 2020; the National Planning Framework (2018); and the National Development Plan, are again highly supportive of the enhancement of the renewable energy sector and therefore projects such as this. Each of these documents set positive policy contexts for the sector – particularly given the 2020 target for 40% of renewable electricity being generated by renewable sources. The emergence of biomass is supported by key policies – in particular those in the National Planning Framework which note the importance of rural diversification and the emergence of new activities in the rural economy.

Similarly, regional planning policies refer to the importance of the renewable energy sector – making particular reference to biomass and the importance of addressing the challenges to the Midland Region posed by the decline of the peat industries. The regional plans provide a particular context for economic development noting the importance of both ESB and Bord na Móna in supporting that economy – both historically and into the future.

At a local level, the Offaly County Development Plan provides strategic and local guidance for development. That document is highly positive about the contribution of both ESB and Bord na Móna to the County’s economy. It notes the significant opportunity for the County to make a contribution to the renewable energy sector – referring to biomass as a potential fuel and also a stimulant to the local economy. At a local level, the County Development Plan provides a land-use framework for Shannonbridge through land-use zoning. The proposed continued operation of the Station and the proposed modifications to enable the transition to biomass are highly compatible with this Plan.

The proposed development will modify a significant element of generation infrastructure and convert it to a dispatchable renewable generation station, firing on sustainable biomass. This is strongly justified in the context of meeting Ireland’s 2030 GHG emission targets and contributing to meeting our renewable energy generation targets, having regard to:

1. The ESB's strategic commitments on decarbonising electricity generation,
2. EU policies on the renewable energy sector,
3. National policy on decarbonising the energy sector,
4. Meeting commitments on climate change,
5. Minimising the socio-economic impact of the declining peat industry on the Midlands Region,
6. Supporting the indigenous biomass industry,
7. Improving Ireland's energy security,
8. Supporting the ISEM capacity auction and minimising costs to the Irish consumer
9. Implementing national planning policy,
10. Realising regional planning and development objectives,
11. Delivering on policies and objectives set out in Offaly County Development Plan.

The proposed development will extend the operational life of an existing piece of generating infrastructure and ensure its conversion to a low-carbon, sustainable fuel – biomass, within a relatively short time-frame – by the end of 2027. This transition therefore represents a highly logical use of existing infrastructure – and a realisation of the investment of resources; to deliver renewable energy generating capacity. This a critical step in realising objectives and targets for the functioning of the energy sector, and tackling climate change. Moreover, it is a key step in assisting the Midlands Region while that economy transitions away from the peat sector, while supporting the emergence of the indigenous biomass sector.





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# 1 Introduction

This Planning Report has been prepared by ESB International (ESBI) to accompany an application for planning permission by the Electricity Supply Board ('ESB') to An Bord Pleanála ('the Board' or ABP).

This Report, the accompanying Environmental Impact Assessment Report (EIAR), Appropriate Assessment (AA) Report (comprising an AA Screening Report and a Natural Impact Statement (NIS)) and planning application documentation, has been prepared to accompany an application to ABP for planning permission for the continued use of the West Offaly Power (WOP) Station and associated ash disposal facility (ADF), and to transition that station to exclusive firing with biomass.

This report is structured as follows:

- **Executive Summary;**
- **Section 1** - Introduction;
- **Section 2** - The Planning Application – the Applicant, outline of the proposed development, the planning and licensing process, public consultation;
- **Section 3** - The Proposed Development – the development sites; planning history, description of the proposed development;
- **Section 4** - The Context for Planning Assessment – the receiving environment, policy context – European, national, regional and local;
- **Section 5** - Project Justification and Assessment – project justification, planning assessment, and environmental assessment.



## 2 The Planning Application

### 2.1 The Applicant

Permission is being sought by the ESB. The registered address of ESB is 2 Gateway, East Wall Road, Dublin 3, D03 A995.

ESB was established in 1927 as a statutory corporation in the Republic of Ireland under the Electricity (Supply) Act 1927. ESB operates across the electricity market - from generation, through transmission and distribution to supply.

### 2.2 Outline of the Proposed Development

West Offaly Power (WOP) Station in Shannonbridge, Co. Offaly is one of three peat-fuelled electricity generating stations located in the Midlands. The stations – the ESB owned WOP and Lough Ree Power (LRP) Station in Lanesborough, Co. Longford, and the Bord na Móna owned Edenderry Power Limited (EPL) facility in Edenderry, Co. Offaly were developed to generate electricity using indigenous fuel – namely peat. Under current planning consents WOP and LRP Stations are fully reliant on peat. Bord na Móna operates EPL co-firing on peat and biomass.

Associated with WOP Station there is a dedicated landfill – the Ash Disposal Facility (ADF) located c. 5.5km from the Station, in the townlands of Clonfinlough, Clondelara, Leitra and Derrylahan. Ash from WOP Station is disposed of at this site.

In-line with EU policy, government policy and ESB corporate policy to decarbonise its energy business, ESB propose to extend the operational life of WOP Station and to transition the station so that it is ultimately fuelled by sustainable biomass. In parallel, ESB proposes to similarly transition LRP Station to sustainable biomass. Through these projects ESB will cease using peat as a fuel across its electricity generation fleet, and will significantly diversify its renewable generation portfolio.

At WOP Station, permission is currently in place to burn peat until the end of 2020 with fuel oil used for start-ups and combustion support as required. It is proposed that in early 2020 <sup>1</sup>- once planning permission and an appropriate Industrial Emissions (IE) Licence have been secured, WOP Station will transition to co-firing with peat and sustainable biomass. From that time, the station will rely on reducing volumes of

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<sup>1</sup> Note: throughout this report it is stated that the transition to biomass is envisaged as starting from early 2020. As clearly stated in the public notices, the transition date is subject to receipt of the appropriate consents.

peat. From the end of 2027 WOP Station will be entirely fuelled by sustainable biomass, at which time it will be a low-carbon generating station.

Currently, the use of peat as a fuel is supported by the State through the Public Service Obligation (PSO) levy. That support was approved by the European Union (EU) and remains in place until the end of 2019.

After 2019 there will be no subsidy to burn peat. However there will be financial support for the burning of sustainable biomass through a State and EU approved Renewable Energy Feed in Tariff (REFiT3). REFiT3 will provide support for 30% of the biomass combusted, from the time the Station enters a co-firing stage. That support will remain in place until 2030.

It is anticipated ESB will seek additional biomass support under the recent Government announced Renewable Electricity Support Scheme (RESS) which will be available to 2030 and beyond.

Under current regulatory mechanisms, carbon emissions for electricity generation stations are accounted for under the EU Emissions Trading Scheme (ETS) until 2030. That scheme enforces a cap and trade scheme on CO<sub>2</sub> emissions from the major emitting sectors in Europe (see **Para. 3.3.2.1**). These targets are based on achieving significant Greenhouse gas (GHG) reductions by 2030 and eliminating all GHG emissions from the sector by c. 2050.

The transition of WOP Station to biomass by the end of 2027 will contribute to the achievement of 2030 GHG emissions targets. The Station's conversion to sustainable biomass will also assist in attaining targets set out under the Renewable Energy Directive (Directive 2009/28/EC) and the revised Renewable Energy Directive (2016/0382) - known as REDII, whereby 16% of energy being consumed will be from renewable sources.

For the purposes of this application, 'biomass' is defined as indigenous and imported material, comprising:

- non-pelleted woody biomass, e.g.
  - products, co-products, by-products and residues of the forestry sector - such as brush, thinning and other residues from the forestry sector where those materials are produced from the active management and felling of commercial forests;
  - products, co-products, by-products and residues - such as saw dust, sourced from timber mills, manufacturing processes and the forestry sector, and
  - wood chips produced by the timber industry – whether from commercial products or chipped wood arising from other commercial activities such as rubber tree plantations;
- products, co-products, by-products and residues from energy crops;
- products, co-products, by-products and residues from agricultural industries, e.g. plant derived

- husks,
- shells, and
- pulp; and
- manufactured wood pellets.

It is noted that this definition of biomass falls within the definition of biomass set out under REDII.

It is understood that the combustion of any fuel sources other than those outlined above – even where they fall within the REDII definition, will not be permitted under this planning consent. Any change in fuel type to include material outside the scope of this definition, would require prior planning consent and also further modification to the IE Licence and the GHG permit.

The nature and extent of the development is discussed in detail in **Section 3** of this Report. As noted therein, the proposed development is inherently linked to the planning history of the site because it directly relates to the removal of an existing planning condition limiting the operation of the WOP Station and associated ADF to the end of 2020.

The proposed development before the Board will enable the continued operation of WOP Station and the associated ADF, and the phased transition of the Station from peat to biomass. The proposed development comprises four distinct elements:

- i. the continued and on-going operation of the existing generating station and the associated ADF beyond the previously permitted date of 31<sup>st</sup> December 2020, including the continued use of all structures, plant, hard-surfaced areas, boundary treatments and access ways on the existing sites - comprising structures with a combined gross floor area of c.27,073 sq.m. and other existing development on the 35.5 Ha WOP Station site; and existing development (including c.43 sq.m. of buildings, a c. 84 sq.m. wash slab, a c.1,491 sq.m. leachate lagoon (4,200 cubic metre capacity)) and other infrastructure associated with the existing operational landfill (c.128,780 sq.m. in area) located on the 59.2 Ha ADF site;
- ii. the phased transition of the WOP Station from peat-firing to firing exclusively on renewable biomass – the term ‘biomass’ describing a range of non-waste materials such as non-pelleted woody biomass; products, co-products, by-products and residues from energy crops and agricultural industries; and manufactured wood pellets. It is anticipated that from early 2020 (subject to planning being granted by that date) WOP Station will be fuelled by reducing volumes of peat and increasing volumes of biomass, with an associated reduction in carbon dioxide emissions. By the end of 2027, the station will be fuelled exclusively by biomass;
- iii. the development of fuel management and handling facilities on the WOP Station site to facilitate the change in fuel type – including the development of two biomass storage slabs (c. 3,924 sq.m. and c. 6,331 sq.m.) flanked by boundaries up to 5 m and 3.6 m high respectively; a 61 sq.m. pellet intake building (overall height 17.2m); a pellet storage silo (c. 28 sq.m. in area, 260

cubic metre capacity, maximum height 14.7m); and the re-organisation of surface storage, circulation and car parking areas – including new internal fencing and access gates, within the WOP Station site;

- iv. the development of additional landfill capacity (c. 929,200 cubic metres over an area of c. 173,130 sq.m.) at the existing dedicated ADF, to facilitate the disposal of an additional c. 880,000 tonnes of ash from the WOP Station, and associated ancillary development on that site including a new leachate lagoon (surface area c. 1,400 sq.m, storage capacity 4,500 cubic metres) and associated boundary treatment.

## 2.3 The Planning and Licensing Process

### 2.3.1 Legal Provisions in relation to Strategic Infrastructure

Section 37A(1) of the Planning and Development Act, 2000 (as amended) refers to specific classes of development – those set out in the 7<sup>th</sup> Schedule, where an application for planning permission is made directly to the Board as ‘Strategic Infrastructure’.

The criteria for determining whether a prescribed class of development constitutes Strategic Infrastructure is set out under Section 37A(2), namely where:

- a) *the development would be of strategic economic or social importance to the State or the region in which it would be situate,*
- b) *the development would contribute substantially to the fulfilment of any of the objectives in the National Spatial Strategy or in any regional, spatial and economic strategy in force in respect of the area or areas in which it would be situate,*
- c) *the development would have a significant effect on the area of more than one planning authority.*

The procedure for this determination is set out under Section 37B(2) and requires a prospective Applicant to enter into pre-application consultations with the Board. Those consultations provide an opportunity for the Board to give advice to the Applicant in relation to the status of the development with respect to those criteria, the procedures involved for making and in considering such an application, and advice in relation to what considerations, related to proper planning and sustainable development or the environment, may in the opinion of the Board, have a bearing on its decision in relation to the application.

Provisions are then set out (Section 37B(4) to (8)) for the Board to conclude whether the proposed development meets the criteria set out under 37A(2) i.e. whether the development constitutes Strategic Infrastructure. The Board then directs the prospective applicant to make an application for permission to the appropriate Planning Authority, in accordance with the procedures set out in the relevant sections of the Act.



### 2.3.2 The Planning Application Process

The proposed development is of a class set out in the 7<sup>th</sup> Schedule of the Planning and Development Act (as amended) – namely Energy Infrastructure comprising:

*a thermal power station or other combustion installation with a total energy output of 300 megawatts or more.*

In accordance with Section 38B of the Act, on 25<sup>th</sup> January 2018 an application was made to the Board (Ref. ABP-300774-18) to initiate pre-application consultation to determine whether the Board were of the opinion that the proposed development constitute a development of the type set out and that the provisions of Section 37A apply<sup>2</sup>.

In the course of the pre-application process, the ESB provided the Board with key technical descriptions of the proposed development (which was subject to on-going design) and a submission that set out why the Applicant considers the criteria are satisfied and that the development constitutes Strategic Infrastructure. In relation to the project thresholds – as they apply to the 7<sup>th</sup> Schedule, ESB advised the Board as follows:

- The proposed development is a thermal power station fuelled by peat and biomass, and ultimately by biomass alone;
- The Station process is essentially comprised of a boiler unit and a turbine unit. The boiler unit burns the fuel and produces steam at high pressure and temperature. This steam is used to turn the turbine which produces electricity, thereafter the exhausted steam is further cooled and converted back to water which is fed to the boiler to form a closed loop. The boiler unit typically operates at 91% efficiency taking in typically 378 Mega Watt thermal (MW<sub>th</sub>) every hour in the form of fuel, producing 344 MW<sub>th</sub> of steam and exhausting 34 MW<sub>th</sub> of heat up the stack. The turbine typically operates at 44% efficiency converting the 344 MW<sub>th</sub> of steam into 150 Mega Watt electrical (MW<sub>e</sub>) i.e. 150 MW of electricity, with the remaining 194 MW<sub>th</sub> lost from the process through the cooling of the low-grade exhaust steam back to water, using cooling water from the Shannon. Of the total of 150 MW<sub>e</sub> of electricity produced, 13 MW<sub>e</sub> is required to power the fans and pumps for the process

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<sup>2</sup> It is noted that the Applicant's submission to the Board also queried whether the proposed development constituted Strategic Infrastructure described as 'an industrial installation for the production of electricity, steam or hot water with a heat output of 300 megawatts or more.' The decision of the Board confirmed it did not.

(“house load”), leaving an overall electricity output of 137 MW<sub>e</sub> at an overall efficiency of approximately 36%.

- The total energy output of relevance to the threshold is the sum of the electricity output from the plant plus the heat output from the stack and heat dissipated back to the Shannon, i.e.  $137 + 34 + 194 = 365$  MW.

On that basis the ESB submitted that project is of a type specified in the Seventh Schedule and the mandatory threshold is exceeded.

Additional submissions were made during the pre-application consultation process that elaborated on specific aspects of the proposed development, as appropriate.

Representatives for the Applicant attended pre-application meetings with An Bord Pleanála on the 27<sup>th</sup> February 2018; 22<sup>nd</sup> June 2018; and 5<sup>th</sup> July 2018.

On the 12<sup>th</sup> October 2018 the Board formally confirmed that the proposed development constitutes development to which the provisions of Section 37A apply. The Board issued a notice under Section 37B(5) directing the ESB to make an application for permission direct to An Bord Pleanála (see **Application Form, Attachment 2**).

Pursuant to that notice, this application for permission is now being made.

### 2.3.3 The Licensing Process

The WOP Station and the associated ADF (located in the townlands of Leitra, Clonfinlough, Clondelara and Derrylahan), operates under an Industrial Emissions (IE) Licence (P0611-02) issued by the Environmental Protection Agency (EPA) in the context of large combustion plant BREF<sup>3</sup>. The station will continue to operate in accordance with the requirements for its GHG permit.

Changes to IE Licence conditions can be requested by the operator of the facility or can result from changes to legislative requirements and initiated by the EPA. Such changes can be made by way of a clerical amendment, technical amendment or through a licence review process. Currently an IE Licence Review application is being made to the EPA by WOP Station in relation to the thermal cooling water emission condition in the current licence.

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<sup>3</sup> BREF or ‘BAT reference document’ meaning a document drawn up for defined activities and describing, in particular, applied techniques, present emissions and consumption levels, techniques considered for the determination of best available techniques.

The proposed development will facilitate the continuation of use of the WOP Station, transitioning of the fuel type from peat to biomass and extending the landfill capacity as described herein. An IE Licence Review will be required to licence the proposed activity. An application for a revised IE Licence to operate WOP Station and ADF will be made separately to the EPA subsequent to the planning application lodgement, in accordance with the requirements of the Agency.

## 2.4 Public Consultation

In advance of this application being made, there has been extensive consultation with a range of bodies and the local community.

The Executive of Offaly County Council was briefed on the proposed project in December 2017. Local elected representatives to the Council (the Birr Municipal District Council) were briefed on the proposed project in January 2018. During the course of project design, periodic updates were provided to the Planning Authority.

In February 2018 an EIA Screening and Scoping Request setting out the Applicant's proposed approach to the scoping of the EIAR was circulated to consultees as part of an informal pre-application consultation process. This document was issued to nineteen consultees, namely:

- An Taisce
- Birdwatch Ireland
- Offaly County Council (Environmental Section)
- Offaly County Council (Planning Section)
- Roscommon County Council (Environmental Section)
- Roscommon County Council (Planning Section)
- Galway County Council (Environmental Section)
- Galway County Council (Planning Section)
- The Environmental Protection Agency (EPA)
- Bord na Móna
- Irish Water
- Fáilte Ireland
- Friends of the Irish Environment (FoIE)
- Inland Fisheries Ireland (IFI)
- Irish Peatland Conservation Council
- National Monuments Service (NMS)
- National Parks & Wildlife Services (NPWS)
- Irish Raptor Study Group
- Transport Infrastructure Ireland.

The EIAR contains copies of the correspondence received in response to that request and a summary of the Applicant's responses to the issues raised (see **EIAR, Chapter 1**).

In order to encourage and facilitate on-going community participation, the Applicant appointed a Community Liaison Officer (CLO) who is active in the local community

including in the door-to-door delivery of a project newsletter to update the local community on the status of the project.

A public consultation meeting was held at the Parish Hall in Shannonbridge, County Offaly on the 21<sup>st</sup> February 2018. The event was advertised in the local newspapers (see **EIAR, Chapter 1**); on local radio; and through posters erected in the village. The event was timed to facilitate afternoon and evening attendance to maximise participation throughout the community. Information was provided through self-guided displays with representatives from the ESB and Bord na Móna on hand to answer queries and discuss the project. The event was structured as informally as possible in order to facilitate meaningful engagement with individuals as well as any local groups who attended.

The consultation meeting was well attended by members of the local community and local representatives. The event was attended by RTÉ News and featured on the national media.

The key issues raised related to:

- Traffic and traffic management;
- Noise;
- Community gain and benefits; and
- The nature of the biomass fuel.

As a follow-up to this meeting, a number of submissions were received from members of the community. These submissions have been considered by the ESB in the framing of this application.

As part of the formal planning process, ESB also engaged in pre-application discussions with An Bord Pleanála (see **Para. 2.3.2** above). This process informed various aspects of the project development including the duration of the initial co-firing period – which was minimised to ensure that the use of peat as a fuel was ceased at the earliest possible opportunity, in response to feedback received from the Board while having regard to the socio-economic impacts of the transition and the overall viability of the project. The consultation file associated with those discussions forms part of the public record.



**Image 2-1 Biomass samples at the public meeting, Shannonbridge, February 2018**



**Image 2-2 Public meeting, Shannonbridge, February 2018**

Finally, as part of the formal application process, ESB has made extensive efforts to engage with the public. In accordance, and in addition to, the requirements for public notices set out under the Act, ESB has notified the public of these applications by means of:

- **Site notices** – in total 7 No. detailed site notices have been erected on the relevant lands. The location of these notices is shown on the submitted planning application drawings – refer to **QS-000206-01-D460-007** and **QS-000206-01-D460-100**. In electing to exceed the statutory requirements under the Regulations, ESB have endeavoured to ensure that members of the public are aware of the proposed development. A copy of the notices is included in the application pack (see **Application Form, Attachment 7**).
- **Newspaper notices** – in total 3 No. detailed newspaper notices have been published. One appeared in a national newspaper – the Irish Independent, with an addition two published in regional newspapers – the Tullamore and Midlands Tribune and the Offaly Independent. Each of these publications is approved by Offaly County Council as a newspaper circulating in the area. In again electing to exceed the statutory requirements under the Regulations, ESB have endeavoured to ensure that members of the public are aware of the proposed development. A copy of each the newspaper notices is included

## 3 The Proposed Development

As summarised in **Section 2** above, ESB is proposing the continued use of the WOP Station at Shannonbridge and the associated ADF, and to transition that station to exclusive firing with biomass. This converts the Station from a high-carbon to a low-carbon electricity generation station.

This Section describes the development sites; the relevant planning history, and the details of the proposed development– noting that further technical details are outlined in the EIAR.

### 3.1 The Development Sites

This application for permission relates to the site of the existing WOP Station located on lands in Shannonbridge, Co. Offaly; and the site of the existing ADF, located in the townlands of Clonfinlough, Clondelara, Leitra, and Derrylahan.

The station operates in accordance with an EPA Industrial Emissions (IE) Licence Ref. P0611-02, which regulates activities at both the station and ash disposal sites.

WOP Station also operates under a GHG permit.

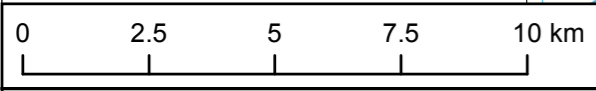
The location of the sites is shown on the **Figure 3-1**.







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REV	DATE	REVISION DESCRIPTION	DRN	PROD	VER	APP
PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED						
CLIENT APPROVAL <input type="checkbox"/> PLANNING <input type="checkbox"/> TENDER <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> AS-BUILT <input type="checkbox"/>						

**ESB INTERNATIONAL**  
 One Dublin Airport Central,  
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 Tel: 353 1 703 8000 Email: marketing@esbi.ie  
 Web: www.esbinternational.ie  
 ESB International is a trading name of  
 ESB International Engineering & Facility Management Ltd.  
 Registered Office: as above  
 Registered in Ireland No. 155249

CLIENT: **ESB**  
 PRODUCTION UNIT: **Civil & Environmental Engineering**  
 PROJECT: **West Offaly Power, Transition to Biomass**  
 DRAWING TITLE: **Figure 3.1- Location of WOP Station & ADF**  
 CONTRACT: \_\_\_\_\_

CLIENT REF: \_\_\_\_\_  
 PRODUCED: **E.O'Shea**  
 VERIFIED: **E.Delaney**  
 APPROVED: **P.Kavanagh**  
 APPROVAL DATE: **01/11/2018**  
 NO. OF SHEETS: **00-00**  
 SIZE: **A3**  
 SCALE: **1:150,000**  
 DRAWING NUMBER: **QS-000206-01-D460-126**

**Legend**  
 Development Boundary

**QS-000206-01-D460-126**



### 3.1.1 The WOP Station Site

WOP Station is located in Shannonbridge, County Offaly, on the eastern banks of the River Shannon, due south of the village. The site comprises industrial and brownfield lands.

The established character and use of the WOP Station site is industrial - reflecting its long established use for electricity generation activity. There has been continuous generation of electricity at the site since 1965 when a 40 MW unit was first commissioned. That station was extended in 1977 and again in 1982 at which point it had an installed electrical capacity of 125 MW. That station was decommissioned in 2003 and the site was remediated to the satisfaction of the EPA.

The existing station was commissioned by ESB in 2005 as required by the Electricity Regulation Act 1999 (Public Service Obligations) Order 2002 (SI No.217/2002). It is a peat-fuelled generation station with an installed capacity of 150 MWe.

WOP Station is fired on milled peat supplied by Bord na Móna Energy Limited, with a start-up and combustion support facility for firing fuel oil. WOP Station is operated in accordance with the European Union Emission Trading Scheme (ETS) and under Greenhouse Gas Permit (IE\_GHG077\_10385\_4) as administered by the EPA. Bord na Móna supply the peat from existing bogs as licensed by the EPA.

In 2017 WOP exported 928,875 MWhrs of electricity to the national grid equivalent to the needs of approximately 220,000<sup>4</sup> households.

The existing WOP Station site comprises 35.5 ha of land located within the townland of Cloniffeen. The Eircode for the existing station is N37 C840.

The site is separated into two functional areas - the generating station itself which is operated by ESB, and the fuel handling area which is operated by Bord na Móna.

The site layout and structures are shown in detail on the attached planning drawings.

The station site currently accommodates c. 27,073 sq.m of development within a number of buildings. The main features of the site are:

- main building housing fluidised-bed boiler and 150 MWe rated turbo-alternator unit,

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<sup>4</sup> Based on CRU average of 4,200 kWhrs / year per household, 2017, [https://www.cru.ie/document\\_group/review-of-typical-consumption-figures-decision-paper](https://www.cru.ie/document_group/review-of-typical-consumption-figures-decision-paper)

- fuel handling system comprising peat wagon tippers, screens, conveyors and an intermediate peat storage (IPS) facility,
- water treatment plant (WTP) for processing of water prior to its storage and use in the boiler,
- cooling water system, comprising a pump-house, inlet and outlet culverts and outfall, for condenser cooling,
- flue gas system comprising cyclone separators and bag filters for removal of peat ash from exhaust gases,
- stack / chimney for discharge of exhaust gases to the atmosphere,
- ash handling system comprising conveying systems and storage silos,
- oil tank for storage of auxiliary fuel,
- storage facilities for limestone, lime and sand,
- generator transformers, high voltage switchgear and unit and house transformers.
- ancillary supporting facilities including the following:
  - administration offices,
  - fire protection system,
  - auxiliary cooling water system,
  - fuel oil pumphouse,
  - diesel generator,
  - chemicals storage tanks,
  - chemical laboratory,
  - sewage treatment plant,
  - workshop and stores.

Occasionally temporary structures, typical of an industrial facility, are located on the site to facilitate on-going service and maintenance. These utilise existing site services and infrastructure.

The structural form of station buildings is conventional structural steel supported on reinforced concrete foundations. Gantries and walkways for access to plant and equipment are constructed of stainless/galvanised steel open grating type flooring. These are supported on steel beams and columns. External walls comprise profiled metal cladding and roofs are constructed of profiled metal decking on purlins spanning between rafters.

The site is accessed from two entrance roads leading from the R357 Regional Road. It is also served by a dedicated private railway operated by Bord na Móna, which links the peat supply bogs, the ADF and the station.

Peat fuel is supplied to WOP Station by Bord na Móna, principally by rail with deliveries also made by road.

Additional detail in relation to the existing facilities and operations at the WOP Station site are set out in the EIAR (see **EIAR, Para. 4.1**).

### 3.1.2 The Ash Disposal Facility (ADF) Site

To serve the needs of the WOP Station site with respect of ash disposal, ESB developed a dedicated ADF some 5.5km from the station. Under the existing planning consent this site is permitted to accept 825,000 tonnes of dry ash over its operational life. This development site extends onto lands located within four townlands - Clonfinlough, Clondelara, Leitira, and Derrylahan.

The 59.2 ha<sup>5</sup> site is in a remote area of cutaway bogland. The established character and use of this site is inherently linked with the previous use of that bog for the industrial harvesting of peat, and the on-going operation of the established ADF.

The ADF is a highly engineered site comprising a number of lined landfill cells, each of which is filled, sealed and capped. Associated infrastructure on the site currently includes a settlement lagoon with a surface area of c.1,491 sq.m (4,200 cubic metre capacity) and welfare facilities for staff.

The site is operated and managed on behalf of ESB by Bord na Móna, in accordance with the requirements of the EPA and the conditions of the aforementioned IE Licence. Under that Licence the ADF is required to comply with the EU Landfill Directive (Directive 1999/31/EC) and the Landfill Operational Plan with respect to design, construction, operation and aftercare management.

Both fly ash and bottom ash from WOP Station are disposed of at the ADF. Ash is transported to the ADF on Bord na Móna's narrow gauge rail system in purpose-built saddleback wagons. The ash is tipped from the wagons and is placed in the cells semi-dry and is wetted to control potential dust emissions. It is graded to falls during the filling of the cells to ensure that ponding, resulting in leachate generation, does not occur. A tractor drawn spray tanker or fixed spray system is used in wetting the ash to aid compaction and further prevent dust nuisance. Leachate that is generated is re-circulated over the active cell to dampen the ash.

On-site, the location of the off-loading area within the ADF is dependent on which cell is operational and access is arranged by the relocation of the temporary rail tracks on the site. Tracks are aligned so the ash can be tipped from the rake into each cell where it will be spread, compacted and levelled by a front-end loader to prevent any ponding of water on the surface.

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<sup>5</sup> Note this site area includes the dedicated access road.

At present, three cells (Cells 1, 2 and 3) are already closed and capped as per the requirements of the IE licence. Cells 4 and 5 are currently active and are accepting ash with capping being completed on an ongoing basis. It is anticipated that Cell 6 will be used from late 2019 / early 2020 and will be actively in-use when the Station enters its co-firing phase. Each cell is separated from the adjoining cells by inter-cell embankments and by external embankments. Leachate is drained from each cell and will be recirculated or pumped to the existing leachate storage lagoon. In accordance with the IE Licence the leachate can be discharged from the lagoon to the Gowlan River provided it meets the emission limits outlined in the licence.

Additional detail in relation to the existing facilities and operations at the WOP Station site are set out in the EIAR (see **EIAR, Para. 4.1**).

The ADF site is accessible via a c. 3km roadway linking the site with the R357 from Shannonbridge to Cloghan. It is also served by the Bord na Móna rail-line that links the station and the ADF site. Ash is currently transported to the site by means of that BnM rail-line.

### 3.1.3 Statement of Legal Interest in the Lands

At the WOP Station site, all development work will take place on lands within the ownership of ESB.

At the ADF site, the ESB will enter into arrangements to secure additional lands from Bord na Móna in order to facilitate the development. These additional lands will be incorporated into the application for the revised IE Licence to ensure that they are operated and managed to the satisfaction of the EPA. A letter of consent from Bord na Móna in relation to those areas is attached to the completed application form (see **Application Form, Attachment 6**).

It is noted that there is an existing wayleave in place to serve lands to the south of the Station, which are now in third party ownership. The proposed development will not alter or affect that existing wayleave. As required, this wayleave is shown on the planning drawings that accompany this application.

## 3.2 Planning History

As noted above this application relates to two distinct parcels of land – the site of the existing WOP Station and that of the existing ADF.

The WOP Station site has a planning history that is directly associated with its established use for energy generation, as evidenced by a range of planning permissions. The ADF site has a singular planning permission – which relates to its current use as a dedicated ash landfill site associated with the activities of the WOP Station.

The proposed development is inherently linked to the planning history of the sites insofar as the development is predicated on the permitting of an extended operational life for the existing WOP Station and the associated ADF.

The planning history of the subject lands is set out in **Table 3-1** overleaf.

Planning Authority Reg. Ref	Summary	Decision
Offaly Co. Co. Reg. Ref. 91/274	Additional office accommodation and conference room	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 93/79	100m high flue and chimney and additional ancillary development	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 97/185	Extension to existing office block	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 98/456	Roof over fuel handling plant	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 99/224	Retention of telecommunications mast	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 00/648	Replacement of transformers	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 01/187 (An Bord Pleanála Ref. PL19.125575)	Development of a new peat- fuelled power station and associated ash disposal facility	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 01/1199	110 kV Station Control Building	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 02/900	Site services (foul water treatment and disposal)	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 02/921	Extension to existing 220 kV relay	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 03/137	Site services (foul water treatment and disposal)	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 04/507	Extension to pump-house	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 04/1000	Modifications of, and extension to, pump-house	Grant of permission with conditions
Offaly Co. Co. Reg. Ref. 012/54	Alterations to Shannonbridge 110/220 kV electricity transmission station	Grant of permission with conditions

**Table 3-1 Relevant Planning History of the Subject Lands** <sup>6</sup>

The most relevant permission for the purposes of this application is that granted by An Bord Pleanála under Offaly Co. Co. Reg. Ref. 01/187; An Bord Pleanála Ref. PL19.125575. That consent permitted the development of a new 150 MW<sub>e</sub> gross capacity peat-fired generating station on this site at Shannonbridge, and the associated development of an ADF on lands at Derrylahan, Co. Offaly. The new WOP Station was a planned replacement for the pre-existing peat-fired station which was scheduled for de-commissioning and demolition.

That planning application was accompanied by an Environmental Impact Statement (EIS). The activities required an Integrated Pollution Control Licence under the Environmental Protection Agency Act 1992 at that time, now amended to an Industrial Emission (IE) Licence.

That permission was granted subject to conditions. A number of these are particularly relevant to the permitted duration of operations on the site. Specifically, Condition 2 limited the operational life of the station, stating:

*‘2. This permission shall expire on the 31st day of December 2020, unless before the end of that period permission for the continuance of the use beyond that date shall have been granted.’*

**Reason:** *In the interest of the proper planning and development of the area and to facilitate a review of the facilities at that time.’*

Arising from this condition, a new planning consent is required to facilitate continued operations at WOP Station and associated disposal activity at the ADF beyond the 31<sup>st</sup> December 2020.

Associated with Condition 2, there was a requirement for the decommissioning of activity on the site, as set out under Condition 8, which stated:

*‘8. The following shall apply to this permission:*

*(a) The proposed power station complex shall be decommissioned, the buildings removed and the site reinstated within two years of the expiry date as outlined in condition number 2 above, in accordance with a restoration plan to be agreed with the planning authority prior to the commencement of development. In the event of the developer’s failure to activate the restoration works, the planning authority shall be empowered to notify the developer of*

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<sup>6</sup> Applications for development pre-2003 are associated with the previous power station which was demolished and replaced by the existing WOP Station pursuant to OCC Reg. Ref 01/187 / ABP Ref. PL19.125575.



*its intention to activate the restoration plan and of its intention, within a period of 60 days, to call upon financial guarantees referred to under part (c) of this condition.*

*(b) The existing power plant and associated buildings shall be decommissioned and removed from the site within two years of the commissioning of the proposed replacement power plant in accordance with details and a restoration plan to be agreed with the planning authority prior to the commencement of development. In the event of the developer's failure to decommission and remove the existing power station, the planning authority shall be empowered to notify the developer of its intention to activate the restoration plan and of its intention, within a period of 60 days, to call upon financial guarantees referred to under part (c) of this condition.*

*(c) Prior to the commencement of development the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or other security to secure the restoration of the site, coupled with an agreement empowering the planning authority to apply such security or part thereof to ensure the removal of buildings and to secure the satisfactory restoration of the site. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be determined by An Bord Pleanála.*

**Reason:** *To ensure a satisfactory restoration of the site.'*

The requirements of this condition were subject of correspondence between the ESB and the Planning Authority following the grant of permission in 2002.

Having regard to the existing permission, and in particular Conditions 2 and 8, it is noted that any grant of permission to extend the operational life of the power station – pursuant to this application for permission, will specifically supersede these existing consents.

### 3.3 Description of the Proposed Development

In terms of this planning application, the proposed development comprises four distinct elements:

- the continued and on-going operation of the existing generating station and the associated ADF beyond the previously permitted date of 31<sup>st</sup> December 2020, including the continued use of all structures, plant, hard-surfaced areas and access ways on the existing sites;
- the phased transition of the WOP Station to firing exclusively on sustainable biomass. From early 2020 (subject to a grant of planning permission) the Station will be fuelled by reducing volumes of peat and increasing volumes of biomass, with an associated reduction in carbon dioxide emissions. By the end of 2027, the station will be fuelled exclusively by biomass;
- the development of fuel management and handling facilities on the WOP Station site to facilitate the change in fuel type;

- the development of additional landfill capacity at the existing dedicated ADF to facilitate the disposal of an additional c. 880,000 tonnes of ash from WOP Station, and associated ancillary development on that site including a new fenced leachate lagoon.

Associated with the extended operational life of the station, there will be a period from early 2020 to the end of 2027 when the station transitions to become fully reliant on sustainable biomass. During this period the Station will continue to combust peat. Associated with this activity there will be on-going harvesting and transport of peat from existing supply bogs to the Station. This activity is subject to separate IPC licensing held by Bord na Móna for pre-existing and established bog groups. Although consent for that activity is not subject of this planning application, the indirect environmental impacts associated with that activity are considered in the EIAR.

Each element of the proposed development is described in detail in the EIAR (see **EIAR, Chapter 4**). These are discussed here, principally in relation to the scope of the planning application. The more detailed descriptions in the EIAR should be consulted to facilitate full assessment of the proposed development.

A separate AA Report - comprising an AA Screening Report and Natural Impact Statement (NIS) has also been prepared for the proposed development. It incorporates an assessment of the indirect environmental impacts of the continued harvesting of the Bord na Móna peat supply bogs.

Each element of this proposed development is subject of a detailed planning assessment in **Section 5** of this report.

### 3.3.1 Continued Operation post 31<sup>st</sup> December 2020

Permission is sought to continue to operate the WOP Station and the ADF beyond the permitted date of 31<sup>st</sup> December 2020.

This requires a new planning consent that will supersede the details and conditions of OCC 01/087; ABP Ref. PL19.125575. This cross-reference between the planning consents is referenced on the public notices that accompany this application.

Permission is being sought to continue to operate the WOP Station on an on-going basis, with no defined date for the cessation of generation activity.

Permission is also being sought for the continued use of the dedicated ADF – the existing waste (ash disposal) infrastructure, and all associated development on that site. Associated with on-going generation this site will also be extended (see **Section 3.3.4** below).

For clarity, permission is being sought to maintain *in situ* all physical development on the WOP Station and ADF sites associated with existing activities on those sites. These activities are as described above as the existing facilities and operations on both the WOP Station and ADF sites (see **Paras. 3.1.1 and 3.1.2** above respectively).

In terms of the nature and scale of development that this relates to, on the WOP Station site, buildings and structures with a cumulative gross floor area of 27,073

sq.m within the 35.5 ha site will be maintained as currently developed. A number of these structures contain multiple internal levels – many of which comprise elevated gantries and walkways. As perhaps a more representative measure of the quantum of development on the site the existing building footprint on the site is in the order of 11,822 sq.m.

The particulars of existing structures are as listed on **Table 3.2** below.

Structure Reference / Name	Description and Scale of Development
<b>WOP Station / Boiler House</b>	<p>Electricity generating station with a footprint of 5,470 sq.m. and a max. stack height 80m. Over a number of floor levels, the station building contains areas of working plant – which are accessible by internal walkways / gantries and mezzanine floors. It also contains permanent office and administrative areas associated with the operation of the Station.</p> <p>The gross floor area of the building is c.20,165 sq.m.</p>
<b>Integrated Peat Storage Building (IPS)</b>	<p>Large peat storage building (c. 21m high over basement level). This building has a footprint of 3,838 sq.m. The building principally comprises a large multi-storey void containing plant and machinery associated with the storage of peat. It also contains walkways providing access to plant and working areas associated with the control and management of the fuel handling systems. The gross floor area of the building is c. 4,120 sq.m.</p>
<b>Small screening building <sup>7</sup></b>	<p>Small screening building to the south-west of the IPS Building, linking with elevated conveyor. This building has a footprint of 142 sq.m. and a gross floor area of 126 sq.m.</p>
<b>Electrical building</b>	<p>Single storey building housing electrical plant. This building has a footprint of 190 sq.m and a gross floor area of 175 sq.m. .</p>
<b>Screening building <sup>8</sup></b>	<p>Screening building to the south-west of the IPS Building, linking with elevated conveyor to transfer fuel towards the Station. The building has a footprint of 459 sq.m., and comprises a large ground floor area with walkways overhead. The gross floor area of the building is c. 570 sq.m.</p>



<sup>7</sup> Excluding area of covered external conveyors.

<sup>8</sup> Excluding area of covered external conveyors.

<b>Tippler and Lorry Unloading Building</b>	8.5m high tippler building and an unloading building - comprising two levels over a basement level; both facilitating fuel management and handling. The buildings have a footprint of c. 805 sq.m. and a combined gross floor area of c.1,030 sq.m.
<b>Water Treatment Plant Building</b>	Single-storey (max. 10.5m high) building with a footprint of 377 sq.m. This building has a gross floor area of 352 sq.m.
<b>Peat Lab / Offices Building</b>	Single-storey building with a footprint of 146 sq.m. and a gross floor area of 132 sq.m.
<b>Maintenance Building</b>	2-storey building housing maintenance equipment with a building footprint of 130 sq.m. and a gross floor area of 158 sq.m.
<b>Locomotive (Loco) Service Building</b>	Building (c. 8.5 m high) with a footprint of 229 sq.m. and a gross floor area of 213 sq.m.
<b>Oil Pump House</b>	Single-storey building with a building footprint of 36 sq.m. and a gross floor area of 32 sq.m.
<b>Cumulative Building Footprint (Existing) on the WOP Station Site</b>	<b>11,822 sq.m.</b>
<b>Cumulative floor area (existing) of buildings on the WOP Station site</b>	<b>27,073 sq.m.</b>

**Table 3.2 Schedule of existing development on the WOP Station site for which continued consent is sought**

On the 59.2 ha ADF site, there is an existing landfill area of c. 128,780sq.m. As noted above five of the existing cells will be filled and Cell 6 will be in-use when the anticipated change to co-firing occurs. Associated with the operation of this site there are a small number of buildings (c. 43 sq.m. in area) with associated service areas including a c. 84 sq.m. wash slab and a c. 1,491 sq.m. leachate lagoon (with an approximate storage capacity of c. 4,200 m<sup>3</sup>) which will be maintained as existing. These aspects of the development will be unchanged unless specifically indicated on the planning drawings that accompany this application.

The existing structures are as listed on **Table 3.3** over.

Structure Reference / Name	Scale of development	Description
Existing canteen	13.3 sq.m.	Single storey modular unit
Existing site office	13 sq.m.	Single storey modular unit
Existing wash slab storage container	10.4 sq.m.	Single storey modular unit
Existing toilet block	6.4 sq.m	Single storey modular unit
<b>Gross Floor Area (Existing) on the ADF Site</b>	<b>43.1 sq.m.</b>	

**Table 3.3 Schedule of existing development (structures) on the ADF site for which continued consent is sought**

### 3.3.2 The Phased Transition to Sustainable Biomass

Currently the WOP Station is fuelled by the combustion of peat, with minor volumes of fuel oil for start-up and combustion support.

Central to this proposal is the move away from generating electricity from the combustion of fossil fuel (peat) to firing on sustainable biomass – a low carbon, renewable fuel.

As outlined in **Para. 2.2** above, the biomass fuel will comprise indigenous and imported material defined as:

- non-pelleted woody biomass, e.g.
  - products, co-products, by-products and residues of the forestry sector such as brash, thinning and other residues from the forestry sector where those materials are produced from the active management and felling of commercial forests;
  - products, co-products, by-products and residues - such as saw dust, sourced from timber mills, manufacturing processes and the forestry sector, and
  - wood chips produced by the timber industry – whether from commercial products or chipped wood arising from other commercial activities such as rubber tree plantations;
- products, co-products, by-products and residues from energy crops;
- products, co-products, by-products and residues from agricultural industries, e.g. plant derived
  - husks,
  - shells, and

- pulp; and
- manufactured wood pellets.

The use of biomass for energy generation is considered a renewable form of energy under the recast Renewable Energy Directive REDII - provided the biomass used meets sustainability criteria requirements and carbon displacement factors set. To ensure that the operation of WOP Station meets these standards, the principles whereby biomass will be sourced and supplied have been identified by ESB and these are set out in the EIAR (see **EIAR, Para. 4.4.3**). These principles will be applied to ensure that the transition to biomass results in a genuine and significant reduction in CO<sub>2</sub> emissions from the plant operation and fully complies with REDII.

The two-phase fuel conversion is described in detail in the EIAR (see **EIAR, Para. 4.4**) particularly with respect to the characteristics of the transitional phases, having regard to volumes of material, energy outputs and associated CO<sub>2</sub> emissions.

Throughout its operational life, WOP Station will operate in accordance with the conditions of its prevailing IE Licence.

The discrete fuelling phases are briefly described as follows:

### 3.3.2.1 The Co-Firing Phase

The co-firing phase will occur from early 2020 to the end of 2027. During this phase the station will be fuelled by reducing volumes of peat and increasing volumes of biomass.

#### **The fuel profile during the co-firing stage**

Biomass will replace peat in significant volumes from early 2020. From this time there will be an immediate reduction in peat burn and an immediate ramp up in biomass burn. The maximum peat burn will be reduced by at least 40% of current volumes for the period 2020 to 2024, and 60% from 2025 to 2027, with peat being phased out (reducing to zero) by the end of 2027. During this phase the volumes of peat used will be limited by commercial considerations which is linked to electricity wholesale market prices.

After 2027, the Station will generate dispatchable renewable electricity fuelled fully by sustainable biomass.

It is acknowledged that the initial transition phase of development requires the continued combustion of peat - albeit in decreasing volumes. It is necessary to facilitate a phased transition to biomass because the immediate conversion of the Station (from peat to biomass) would not be possible for a number of reasons, as follows:

- The orderly transition of the Midlands regional economy away from peat harvesting is a key objective of national, regional and local planning policies. Bord na Móna have most recently stated that the commercial harvesting of peat for energy generation will cease by 2028. The proposed development would see ESB – a primary customer for harvested peat, changing the demand profile ahead of this date (by one year) while facilitating adequate

transition time for both Bord na Móna and the regional economy to adjust to the reduced role of peat harvesting, while fostering the development of the green economy and delivering on diversification of the rural economy.

- The proposed transition to biomass is rendered commercially viable only by the availability of a fiscal support for co-fired generating stations. The existing fiscal support – the peat PSO, expires at the end of 2019. Beyond that date there is no subsidy for combustion of peat.

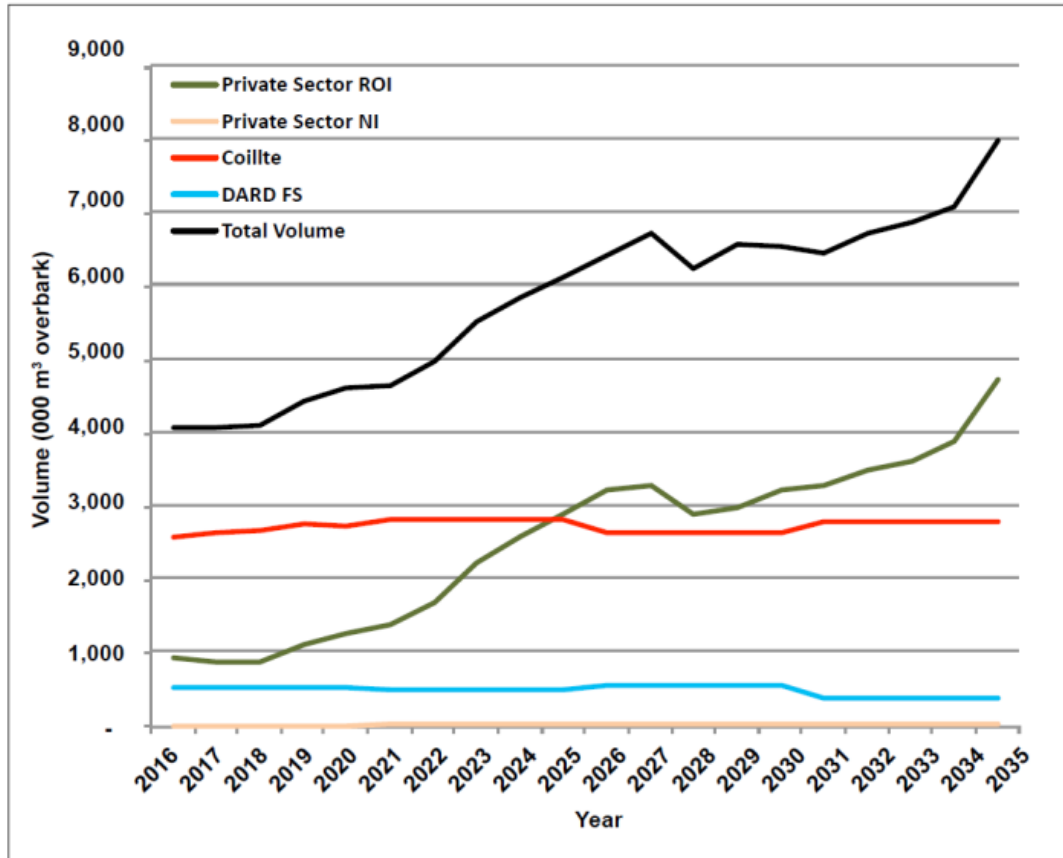
The REFIT3 scheme (see **Para. 4.2** below), approved in 2017 and in place until 2030, will then be available for a co-fired facility, supporting the biomass burn up to a limit of 30% of the annual generation capacity of the station, with no support for peat. At WOP Station, REFIT3 will provide biomass support for up to 394 GWhrs per year (30% of the station’s installed generation electrical capacity). Increased electricity generation fuelled by biomass - above that proposed in the co-firing stage, would require additional support, because at present the cost of generating power from biomass is significantly in excess of the current wholesale electricity prices. Therefore even with the support provided by REFIT3, the revenue from peat generation is necessary to make the project commercially viable. There are currently no supports in place to support any faster transition.

- During the co-firing phase (2020 to 2027), the indigenous biomass industry is expected to yield increasing volumes of biomass. This will occur as the conversion of WOP Station stimulates the biomass industry. Increased availability of indigenous biomass will facilitate the transition away from peat, though this will take time.

It is expected that the agricultural sector will seek government support (in policy and fiscal terms) for the development of short rotation energy crops e.g. willow. This will necessitate the preparation of position papers, the environmental assessment of same, and approval and administration of a grant scheme. It is reasonable to expect that this will take c. 36 months before supports are available. This will be followed by the planting of crops. Noting that willow needs three to four years to initially develop with a greater yield occurring in the second rotation, significant volumes of similar crops will likely only become commercially available from the mid-2020’s.

In parallel with increased availability of biomass crops, from 2025 onwards there will be a marked increase in the availability of indigenous biomass from the forestry sector (public and private). This will occur as maturing forests reach thinning and harvestable age. This assumption is supported by the National Council for Forest Research and Development (COFORD) Report -

the **All Ireland Roundwood Production Forecast, 2016-2035**<sup>9</sup>, which identified that roundwood supply would increase significantly over the next two decades, with almost all of the increase coming from privately-owned forests in the ROI and primarily in the larger size assortments. As shown on **Figure 3-2** below (Page iv, COFORD Report), the major increase in supply occurs from 2020 on with significant supply from private forestry occurring from 2024.



**Figure 3-2 Forecast to total new realisable volume, All Ireland Roundwood Production Forecast 2016-2035, COFORD, 2016**

The increased availability of indigenous biomass will therefore likely only come about from the mid 2020's at which time the indigenous sector can

<sup>9</sup> Phillips, H., Corrigan, E., McDonagh, M., Fairgrieve, M., Farrelly, N., Redmond, J., Barrett, F. and Twomey, M. 2016. All Ireland Roundwood Production Forecast 2016-2035. COFORD, Department of Agriculture, Food and the Marine, Dublin.



realistically meet projected biomass demand, thereby allowing the replacement of peat from the fuel mix.

- ESB has committed that all biomass which will be utilised by ESB for energy generation purposes will meet strict sustainability criteria which are fully in line with the requirements of RED II as agreed by the institutions of the EU (see **EIAR, Para. 4.4**). It is anticipated that although many suppliers will meet these criteria, due to existing safeguards (FSC and PEFC for sustainable forests for example) there will be a learning curve for both indigenous and international suppliers in this respect. Time is therefore needed to enable these new systems and protocols to become established and critically to protect the integrity of the transition by ensuring all material suppliers are subject to correct due diligence checks.

This first phase – co-firing, will occur in early 2020 i.e. after the cessation of the peat PSO at the end of 2019. As noted above, after 2019 the only fiscal support will be for the combustion of biomass (through REFIT3 or other approved schemes such as RESS). Therefore, during this period the quantities of peat used will be directly influenced by the wholesale electricity market price. For peat to be economical to burn, the wholesale electricity price would need to be high enough to cover the cost of the peat consumed, operational costs plus the cost of the carbon emissions certificate required to do so. In that sense, the externality of carbon emissions will directly influence any decision to burn peat for electricity generation and will in itself limit the volumes of peat being consumed.

The compatibility of the co-firing phase of generation with prevailing energy policies must be considered in the context of wider EU policy instruments. Carbon emissions from WOP Station, as with all of Ireland's thermal generating stations (including EPL and LRP) are accounted for in the pan-EU Emissions Trading Scheme (ETS). The EU emissions trading system (EU ETS) is a cornerstone of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions in a cost-effective manner. The ETS is a cap and trade scheme, established in 2005, that restricts CO<sub>2</sub> emissions from the major emitting sectors in Europe. It was established under Directive 2003/87/EC (and its amendments) and is implemented in Ireland under S.I. 490 of 2012 (and amendments) and S.I. No. 261 of 2010 and amendments. It is a mandatory requirement for power generators such as WOP Station to participate in the scheme.

Under the ETS scheme, WOP Station operates under a greenhouse gas (GHG) emission permit (Licence Reference IE\_GHG077\_10385\_4) issued by the EPA which allows it to operate and emit CO<sub>2</sub>. Under the ETS, WOP Station must surrender a certificate for each tonne of CO<sub>2</sub> it emits. The total number of carbon credits in the scheme is set by the EU at a level which aims to reduce CO<sub>2</sub> emissions progressively (to 43% below 2005 levels) by 2030 in-line with the EU Council 2030 Climate and Energy Policy Framework. With the ETS, the EU has predetermined how many credits are available for each year and so this establishes how much carbon can be emitted across the EU in any year all while maintaining a trajectory to the overall target of the scheme. The ETS has been further reinforced by the introduction of the Market Stability Reserve which comes into effect in January 2019 and which will eliminate any surplus allowances. This will increase the cost of carbon allowances

as a result of fewer credits being available. It should be noted that electricity generating plants come under the carbon accounting rules of the EU and not of the national government.

The emissions from WOP Station will be accounted for in the ETS and the required carbon credits must be purchased. Where, say, the WOP Station transitioned directly from 100% peat to 100% biomass, the overall carbon credits under the ETS would not be reduced - simply those credits would become available for another installation in the EU. The proposed phased transition – i.e. allowing the continued but reducing peat burn until 2027, does not have any negative impact on the EU meeting its carbon reduction targets as set out in climate and energy policy.

#### **Transportation during the co-firing stage**

Co-firing will result in changing fuel transport patterns at the WOP Station site. While peat is still used, it will principally be delivered to the station by rail, with a small proportion of deliveries by road. Biomass will be transported by road.

#### **Ash arising during the co-firing stage**

During its operational life, the station will continue to produce ash which will be deposited in the ADF in accordance with the IE licence requirements. For all stages of development ash will be transported by rail to the ADF.

#### **Fuel management during the co-firing stage**

The existing WOP station facilities will continue to be used to handle the peat. Some additional new plant will be required to facilitate the handling of biomass (see **Para. 3.3.3** below).

### **3.3.2.2 The Low-Carbon Sustainable Biomass Phase**

#### **The fuel profile during the biomass stage**

From the end of 2027 WOP Station will be fuelled on 100% sustainable biomass, with an allowance for fuel oil for start-ups and combustion support as required.

At this point the station will be a low-carbon energy generation facility.

Energy production from WOP Station will be accounted for by the EU as “low-carbon”. Under the EU Rules biomass is considered carbon neutral. The GHG certificates that the station will receive will show zero carbon from the biomass fuel used. Minor carbon emissions will arise from the continued use of fuel oil, and from ancillary use of fuels such as propane, acetylene, limestone etc.

From this time, the operation of the station as a dispatchable renewable station will contribute significantly to achieving Ireland’s renewable energy generation targets and longer-term GHG reduction targets.

#### **Transportation during the biomass stage**

Biomass will be delivered to the station site by road. Ash will continue to be transported by rail to the ADF.

### **Ash arising during the biomass stage**

The station will continue to produce ash which will be deposited in the ADF in accordance with the IE licence requirements. For all stages of development ash will be transported by rail to the ADF.

### **Fuel management during the biomass stage**

The pre-existing plant will facilitate the handling of biomass (see **Para. 3.3.3** below).

### **3.3.3 Proposed Fuel Management and Handling Facilities on WOP Station Site**

There is no proposal to deviate from the established fuel handling system on the WOP Station site – namely the existing peat wagon tipplers, lorry unloaders, screens, conveyors and storage in the intermediate peat storage (IPS), described in Chapter 4 of the EIAR. As noted in **Para. 3.3.1** above permission is being sought to maintain all of those elements and to continue to utilise them.

The proposed transition to biomass will not give rise to physical modifications of the generation station itself. However, from an initial stage, new fuel management and handling facilities will be needed on the WOP Station site. These will comprise two purpose built concrete slabs (Biomass Storage Slabs A and B) used for the short-term open-air storage of biomass (such as wet woodchip and sawdust) and a dedicated biomass pellet silo.

Storage Slab A will have a surface area of c. 3,924 sq.m. It will be located immediately south of the existing IPS building and will accommodate approximately 2 No. days of biomass storage – indicatively c. 9,030 cubic metres of material. Storage Slab A will be surrounded on three sides with a reinforced concrete retaining wall up to 5 m high. This wall will sit on a reinforced concrete slab, supported by ground bearing foundations or slabs, as appropriate. The reinforced concrete walls will be designed to support additional moments to allow for future fixing of a dust (wind protection) screen positioned to the top of the wall should this become necessary during the operational stage. Within Storage Slab A, 3.6 m high Alpha Bloc removable walls will be located to allow for access for future maintenance works in that area and the management of biomass.

Storage Slab B will have a surface area of c. 6,331 sq.m. It will be located adjacent to the eastern entrance to the station and will also accommodate approximately 2 No. days of biomass storage (in the order of 25,750 cubic metres of material). It will comprise a mass concrete slab. Within Storage Slab B, 3.6 m high Alpha Bloc and 1 m high Octoblocks will be used to create movable and fixed walls to allow for access for future maintenance works in that area and the management of biomass. Access to Storage Slab B will be via the existing roundabout and the slab will be located between an existing building and existing overhead power lines.

Adjacent to Slab A it is proposed to provide a biomass pellet silo and pellet intake building for the handling of pellets. This silo will have a diameter of 6m and a maximum height of 14.7m. It will have a storage capacity of c. 260 cubic metres. The

pellet intake building will have a maximum height of 17.2 m and will be c. 61 sq.m. in area.

Associated with each of these fuel storage and management facilities, ancillary developments including weighbridges, internal access ways, fences etc. will be provided.

All of these proposed elements are shown on the attached planning drawings, most clearly shown on the Proposed Site Location and Layout plan (1:1000), **Drawing QS-000206-01-D460-013**.

A summary of the proposed development is set out on **Table 3.4** below.

Structure Reference / Name	Scale of development	Description
<b>Storage Slab A</b>	3,924 sq.m. plan area	Open air serviced slab for the storage of biomass
<b>Storage Slab B</b>	6,331 sq.m. plan area	Open air serviced slab for the storage of biomass
<b>Pellet Storage Silo</b>	28 sq.m.	Elevated silo, 260 cubic metres storage capacity, for storage of biomass pellets
<b>Pellet Intake Building</b>	61 sq.m. floor area	Single-storey building for the intake of pellets to the storage silo
<b>Gross Floor Area (Proposed)</b>	<b>10,344 sq.m.</b>	

**Table 3.4 Schedule of proposed development located on the WOP Station site**

Where, following the cessation of peat handling on the site, it is proposed to retire or cease using specific items of plant, those parts of the station will be reinstated as appropriate.

### 3.3.4 Proposed Development of Additional Landfill Capacity

Associated with the extended operational life of the station there will be an on-going requirement for the disposal of both fly-ash and bottom-ash. In-line with established and licensed practice, additional capacity will be provided at the existing dedicated ADF located in the townlands of Clonfinlough, Clondelara, Leitra and Derrylahan.

As noted in **Section 3.3.1** above, permission is being sought to maintain *in situ* all physical development on the existing ADF site including existing welfare facilities, accessways and ancillary infrastructure. These aspects of the development will be

unchanged unless as specifically shown on the planning drawings that accompany this application.

Cell 6 will be partially complete when the station enters its co-firing stage. This cell will be filled to capping level with ash arising from the co-firing stage. It will be capped and managed in-line with the established and permitted protocols. It is also proposed that additional disposal capacity will be accommodated within five new cells, located immediately adjacent to the existing permitted cells. The development of these cells will necessitate the development of additional leachate management infrastructure – namely a new settlement lagoon.

It is proposed to extend the ADF footprint by c. 173,130 sq.m. This will accommodate the disposal of an additional c. 929,200 cubic metres of ash (approximately equivalent to 879,900 tonnes) within an additional 5 No. engineered landfill cells. This development will be accommodated in the larger 59.2 ha ADF site.

Based purely on the traditional peat combustion, the combustion of 1,250,000 energy tonnes of peat per annum would give rise to a maximum disposal requirement of c. 52,000 tonnes of ash. However the combustion of biomass gives rise to less ash than peat. Therefore the volume of ash arising each year will reduce as the proportion of biomass increases. Based on indicative calculations for the co-firing and exclusively biomass stages, it is estimated that the extended footprint can meet disposal requirements for at least 25 years, depending on the actual ash arising which in itself is a function of the fuel type and annual plant load factor.

To facilitate this operation, peat soil within the ADF site area and adjacent to the landfill footprint itself will also be excavated to a depth of circa one metre to provide material for the final landfill capping layer.

Cells will continue to be capped as they are filled. To facilitate the development and operation of additional landfill capacity, it is proposed that a new 4,500 cubic metres lagoon will be developed on the site. This will ensure all leachate will be managed on the site in-line with established practice and in accordance with the IE licence.

A summary of the proposed development is set out on **Table 3.5** below.

Structure Reference / Name	Scale of development	Description
<b>Additional landfill capacity</b>	173,130 sq.m.	Extended landfill footprint comprising 5 no. landfill cells for the disposal of ash
<b>Proposed leachate lagoon set within an associated fenced area</b>	3,581 sq.m.	Open air leachate lagoon with surface area of 1,400 sq.m. and a storage capacity of 4,500 cubic metres set within a dedicated fenced area.
<b>Gross Plan Area (Proposed)</b>	<b>176,711 sq.m.</b>	

**Table 3.5 Schedule of proposed development located at the ADF site**

The ADF will continue to exclusively accept ash from WOP Station. Ash will continue to be transported to the ADF by means of the railway line. There will be no intensification of activity at the ADF.

There will be no increase in the existing levels of rail or road traffic as a consequence of the proposed development at the ADF. The proposed development merely extends the duration of time over which the facility will operate and those traffic movements that will occur.

There will be no increase in the level of plant required on the ADF site or the noise currently generated arising from the new landfill ADF cells.

The construction of new landfill cells, and all operations at the ADF, will be carried out in accordance with the established and permitted operations at that site and within the context of the existing IE Licence - and subsequent new licences, issued by the EPA for WOP Station and ADF.

## 4 The Context for Planning Assessment

This section establishes the context for the assessment of the proposed development in the context of the relevant characteristics of the receiving environment and also prevailing policies.

### 4.1 The Receiving Environment

#### 4.1.1 The Physical Environment

As noted above (see **Para. 3.1.1**) the WOP Station site is located on the eastern bank of the River Shannon, immediately due south of the village of Shannonbridge. The site is characteristic of industrial backlands, with a long-established history of electricity generating activity, and associated services including access roads.

The context for the site reflects this established land use. The site lies due south of the Main Street of Shannonbridge, with the northern boundary abutting agricultural lands located between the station and residential/commercial properties that front onto the R357. The principal accessway serving the site is located to the north of the site. The eastern boundary is characterised by roadways, with one agricultural property located to the north-east; and one vacant site for which planning permission has been granted for a battery storage development to the immediate east. An existing entrance to the fuelling side of the Station, is located on the south-eastern boundary. The River Shannon marks the western boundary. Within the site boundary there are two existing electrical substations. These items of grid infrastructure are not affected by this application as they are subject of separate development consents.

Within the physical extent of the site a parcel of land upon which the old Shannonbridge station stood, was transferred to a third party energy company. This area is currently undeveloped. It is noted that there is an existing wayleave in place to serve these lands. The proposed development will not alter or affect that existing wayleave.

As noted in **Para. 3.1.2**, the ADF site is located within a rural area characterised by a history of industrial peat harvesting. That site is remote and only accessibly by means of a dedicated access road and the Bord na Móna narrow gauge railway.

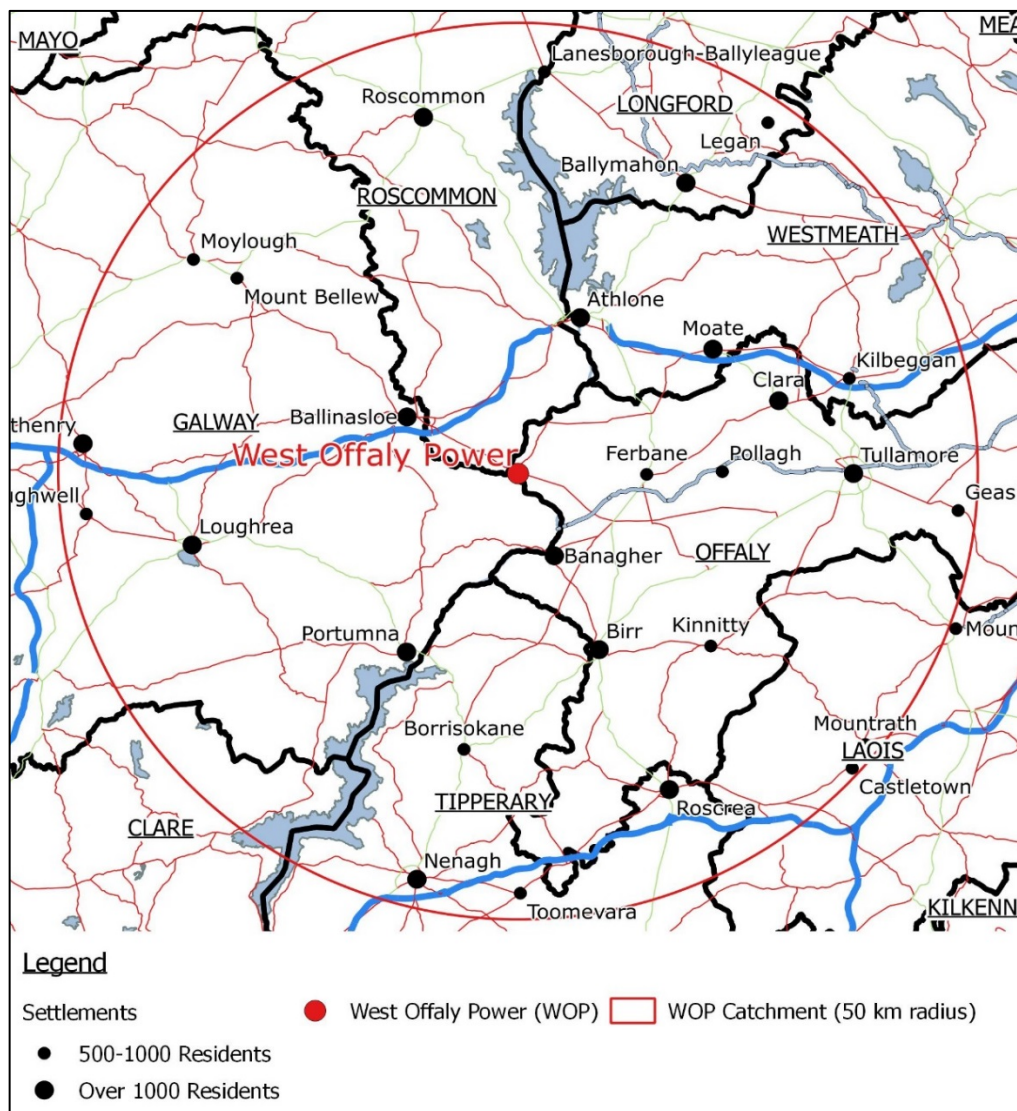
#### 4.1.2 Socio-Economic Context

Energy generation at the WOP Station site, and the associated operations on the ADF site, are long-established. Directly associated with these activities, there is a long tradition of activities associated with the peatlands and with the activities of Bord na Móna - in terms of peat harvesting, production and land management. The local and regional economy is a significant economic beneficiary of these activities. WOP Station provides a significant contribution to the economy through the provision of employment and economic activity - namely employment by ESB and Bord na Móna. The established nature of the energy generation in the area also has wider positive

impacts on economic activity in the area through the continued acquisition of fuel and support services.

In order to fully quantify and characterise the socio-economic impacts arising from the proposed development - and thereby to inform the EIAR, a detailed report – **‘Socio-Economic Assessment of impact of proposed transition to Biomass and associated development at West Offaly Power Station’** has been prepared. This assessment accompanies the EIAR (see **EIAR, Appendix 5**).

The socio-economic assessment sets out the key characteristics of an identified catchment area – defined as the physical area over which the existing development (the WOP Station) has an economic influence. That area extends 50 km from the WOP Station site – encompassing a significant area that extends into eight counties: Offaly, Galway, Roscommon, Tipperary, Longford, Westmeath, Laois and Clare (see **Figure 4.1** below).



**Figure 4.1 The Defined WOP Station catchment Area – as identified in ‘Socio-Economic Assessment of impact of proposed transition to Biomass and associated development at West Offaly Power Station’, EIAR, Appendix 5**



In terms of the key socio-economic characteristics of that catchment, the following is noted:

- As per the 2016 census, the total population of Shannonbridge is 267 and the total number of jobs located in the town is 247. The town is therefore an important economic centre accommodating employment for people within a wider catchment. Given the relatively small commercial base of the town – as evidenced by the relatively small number of businesses premises located in the Town, it is noted that activity in and around the WOP Station accounts for a significant proportion of employment.
- ‘Manufacturing, Mining and Quarrying’ constitutes the largest sector in the local economy with over 71% of employees in the village employed directly in this area – which would include both ESB and Bord na Móna workers. Related to this sector, the ‘Wholesale, Retail Trade’ – which employs 176 people, is also highly significant.
- When compared to the State as a whole, the socio-economic characteristics of the catchment area and the wider Midland Region confirm that these areas are lagging behind the State as a whole in terms of economic recovery following the economic down turn which began in 2007. This is illustrated by several indicators:
  - The rate of population growth in the catchment area has slowed and is now lower than the State as a whole;
  - County Offaly where WOP Station is located has an average annual disposable income per person of €16,226 – which is 14.3% lower than that of the State. The counties that make up the catchment area have (as a whole) a lower than average disposable income per person when compared to the State as a whole.
- While the unemployment rate of the Midland Region has been falling since 2012 this has been less pronounced than the trends both nationally and in neighbouring regions. Between 2012 and 2017 the unemployment rate for the catchment area fell from 19.6% to 13.8%; whereas in the Midlands Region it fell from 18.4% to 9.3%. Over the same period the unemployment rate for the State as a whole fell from 15.9% to 6.9 %.
- The greatest loss of employment in the WOP Station catchment area was in the construction sector with the number of workers employed in this sector having fallen by 56.9% between 2006 and 2016. The number of workers employed in industry has fallen by 4.1% over the same period. Between 1999 and 2017 the percentage of workers in the Midland Region working in industry has fallen from 26% to 16.7% in 2017. Over the same time period the percentage of workers working in the services sector has grown from 53% to 69.1%.

At a regional level, the significance of Bord na Móna as an employer cannot be underestimated. The three Midlands Stations <sup>10</sup> directly employ a total of 926 people (546 full-time, 380 seasonal), 792 of whom are Bord na Móna employees with the remainder employed by ESB (82 people) and third party transport contractors (52 people). This equates to a full-time equivalent (FTE)<sup>11</sup> employment of 602 people by Bord na Móna directly relating to the three stations. The total FTE associated with the stations is 736. The three stations also support 111 indirect and 139 induced jobs.

In addition to direct employment associated with peat extraction for energy, Bord na Móna employs a significant number of people in other business units. 376 are employed in resource recovery, 253 in the 'Central Support Group', 208 in fuels, 201 in horticulture, 63 in power generation, 22 in power generation development and 6 in biomass.

With 46% of Bord na Móna's 2,100 direct employees employed in the peat division, that division continues to be by far the largest single division. This shows the dominance of peat harvesting in the company's portfolio, but also shows the company is diversifying and evolving with the growing emergence of other activities.

At WOP Station itself, the existing direct and supported employment for WOP Station totals 454 jobs (2018 figures), 298 are full time and 156 are seasonal. The FTE employment arising from direct and supported employment at the WOP Station is therefore 376 people.

The composition of this employment is set out in **Table 4.1** below. 358 jobs are supported directly by the plant (41 by ESB and 317 by Bord na Móna <sup>12</sup> with an additional 13 employees working with external transport contractors). A significant proportion of these jobs are high-skilled engineering jobs.

An additional 41 jobs are supported by the WOP Station through non-fuel purchases and non-salary spending by ESB and Bord na Móna (see **Table 4-1** 'Indirect employment supported by WOP'). Spending of salaries by workers employed directly by the station and by workers whose jobs are indirectly supported by WOP Station

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<sup>10</sup> Reference to the Midlands power stations should be taken to refer to the two ESB owned facilities at Lanesborough, Co. Longford and Shannonbridge, Co. Offaly (subject of this application) and the Bord na Móna owned facility at Edenderry Power Limited (EPL).

<sup>11</sup> A full-time equivalent (FTE) is a unit to count employed persons in a way that makes them comparable, even where they may work or study a different number of hours per week. In this assessment, one seasonal job is calculated a 0.5 FTE.

<sup>12</sup> Including employees involved in fuel handling at station, rail hauliers based at WOP, employees at WOP ash disposal facility and peat operations.

supports an additional 55 jobs (see **Table 4-1** ‘Induced employment supported by WOP’).

Existing Situation	Fulltime	Seasonal	Total	FTE <sup>13</sup>
<b>ESB Staff</b>	41	0	41	41
<b>BnM Staff</b>	161	156	317	239
<b>Transport Employees – Contracted by BnM</b>	13	0	13	13
<b>Total Direct</b>	<b>202</b>	<b>156</b>	<b>358</b>	<b>280</b>
<b>Indirect Employment Supported by WOP</b>	41	0	41	41
<b>Induced Employment Supported by WOP</b>	54	0	55	55
<b>Total</b>	<b>298</b>	<b>156</b>	<b>454</b>	<b>376</b>

**Table 4.1 Employment – Existing Scenario**

WOP Station makes substantial annual contributions to Offaly County Council in the payment of commercial rates. In the years 2006 – 2018, WOP Station contributed in the order of €16.8 million in rates to Offaly County Council.

In 2018, it is estimated that commercial rates of €1.648 million will be paid. This is a marginal increase over the contribution of €1.5 million in 2017. In that year the net value of rates levied by Offaly County Council for the entire county was €18.25 million<sup>14</sup>. The contribution from WOP Station therefore amounts to some 9% of the net rates levied by the Council, thereby making WOP Station a significant contributor to the County’s rates base on every year.

Where permission is not granted for WOP Station to operate post 2020 – i.e. in the ‘Do Nothing Scenario’, there will be a significant contraction in the rates-base of Offaly County Council. As the operating costs of Offaly County Council will remain static or increase, this budgetary shortfall would need to be met by other commercial

<sup>13</sup> Seasonal jobs are counted as 0.5 FTE

<sup>14</sup> Offaly County Council Local Authority Budget, Calculation of Annual Rate on Valuation For The Financial Year 2018, Adopted 2017 Net Expenditure

operators in the County – thereby requiring rates to be charged at a higher rate, resulting in an increased negative socio-economic impact.

## 4.2 Policy Context

### 4.2.1 European Union Policy

The development of the renewable energy sector is central to European Union policies and Directives, and the road map set out by the EU towards achieving targeted reductions in GHG emissions. These EU policies in turn provide a context for national policy with clear targets set for the energy sector as to the level of penetration of renewable energy into the overall energy mix for the country to be achieved by key dates.

The importance of the energy sector within the Union is reflected in Article 194(1) of the **Treaty on the Functioning of the European Union (TFEU)**, which enshrines the promotion of renewable forms of energy as a key priority, stating:

*‘1. In the context of the establishment and functioning of the internal market and with regard for the need to preserve and improve the environment, Union policy on energy shall aim, in a spirit of solidarity between Member States, to:*

*(a) ensure the functioning of the energy market;*

*(b) ensure security of energy supply in the Union;*

*(c) promote energy efficiency and energy saving and the development of new and renewable forms of energy; and*

*(d) promote the interconnection of energy networks.<sup>15</sup>*

As a first step towards developing a strategy for renewables, the EU adopted a **Green Paper** in November 1996 that sought views on setting an indicative objective of 12% for the contribution by renewable sources of energy to overall energy consumption by 2010. This target was then established in 1997 in the EU Commission’s **Energy for the Future: Renewable Sources of Energy - White Paper for a Community Strategy and Action Plan**. The purpose of the White Paper was to contribute, by the promotion of renewable energy, to the achievement of overall energy policy

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<sup>15</sup> Consolidated version of the Treaty on the Functioning of the European Union – Part Three: Union Policies and internal Actions – Title XXI: Energy - Article 194

objectives, security of supply, environment and competitiveness, and to improve and reinforce environmental protection and sustainable development.

The **Green Paper on the Security of Energy Supply** (November 2000) was a key tool in the promotion of renewable energy sources. While there are limited EU energy resources of oil and gas there is a potential abundance of renewables. The aim of the Paper was to put forward proactive strategies to attenuate, if not counteract, the dependence on energy supplies. Future identified priorities include managing the dependence on supply by development of less polluting energy sources.

The **EU Renewables Directive 2001/77/EC** was the first time a legislative text aimed at promoting the production of energy from renewable sources. It obliged Member States to set indicative targets and committed Ireland to the production of 13.2% of electricity demand from renewable energy sources by 2010. The establishment of these targets meant Member States had to encourage the increase in renewable energy sources according to their own potential. The setting of targets was recognised as providing a stimulus to efforts towards increased exploitation of available potential and an important instrument for attaining reductions in carbon dioxide (CO<sub>2</sub>) emissions, decreasing energy dependence, developing national industry and creating jobs.

Outlining a long-term strategy the **Renewable Energy Roadmap** called for a mandatory target of a 20% share of renewable energies in the EU's energy mix by 2020. The target was endorsed by EU leaders in March 2007.

The **EU Renewables Directive 2009/28/EC**, which amended and subsequently repealed Directives 2001/77/EC and 2003/30/E, required each Member State to increase its share of renewable energies to 20% by 2020. To achieve the objective, each Member State is required to increase its share of renewables by 5.5% from 2005 levels, with the remaining increase calculated on the basis of per capita gross domestic product (GDP). The Directive set a series of interim targets, known as 'indicative trajectories', in order to ensure steady progress towards the 2020 targets. Each Member State has flexibility to set targets across the heating, transportation and electricity sectors to meet the overall renewable energy targets, subject to a minimum of 10% of energy use in transport being sourced from renewables by 2020.

The Commission's **Energy 2020: A strategy for competitive, sustainable and secure energy** (November 2010) set out that by 2020, the Union aimed to reduce its greenhouse gas emissions by at least 20%, increase the share of renewable energy to at least 20% of consumption, and achieve energy savings of 20% or more. That Strategy also required all EU countries to achieve a 10% share of renewable energy in their transport sector. The Strategy aimed - through the attainment of these targets, to help combat climate change and air pollution, decrease its dependence on foreign fossil fuels, and keep energy affordable for consumers and businesses.

In order to meet the targets, the 2020 Energy Strategy sets out five priorities:

- Making Europe more energy efficient by accelerating investment into efficient buildings, products, and transport - with measures including energy labelling schemes, renovation of public buildings, and eco-design requirements for energy intensive products;

- Building a pan-European energy market with the construction of transmission lines, pipelines, liquid natural gas terminals, and other infrastructure;
- Protecting consumer rights and achieving high safety standards in the energy sector;
- Implementing the Strategic Energy Technology Plan – the EU's strategy to accelerate the development and deployment of low carbon technologies such as solar power, smart grids, and carbon capture and storage;
- Pursuing good relations with the EU's external suppliers of energy and energy transit countries.

This was followed by the adoption of the **Energy Roadmap 2050** in December 2011. The Roadmap was drafted in the context of the EU goal to cut GHG emissions by 80 to 95% by 2050. The Roadmap states:

*“We need to be far more energy efficient. About two thirds of our energy should come from renewable sources. Electricity production needs to be almost emission-free, despite higher demand. Our energy system has not yet been designed to deal with such challenges. By 2050, it must be transformed. Only a new energy model will make our system secure, competitive and sustainable in the long-run.”*

That document set out four main routes to a more sustainable, competitive and secure energy system in 2050, namely: energy efficiency, renewable energy, nuclear energy, and carbon capture and storage. It combined these routes in different ways to create and analyse seven possible scenarios for 2050.

To achieve the key goal of reducing GHG emissions by 80 to 95% by 2050, the Roadmap noted that significant investments needed to be made in new low-carbon technologies, renewable energy, energy efficiency, and grid infrastructure. Due to the long term nature of investments (20 to 60 years), the Roadmap identified the urgent need for policies that promote a stable business climate which encourages low-carbon investments.

The Roadmap reached key conclusions, namely:

- That decarbonising the energy system is technically and economically feasible, and that, in the long run, all scenarios that achieve the emissions reduction target are cheaper than the continuation of current policies;
- Increasing the share of renewable energy and using energy more efficiently are crucial - irrespective of the particular energy mix chosen;
- Early infrastructure investments cost less, and much of the infrastructure in the EU built 30 to 40 years ago needs to be replaced anyway. Immediately replacing it with low-carbon alternatives can avoid more costly changes in the future.
- A European approach is expected to result in lower costs and more secure energy supplies when compared to individual national schemes. With a common energy market, energy can be produced where it is cheapest and delivered to where it is needed.

The EU's commitments under the **2015 Paris Agreement on Climate Change** is reflected in the most recent Directive – the revised **Renewable Energy Directive**, (**2016/0382**) known as REDII, which amends Directive 2009/28/EC. The purpose of that Directive was to make the EU a global leader in renewable energy and ensure that the target of at least 27% renewables in the final energy consumption in the EU by 2030 is met.

REDII specifies national renewable energy targets for each country, taking into account its starting point and overall potential for renewables. These targets range from a low of 10% in Malta to a high of 49% in Sweden. Ireland's target for the share of energy from renewable sources in gross final consumption of energy in 2020 is 16%.

The Directive established the context for National Renewable Energy Action Plans (NREAPs) whereby EU countries set out how they plan to meet these targets and the general course of their renewable energy policy. Progress towards national targets is measured every two years when EU countries publish National Renewable Energy Progress Reports (NREPRs).

The Directive promotes cooperation amongst EU countries (and with countries outside the EU) to help them meet their renewable energy targets.

In relation to sustainable biofuels, the Directive notes that biofuels and bio-liquids are instrumental in helping EU countries meet their 10% renewables target in transport. The Renewable Energy Directive sets out biofuels sustainability criteria for all biofuels produced or consumed in the EU to ensure that they are produced in a sustainable and environmentally friendly manner. Companies can show they comply with the sustainability criteria through national systems or so-called voluntary schemes recognised by the European Commission.

Article 2 of REDII classifies the use of biomass to produce energy as a renewable source of energy<sup>16</sup>. Importantly the Directive also establishes European-wide sustainability and GHG emission-saving criteria for biofuels, bio-liquids and biomass fuels. The sustainability approach set out in the Directive ensures that biomass is produced sustainably, irrespective of its geographical origin, without creating unnecessary administrative burden on small installations and countries with a well-established system of forest management.

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<sup>16</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016PC0767R%2801%29>

The importance of renewable energy in ensuring security of supply whilst providing both environmental and health benefits with potential for positive socio-economic benefits is further stated in the recast REDII:

*“The increased use of energy from renewable sources also has a fundamental part to play in promoting the security of energy supply, sustainable energy at affordable prices, technological development and innovation as well as technological and industrial leadership while providing environmental, social and health benefits as well as major opportunities for employment and regional development, especially in rural and isolated areas, in regions with low population density and in territories undergoing partial deindustrialisation”.*

The role that sustainable biomass – and projects such as the proposed, will play in delivering the EU’s renewable energy targets is therefore clearly identified and supported by EU Policy and, specifically by, REDII.

#### 4.2.2 National Sectoral Policies

The proposal facilitates the development of dispatchable, low carbon renewable electricity generation at an existing and established generation facility. There are a range of national sectoral policies of relevance in the consideration of the proposed development, namely those that relate to: energy, climate change, management of the peatlands resource and the operation of the national electricity transmission grid.

Through the **Energy White Paper** [2007], the Government provided financial support for energy generation at the Midlands peat-burning power stations with the application of the PSO levy. That support mechanism was approved by the European Commission. A key principle of the PSO was that it would underpin reliance on an indigenous fuel (peat) that would, in turn, ensure fuel diversity and security of supply.

The PSO represented a significant public investment in the development and operation of the Midland stations. This investment is evidenced by the high quality operating conditions at each of the Stations today – and their ability to be modified to facilitate the next stage of power generation, namely fuelling by means of sustainable biomass. The continued operation of these stations ensures that this public investment is fully realised while also avoiding the imposition of the additional capital costs associated with any new-build facility on the Irish consumer.

The White Paper established a positive context for the introduction of biomass as a renewable source of fuel, stating (Section 3.4.4):

*“Co-firing of biomass with peat and other fossil fuels offers identified potential and the Government is fully supportive of its development. ESB and Bord na Móna will continue to work with the biomass sector on the potential of co-firing in the short term at the three State owned peat stations. Biomass power generation projects will be supported through the REFIT scheme. “*

Subsequent to the White Paper, **Article 4 of the EU’s RED Directive (2009/28/EC)** required each Member State to adopt a National Renewable Energy Action Plan



(NREAP). The purpose of the NREAP would be to set out the Member State's national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020, and to demonstrate how the Member State will meet their overall national targets established under the Directive.

Ireland's first **NREAP** was published in 2010. It sets out the Government's strategic approach and concrete measures to deliver on Ireland's target to achieve 16% of energy, and 40% of electricity consumption, from renewable sources by 2020, stating (NREAP, Page 5):

*'The development of renewable energy is central to overall energy policy in Ireland. Renewable energy reduces dependence on fossil fuels, improves security of supply, and reduces greenhouse gas emissions creating environmental benefits while delivering green jobs to the economy, thus contributing to National competitiveness.'*

Some discussion of the potential measures to increase biomass availability was set out in the Plan (NREAP, Para. 4.6.2) which noted that local or regional sources of biomass to co-fire the peat burning power stations had the potential to benefit local economies.

The NREAP established the context for continued State Aid in the form of Renewable Energy Feed-in Tariff Schemes (REFiT). The most recent support scheme - **REFiT3**, was approved by the European Commission on 18<sup>th</sup> October 2011. The purpose of that tariff was to incentivise the addition of 310MW of renewable electricity capacity to the Irish grid – comprising high-efficiency Combined Heat and Power, biomass combustion and biomass co-firing.

Subsequent to the approval of the REFiT3 support mechanism, both WOP and LRP Stations received approval in 2017 from Department of Communications, Climate Action and Environment (DCCA) for REFiT3 support for co-firing with peat and biomass to 31<sup>st</sup> December 2030. Similar support had been previously approved for Edenderry Power. REFiT3 supports represents significant continued public investment in the WOP Station and- by means of this next stage of generation activity, it is submitted that converting this generating facility to enable its next phased of operations will ensure that that return on that public investment will be fully realised, while the additional costs of developing a new generating facility is avoided. This represents a rational use of existing infrastructure.

**The Strategy for Renewable Energy: 2012 – 2020 (SRE)** was a high-level strategy underpinned by the NREAP.

Strategic Goal 2 of the Strategy dealt with the bioenergy sector, noting that it was a goal to develop 'a sustainable bioenergy sector supporting renewable heat, transport and power generation'. It further stated (SRE, Page 32):

*Our National bioenergy resources (including forestry, energy crops and biofuels) need to be developed and supported through a cohesive approach which addresses the supply side as well as the demand side issues. The recently announced REFiT3 scheme for biomass technologies marks an important step in providing certainty for the sector. The Sustainable growth of*

*biomass/biofuel use in the heat sector as well as in power generation and transport will be underpinned by a comprehensive National Bioenergy Strategy this year. ....*

*Bioenergy electricity generation offers the additional advantage of being dispatchable, i.e. it is available on demand and not intermittent.*

*The development of biomass energy will encourage the establishment of new rural enterprises and support job creation in the regions, using our existing and potential indigenous resources. Forest harvesting residues and thinnings, as well as dedicated energy crops such as miscanthus and willow, and farm wastes, all provide additional opportunities, while wastes such as used cooking oil, and meat and bone meal, which previously incurred disposal costs, can now be converted into biofuels for transport or used to generate renewable electricity and heat.*

*REFiT will underpin the development of a robust and sustainable biomass supply sector in Ireland as it will provide a stable demand for biomass. The Department of Agriculture runs a number of measures such as the Afforestation Grant Scheme (to encourage new forests), the Forest Roding Scheme (to encourage early harvesting) and the Bioenergy Schemes (to incentivise the growth of miscanthus and willow). While the Department of agriculture schemes serve to encourage and develop the supply side of the bioenergy industry, this is complemented by REFiT3 developing a solid and predictable demand side.”*

The SRE notes that REFiT3 includes support for three technology groups – namely:

- Anaerobic Digestion (including AD CHP),
- Biomass Combined Heat and Power (CHP) and
- Biomass Combustion (including co-firing with peat),

Reflecting these groups, the SRE states (SRE, Para. 3.2) that REFiT3 is designed to support a range of technologies explicitly including:

- Combined Heat and Power (CHP)
- Anaerobic Digestion (AD), and
- Co-firing of biomass in the three peat power plants.

The **National Climate Change Adaptation Framework (NCCAF)** was published in 2012. This non-statutory document was a first step in developing a comprehensive national policy position within which adaptation measures to address the impacts of climate change could be taken and planned. Annex IV of the NCCAF sets out an Overview of Challenges for Sectors. Section 3 deals specifically with Energy - focussing on the impacts of climate change on the sector itself.

A series of technical reports have further informed the evolution of public energy policies. **Low Carbon Energy Roadmaps for Ireland (LCERL)**, was commissioned by the Department of Environment, Community and Local Government and published in 2013. The purpose of the report was to provide technical advice and guidance on the development of a low carbon roadmap for Ireland with the aim of achieving

transition to a low carbon, climate resilient and environmentally sustainable economy in the period up to and including 2050.

The report is predicated on an absolute requirement for Ireland's energy system (comprising the energy suppliers and the energy end-users) to change, and the requirement to balance that change against other aspects of the economy, stating (LCERL, Para. 1.1):

*“The choice is not whether we move to a low carbon economy but how and when the transition to a low carbon economy should be achieved. The focus here is on achieving the transition at least cost to the economy and to society.”*

Based on the consideration of a range of scenarios, this report set out a range of hypotheses for the State's Energy System.

Where the relevant target was for an 80% CO<sub>2</sub> reduction by 2050, these scenarios envisaged significantly reduced reliance of the electricity generation sector on oil and gas, with increased reliance on bioenergy. Specifically it was assumed that liquid biofuels would increasingly be used in transport, with biomass used by industry and it was noted that woody biomass would meet a significant proportion of that sector's thermal requirement. The Roadmap (LCERL, Para 2.7.3) dealt specifically with biomass noting that the majority of that fuel will be wood based and some 60% of biomass fuel would be imported. In relation to generation facilities, the report noted the potential for biomass to give rise to increased travel patterns and the potential for this to be addressed by locating new-build generation stations close to sea-ports. No reference however is made to the potential to utilising existing infrastructure by retrofitting existing generation facilities with appropriate plant to facilitate a change of fuel type.

With a more significant target of 95% CO<sub>2</sub> reduction by 2050, bio-energy dominated with biofuels used in transport and biomass used in electricity generation. In this scenario, electricity generation expanded to facilitate the increased use of electric heating in the residential and services sectors - as well as the domestic private car fleet. The Report referred to biomass fired generation plant (such as that proposed), with thermal power plants using wood fuel to meet the associated demands in electricity. In this scenario there is a high reliance on imported bioenergy, with 60% of biomass being imported.

The **Draft Bioenergy Plan** [2014] underpinned the development of the bioenergy sector in the period to 2020 and laid the foundations for its long-term growth. The Plan sought to form a link between renewable energy, agriculture, forestry, the environment, sustainability; and the growth potential of the green economy, while taking account of international development policies. As such, it was intended that it would provide a mechanism to inform and coordinate policy and implementation across these policy areas, thereby supporting the sustainable exploitation of Ireland's bioenergy resources.

The **National Policy Position on Climate Action and Low Carbon Development** [2014] restated the key policies of climate adaptation set out in the NCCAF. The National Policy Position provided a high-level policy direction for the adoption and implementation of plans to enable the State to move to a low carbon economy by

2050. Statutory authority for these plans was enabled by the **Climate Action and Low Carbon Development Act, 2015**.

The **Green Paper on Energy Policy in Ireland** [2014], was initiated to inform the shape of Ireland’s future energy policy. The emerging policy was then reflected in the **White Paper - Ireland’s Transition to a Low Carbon Energy Future, 2015-2030**. The focus of the 2015 White Paper was to set out a vision for transforming Ireland’s fossil fuel-based energy sector into a clean, low carbon system by 2050.

With respect to implementation, the Paper notes (White Paper, Para. 48) that a low carbon future will involve:

*“generating our electricity from renewable sources of which we have plentiful indigenous supplies; and*

*moving to lower emissions fuels (e.g. moving initially from peat and coal to gas) and ultimately towards a lower reliance on fossil fuels”*

The commentary on the energy sector noted that non-renewable fuels accounted for over 90% of energy consumption and that this would fall to 84% in 2020 if EU targets for renewables were met. The reduction of GHG emissions from the energy system in-line with the 2050 targets, would require fossil fuels to be in the order of 19 – 30% of final energy demand – representing a significant but reducing, contribution to energy mix. It was envisaged that, in the short- to medium-term, carbon pricing would drive the mix of non-renewables away from carbon intensive fuels (such as peat and coal) to lower-carbon fuels, such as natural gas; and that by 2050 fossil fuels would be replaced by renewable energy sources.

The Paper went on to address peat and coal, noting that these fuels with higher carbon content would be phased out due to a combination of sustainable policy measures and consumer reaction to higher pricing, due to carbon taxes.

It referred (White Paper, Para. 75) to the limited duration of the PSO for the Midlands stations - 2019 for both WOP Station and LRP Station, and 2015 for EPL. It further noted the strategic commitment of Bord na Móna to replace large-scale peat production with alternative energy sources, including biomass, wind and solar by 2030.

Dealing with Renewable Energy, the Paper (White Paper, Para. 5.3) establishes a sectoral target of 40% and states that *‘the long term development of Ireland’s abundant, diverse and indigenous renewable energy resource is a defining element of this energy policy’*. This statement placed the diversification of the State’s energy system at the centre of energy policy going forward.

With respect to bioenergy and renewable electricity (RES-E), the Paper stated (White Paper, Para. 133):

*‘Bioenergy is a versatile source of energy that can be used for heating, transport and power generation. The most advantageous economic benefits arise when it is used for heating. Bioenergy encompasses a range of fuels in solid, liquid and gaseous forms, including forest-based biomass, dry agricultural residues, energy crops, organic materials including wastes, and landfill gas and other biogases.*

*....expanding the uptake of bioenergy involves several challenges, including the availability of sufficient sustainably-sourced biomass, competition with other land uses such as food production, and the cost of support. Consideration must be given to the most prudent uses for bioenergy’.*

The Paper acknowledged the use of biomass at Edenderry and referred to the use of some imported biomass at that facility. It referred to a technical study that has considered biomass usage and concluded that the biomass resource would be more efficiently deployed in the heating sector, noting that future supports for biomass will be decided in the context of the renewable electricity and renewable heat consultations that were being progressed.

The **National Peatlands Strategy (NPS)** [2015] was published by the National Parks and Wildlife Services (NPWS) of the Department of Arts, Heritage and the Gaeltacht. It set out the principles which would guide Government policy in relation to all peatlands for the period to 2025.

The Vision Statement of the strategy recognised the multi-faceted contribution of the peatlands, noting that it *‘aims to provide a long-term framework within which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution to the well-being of this and future generations’*

The operation of the three peat-burning Midlands stations was described (NPS, Para. 5.2.4) noting that peat has been used as a source of fuel for power generation since the 1950s. The role of peat as an important domestic fuel source - in the context of 85% reliance on imported fuel, was noted, as was its contribution to the economies of the Midlands:

*‘Bord na Móna employed substantial numbers between the late 1940s and the mid- 1980s but the number has reduced to over 2,000 people now. Combined with the numbers employed by the ESB, this constituted a significant social and economic benefit for the midlands, sustaining or creating communities. While the numbers employed in this area have significantly reduced, peat production for energy remains important for the local and National economy’.*

The potential for co-firing with biomass was dealt with positively, with the Strategy stating:

*‘Co-firing of biomass with peat and other fossil fuels offers a number of potential benefits in terms of reducing that carbon emissions of peat-only plants and also, depending on the tariffs they can offer, stimulating the demand for indigenously sourced biomass. Co-firing biomass with peat is a technology supported under the Renewable Energy Feed-in Tariff scheme (REFiT)’.*

This was reflected in Peat Fired Electricity Generation-Action A6, which stated:

*‘The State energy companies will continue to work with the biomass sector on the potential of co-firing in the short term at State owned peat stations.*

*Biomass power generation projects will be supported through the REFIT scheme’.*

In relation to the move away from peat harvesting, as fully supported by the proposed development, the Strategy noted:

***P20** As part of Ireland’s commitment to move towards a cleaner, more carbon efficient economy, means to reduce the dependency on peat as a source of fuel and horticultural compost will be fully explored.*

The **2017 Progress Report** for the NPS reiterated the changing profile of the electricity generation sector, noting (NPS 2017 Progress Report, Page 4):

*“In relation to the power generation sector, Bord na Móna has increased the level of co-firing at its power station at Edenderry over this reporting period. In addition, it is working closely with the ESB to introduce co-firing at the ESB’s two peat stations from 2019.”*

It is noted that the commitment to moving away from peat harvesting set out in the NPS is reflected in Bord na Móna’s corporate position that it will cease harvesting peat for the commercial generation of electricity in the coming years. The date for this change was originally targeted as 2030<sup>17</sup>. However, as on October 2018, Bord na Mona announced its intention to accelerate this strategy<sup>18</sup> stating:

*“Decarbonisation is the biggest challenge facing this planet. For Bord na Móna it presents both a serious challenge and a national opportunity. By accelerating the move away from peat into renewable energy, resource recovery, and new businesses we are supporting national policy and seizing the opportunity presented by decarbonisation. Standing still is not an option for Bord na Móna. We are embarking on a transition phase now which will see us become a leading provider of renewable energy on the Island of Ireland by 2026, a leader in high-value recycling and provider of a range of new low carbon goods and services. Allied to all of this, a key focus of our decarbonisation plan is ensuring that Bord na Móna remains a very significant employer in the Midlands of Ireland for the decades to come. .”*

Three key points of the Company’s accelerated decarbonisation plan that are of relevance to the proposed development are:

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<sup>17</sup> <https://www.bordnamona.ie/company/our-businesses/peat/>

<sup>18</sup> <https://www.bordnamona.ie/company/news/articles/bord-na-mona-accelerates-decarbonisation/>

- A steep increase in the supply of greenhouse-gas neutral biomass replacing peat to the three Midlands power stations;
- the complete end of using peat for energy brought forward by two years to 2028; and
- an immediate steep reduction in peat volumes down from a recent high of 6.5million tonnes in 2013 to 2 million tonnes in 2020. Fast-tracking peat reduction and cessation will carry a significant associated reduction in carbon emissions.

Noting that the transition of WOP Station will involve an immediate (from early 2020) reduction in peat use and a transition to zero peat by 2027, the strategies of Bord na Móna and the ESB are strongly aligned – in terms of reduced consumption of peat; stimulation of the indigenous biomass sector; and the cessation of peat fuelled energy generation. As set out in Section 5 of this report, that timeframe facilitates the establishment of a reliable supply-chain for biomass, assists Bord na Móna in minimising the socio-economic impact of the transition on the local economies of the Midlands, and allows the ESB sufficient time to manage the fuel transition at the site.

The Sustainable Energy Authority of Ireland (SEAI) report, **Energy Security in Ireland: A Statistical Overview** (2016 Report) provides a commentary on the characteristics of the energy sector. The Overview states:

*‘Energy security comprises many diverse factors, including import dependency, fuel diversity, the capacity and integrity of the supply and distribution infrastructure, energy prices, physical risks, supply disruptions and emergencies.*

*Ireland had an import dependency of 85% in 2014, estimated to cost €5.7 billion, down from a peak of 91% in 2006. In absolute terms, net energy imports peaked in 2008, and decreased by 23% since then. This was primarily due to the fall in energy demand over that period.*

*In 2014, 97% of imports were fossil fuels (not including the fossil fuel content of imported electricity) namely oil (56%) , natural gas (31%), and coal (10%). The remainder was electricity (2%), and biofuels (1%).*

*Indigenous energy production in 2014 comprised of peat (47%) renewable energy sources (44%), natural gas (6%) and non-renewable wastes (3%).’*

This data clearly indicates the significant contribution made by peat to indigenous energy supply and the economic value of that contribution.

The Overview further noted that trends indicate a reduction in overall energy security, stating:

*‘The Supply/Demand index is a measure of medium-to-long-term energy security of the whole energy system.*

*The Supply/Demand index for Ireland shows an overall decreasing trend over the period 2000–2014, indicating a reduction in overall energy security.*

The anticipated decrease in the proportion of indigenous energy supply – and the associated reduction in energy security is reflected in the SEAI Report - **Energy in**

**Ireland 1990 – 2015**<sup>19</sup> which indicated that Ireland's energy import dependency increased to 88% in 2015 at a cost to Ireland of approximately €4.6 billion for all energy imports (Energy in Ireland, 1990 – 2015, Page 4).

The more recent SEAI Report **Energy in Ireland 1990 – 2016**<sup>20</sup> indicated that this dependency reduced to 69% in 2016 (Energy in Ireland, 1990 – 2016, Page 4), helping to lower the State's annual energy import bill to €3.4 billion due mainly to the Corrib gas field coming on stream. However, that report highlights the issue of our dependence on indigenous gas and the importance of further diversifying the renewables sector, with the SEAI launching the report by stating:

*“The significant reduction in our import dependence gives us a more dependable energy supply in the short term. However, this was heavily reliant on Corrib gas, a finite fossil fuel. This may give us a window of opportunity but it is not a long term solution. Encouragingly, one fifth of indigenous energy was from renewables in 2016. This represents positive growth but there is room for much more activity, and across a broader range of technologies. Generating our own renewable electricity is critical to achieving our overall energy and climate ambitions “.*<sup>21</sup>

Again, the trends reported in each of these reports will be further exacerbated by the October 2018 announcements of Bord na Mona in relation to the extent of peat harvesting activity for energy generation and the target date for that activity to stop – 2028.

EirGrid's **All-Island Generation Capacity Statement, 2017-2026** forecasts the likely balance between supply and demand for electricity during the years 2017 to 2026. The Statement addresses new generation capacity noting with confidence, that the forthcoming developments in the sector will be the introduction of biomass as a fuel for the generation sector:

*‘The only new generation we confidently expect to connect over the next decade is renewable, primarily wind and also biomass / waste. This will contribute to the 2020 renewables targets.’*

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<sup>19</sup> Martin Howley and Mary Holland. Energy Policy Statistical Support Unit, Sustainable Energy Authority of Ireland, Energy in Ireland 1990 – 2015, November 2016

<sup>20</sup> Energy Policy Statistical Support Unit, Sustainable Energy Authority of Ireland, Energy in Ireland 1990 – 2016, December 2017

<sup>21</sup> <https://www.seai.ie/news-and-media/energy-in-ireland-report/>



It further states:

*‘We are envisaging a substantial expansion in renewable sources of energy, particularly wind. Based on current information, we have assumed that up to 100 MW of Biomass CHP will be delivered under the REFIT3 biomass scheme. Altogether, this will make significant progress towards meeting Ireland’s 40% RES target in 2020.’*

This clearly reflects the understanding of EirGrid, the Transmission System Operator (TSO), that the energy generation sector will implement the change-over to biomass within the plan-period, as is currently being proposed.

The first **National Mitigation Plan (NMP)** [2017] set out the context for transitioning to a low carbon, climate resilient and environmentally sustainable economy by 2050. It was adopted pursuant to the Climate Action and Low Carbon Development Act, 2015.

The NMP set out the central roles of specific Departments responsible for key sectors, including electricity generation, the built environment, transport and agriculture.

The Plan set out a vision for decarbonising the electricity generation sector noting that (NMP, Para. 3.1):

*‘Peat burning generation will gradually be replaced by sustainable biomass.’*

The Plan made a brief reference to the conversion of the peat burning stations for that purpose, stating (NMP, Para. 3.1):

*“In the decade beginning in 2021, the new Renewable Electricity Support Scheme (RESS) will incentivise investment in further renewable generation beyond the current target. Peat burning generation will gradually be replaced by sustainable biomass. Benefits for health, well-being, air quality and sustainable development will accrue as we transition away from coal and peat generation. Aside from the converted peat burning stations, the role of biomass will largely be confined to the heating sector.”*

The NMP (NMP, Section 3.3) acknowledges the intent of BnM to co-fire at Edenderry Power Station with REFIT3 support, and also to cease harvesting of peat for power generation by 2030<sup>22</sup>. It further states that ESB’s stations – WOP and LRP, may also

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<sup>22</sup> Noting as above that this date has been supplemented by the October 2018 announcement that Bord na Móna is accelerating its decarbonisation strategy – see references above.

move to co-firing with biomass, availing of REFIT3, stating (NMP, Para. 3.3, page 48):

*“PSO support for Bord na Móna’s Edenderry peat-fired power station expired in December 2015. The Edenderry power station is now in receipt of support for biomass co-firing via REFIT3 for up to 30% of the size of the plant. In addition, Bord na Móna has stated that it intends to cease harvesting peat for electricity generation by 2030. The company has committed to replace large-scale peat production with alternative energy sources. This will contribute significantly to the decarbonisation of electricity and is in keeping with the Energy White Paper.*

*The PSOs for the ESB’s West Offaly and Lough Ree peat power stations expire in 2019, aligning with Government policy to transition to a low carbon energy system. This will provide a key incentive for the owners of these plants to convert to alternative generation technologies. These two peat plants may, like Edenderry, also move to co-firing with biomass. In such a situation the peat plants would be eligible to apply for support under REFIT3.”*

The NMP (NMP, Annex 2) sets out the mitigation measures presented in the Environmental Report (ER) prepared as part of the Strategic Environmental Assessment (SEA) of that Plan. It is noted that the SEA is a statutory and systematic process undertaken to aid decision-making in relation to any plan, programme or project to ensure that environmental and other sustainability aspects are considered effectively. An identified mitigation measure in relation to the assessment of alternatives addressed the potential elimination of the peat powered plants, noting that any decision to eliminate these plants should only be taken in the context of a feasibility study that would be prepared within the coming five years – i.e. by 2022:

*‘Electricity Generation – Eliminate Peat Powered Plants;*

*Undertake a feasibility study to address the measures required to discontinue the combustion of peat for electricity. All options for discontinuation of these plants should be considered and a multi criteria analysis undertaken to determine the optimum approach. Environmental criteria should be the primary driver for the decision making process. This study should be undertaken within the next five years to inform decision making for the next NMP and provide a clear roadmap for the phased cessation of peat in this sector.*

*Sector response/proposition - Energy: The harvesting of peat for electricity generation is expected to cease by 2030. Currently, one of the three peat-fired electricity generating plants (Edenderry, owned by Bord na Móna) co-fires with biomass at levels in excess of 30%. The two ESB plants, West Offaly and Lough Ree, are technically capable of co-firing with biomass and the owners are currently examining the potential for co-firing. The subsidies currently supporting the generation of electricity from peat in these two power stations will cease by end 2019. This will provide a key incentive for the owners of these plants to convert to co-firing. An issue to be overcome is the development of more cost-effective supply chains of biomass.’*

The completion of additional studies is enshrined elsewhere in the NMP. Action 24 commits to oversight by DCCA of a review of future peat generation plants in line with Bord na Móna's Sustainability Strategy which was to be completed by 2019. This review will be in line with EU GHG reduction targets to 2030 and will be included in the Integrated National Energy and Climate Plan (INECP) under the EU proposed Energy Governance Regulation which the Government must submit to the EU. This review is on-going and will no doubt reflect the most recent (October 2018) announcement of Bord na Móna in relation to the accelerated decarbonisation of its business. Further policy announcements will likely inform the future strategies of ESB and Bord na Móna in relation to the continued operation of the Midlands Stations, beyond the scope of this current proposal.

Noting these references it is clear that the NMP accepted the on-going operation of the peat stations into the 2020's and did not consider their closure should occur pending the findings from those future studies.

The first statutory **National Adaptation Framework (NAF)** was published in January 2018. It outlines the government and societal approach to climate adaptation setting out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The NAF establishes a context for Government Departments preparing sectoral adaptation plans in relation to identified priority areas, as well as local authority adaptation strategies.

As a measure of the social significance attached to addressing climate change, the recommendations emerging from the **Citizen's Assembly** in November 2017 are noteworthy. The Assembly voted overwhelmingly in favour of Ireland taking measures to address climate change making 13 recommendations for State action. Critical recommendations include 97% of delegates voting in favour of climate change being at the centre of government policy-making; with a similar majority recommending that the State should end all subsidies for peat extraction and instead spend that money on initiatives to restore bogs and make provisions for affected communities to make a just transition away from the activity of peat harvesting. Though such recommendations have yet to be reflected into stated Government policy, they clearly indicate the public opinion on this important issue.

In June 2018, the EPA published **Greenhouse Gas Emission Projections (GHGEP), 2017 to 2035** which provided an updated position statement in relation to the attainment of targets for the reduction of Greenhouse gas emissions.

The Report notes (GHGEP, Key Insights, page i):

- *Ireland is not projected to meet 2020 emissions reduction targets and is not on the right trajectory to meet longer term EU and National emission reduction commitments.*
- *Fossil fuels such as coal and peat continue to be key contributors to emissions from the power generation sector and the extent of their use will be a key determinant in influencing future emissions trends from this sector.*

The Report confirms that the energy industries sector contributes 18% share in total emissions, below agriculture (33%) and transport (23%).

It notes the divergence of projected emissions in 2019 under the ‘With Existing Measures’ and the ‘With Additional Measures’ scenarios, with higher emissions projected in the ‘With Additional Measures’ scenario out to 2025. This is directly attributed to changes in the energy electricity sector - though the report notes that the scenarios do not reflect the implementation of proposals such as set out in this application and as approved under REFIT3:

*‘.... projected emissions between the With Existing Measures and With Additional Measures scenario begin to diverge in 2019. The Public Service Obligation (PSO) levy that supports peat being used for power generation no longer applies after the end 2019 under the With Existing Measures scenario and consequently peat used for power generation significantly reduces. Thereafter the fuel type used for electricity generation is influenced by fuel price and in this case gas largely replaces peat as one of the main fuels used for power generation leading to lower emissions. Emissions are higher in the With Additional Measures scenario on the basis of the assumption that Ireland’s peat power plants are assumed to receive the necessary planning permission and run on the basis of supports provided for under the REFIT III scheme. This scheme includes the co-firing of peat and biomass for power generation which means more peat is needed after 2019 to co-fire with biomass. There will be a biomass co-firing share of 30% up to and including 2026. The peat share will then decrease linearly year-on-year to 0% by 2030. This assumption is not included in the With Existing Measures scenario as the REFIT III decision for co-firing at the relevant peat power plants was made in April 2017 (after the 31st December 2016 cut off point for policies and measures to be included in the With Existing Measures scenario).’*

On a more general note, the report considers changes in the sector including the impact of increased biomass and the associated medium-term impacts on the emissions profile, noting:

*‘From 2026 the emissions profile changes significantly with higher emissions in the With Existing Measures scenario from 2026 out to 2030. This is largely due to the accelerated phase out of coal used for power generation and the introduction of commercial interconnectors (Greenlink and Celtic Interconnector) after 2025 under the With Additional Measures scenario, leading to significantly lower domestic power generation.*

*Under the With Existing Measures scenario, total energy industries emissions are projected to decrease by 18% over the period 2017- 2020 to 10.2 Mt CO<sub>2</sub>eq and decrease by 21% over the period 2017-2030 to 9.9 Mt CO<sub>2</sub>eq. Renewable electricity generation capacity is dominated by wind but also includes biomass (co-fired with peat), the operation of waste to energy incinerators (Carranstown and Poolbeg), landfill gas for electricity generation and solar photo voltaics. Fuels used from renewable sources steadily increases over the projected period which is largely attributed to an increase in installed wind capacity. As well as the change in fossil fuel type (e.g. gas replacing peat), the increase in renewables is also contributing to the overall decrease in emissions.*

*Under the With Additional Measures scenario, total energy industries emissions are projected to decrease by 12% over the period 2017 – 2020 to 11 Mt CO<sub>2</sub>eq and decrease by 40% over the period 2017-2030 to 7.4 Mt CO<sub>2</sub>eq. The profile of renewable energy is largely similar to that under the With Existing Measures Scenario with more biomass needed for co-firing as described above. The bigger decrease in emissions over the longer period compared to the With Existing Measures scenario is also a result of more coal and gas being used under the With Existing Measures scenario. ‘*

As set out under **Section 5** below, the key conclusions of this report are addressed by the Applicant to ensure that the proposed development can be assessed in the context of the relevant emissions targets – namely those reflected in the ETS.

In July 2018, the **Climate Change Advisory Council (CCAC)** published its **Annual Review 2018**. The CCAC is an independent advisory body established under the Climate Action and Low Carbon Development Act, 2015 tasked with assessing and advising on how Ireland is making the transition to a low carbon, climate resilient and environmentally sustainable economy by 2050. It is tasked with reviewing national climate policy, progress on the achievement of the national transition objective and progress towards international targets. A key task is to conduct an annual review of progress made over the previous year in reducing greenhouse gas emissions and furthering the transition by 2050.

The Review looked at the progress made to date and highlighted key issues (CCAC, Executive Summary) including:

- Irish GHG emissions are rising and Ireland is completely off course in terms of achieving its 2020 and 2030 emissions reduction targets. Without urgent action that leads to tangible and substantial reductions in GHG emissions, Ireland is unlikely to deliver on national, EU and international obligations and will drift further from a pathway that is consistent with transition to a low-carbon economy and society;
- The CCAC welcomes the National Planning Framework and the National Development Plan as potentially significant contributions to transition; however, their robust implementation and monitoring will be key to achieving progress in the transition to a low-carbon, climate-resilient and sustainable economy and society;
- The CCAC welcomes the commitment to end the burning of coal at Moneypoint by 2025. However, the Council is concerned that planned support for biomass co-fired with peat has the effect of supporting the continued burning of peat for electricity generation, thus contributing to higher emissions. There is an urgent need to bring coherence to this aspect of energy policy and climate change policy by closing peat-fired generation as soon as possible;
- The CCAC recommends that the carbon tax be raised to €30 per tonne in Budget 2019 as an essential component of achieving decarbonisation, rising to €80 per tonne by 2030;
- The current carbon price level in the EU ETS is insufficient to achieve climate targets and objectives, including the decarbonisation of electricity generation.

Analysis suggests that the best way to achieve the ending of the burning of coal at Moneypoint by 2025 would be to introduce a carbon price floor in Ireland alongside other European countries. The government should actively work with other European countries towards this goal.

An assessment of the details set out in that Annual Review is set out in EIAR (EIAR, Chapter 10) in the context of Air and Climate.

As set out under **Section 5** below, the conclusions of the CCAC Annual Review 2018 are addressed by the Applicant. The proposed development will assist in the attainment of targets for low carbon energy generation, requiring a relatively short transition period to the end of 2027 to minimise the negative socio-economic impacts on the Midlands region. Arising from the immediate reduction in peat there will be an immediate reduction in GHG emissions. Moreover while the Station is transitioning to full-biomass there will be stimulation and development of viable supply chains – which will benefit other renewable energy developments including heating initiatives.

A critical element of the adherence to sectoral policies, is the alignment of the strategies of Bord na Móna and the ESB within the context of those policies. Both companies have developed their strategies for decarbonisation of activities in the context of the above national policies – and both strategies align. This is an important and material consideration for the Board – particularly in the context of managing the socio-economic impact of the broader transition from peat on the economy of the Midlands Region.

### 4.2.3 National Spatial Plans

The **National Spatial Strategy (NSS), 2002 – 2020**, provided the context for Ireland’s first national spatial plan. The NSS recognised the role of peat extraction and energy production in the structure of development in the Midlands (Para. 4.4, NSS):

*“The historically strong agriculture and natural resources sector, such as peat extraction and energy production, has supported an extensive village structure throughout the Midlands. This structure, with its established residential, service and employment functions, can be supported by necessary investment in key services.”*

While the Strategy did not provide explicit guidance on the evolution of the Midlands stations as they move away from peat-fueled generation, more general policies were provided. These set a broad context for balancing the requirements of activities and the sustainable use of the resource base (NSS, Para. 5.5).

The NSS was superseded by **The National Planning Framework (NPF) [2018]**. The NPF sets out the strategic plan for shaping the future growth and development of Ireland out to the year 2040. It is a framework to guide public and private investment, to create and promote opportunities for people, and to protect and enhance the environment.

The purpose of the Framework (NPF, Para. 2.1) is to enable all parts of Ireland, whether rural or urban, to successfully accommodate growth and change, by facilitating a shift towards Ireland's regions and cities other than Dublin, while also recognising Dublin's on-going key role.

The implementation of the Framework focuses on policies, actions and investments which will ensure the delivery of ten National Strategic Outcomes. These Outcomes can be considered pillars of the Framework.

**National Strategic Outcome No. 8** relates to the transition to a low carbon and climate resilient society, described as:

*“The National Climate Policy Position establishes the National objective of achieving transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050. This objective will shape investment choices over the coming decades in line with the National Mitigation Plan and the National Adaptation Framework. “*

This National Strategic Outcome is described in detail (NPF, Section 10), states:

*‘New energy systems and transmission grids will be necessary for a more distributed, more renewables focused energy generation system, harnessing both the considerable on-shore and off-shore potential from energy sources such as wind, wave and solar and connecting the richest sources of that energy.’*

The role of companies such as the ESB, in leading this change is reflected in the commentary which refers to a key means of policy support – namely the PSO and related support mechanisms such as REFIT (NPF, Page 147):

*‘State-owned commercial enterprises are significant players in the energy market, which is subject to an EU regulatory framework. Promotion of renewable energy is supported by policy in the form of a public service obligation levy.’*

The future direction of the energy generation sector as we move from reliance on fossil fuels is clearly intended to include the transition to biomass as proposed here. In support of that the Framework states (NPF, Page 147):

*‘The diversification of our energy production systems away from fossil fuels and towards green energy such as wind, wave, solar and biomass, together with smart energy systems and the conversion of the built environment into both generator/consumer of energy and the electrification of transport fleets will require the progressive and strategic development of a different form of energy grid.’*

The key actions identified under this Strategic Outcome include the commitment to deliver 40% of electricity needs from renewable sources by 2020; with a strategic aim to increase renewable deployment in-line with EU targets and national policy objectives out to 2030 and beyond.

To achieve this diversification it is anticipated that there would be an increased range of renewable technologies in the market – as now evidenced by this proposal to

transition WOP Station to operating on 100% biomass by the end of 2027. Energy security and resilience will also be enhanced by the proposed development which will utilise fuel from a range of sources (domestic and imported) and also have the potential to enhance the market for the indigenous biomass.

regional development targets are set out under National Policy Objectives 1a – c, noting that the Eastern and Midland Region (within which the development sites are situate) will grow to a population of c. 2.85 million with 1.34 million in employment, to 2040.

Key future planning and development policy priorities for the region are set out (NPF, Section 3.2). These include a specific reference to the renewable energy potential of the region and the transformation of that regional economy which has to date, relied on peat production. The Framework states (NPF, Para. 3.2) that one such priority would be:

*“Harnessing the potential of the region in renewable energy terms across the technological spectrum from wind and solar to biomass and, where applicable, wave energy, focusing in particular on the extensive tracts of publicly owned peat extraction areas in order to enable a managed transition of the local economies of such areas in gaining the economic benefits of greener energy.”*

The Framework (NPF, Section 5.4) sets out policies for the rural environment and economy. Of note, it set out measures to support rural job creating, including:

- **National Policy Objective 21** – to *‘enhance the competitiveness of rural areas by supporting innovation in rural economic development and enterprise through the diversification of the rural economy into new sectors and services, including ICT based industries and those addressing climate change and sustainability;*

In line with that Objective, the proposed development promotes innovation in the rural economy, including support for those industries addressing climate change and sustainability.

- **National Policy Objective 23** – to *‘facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together with forestry, fishing and aquaculture, energy and extractive industries, the bio-economy and diversification into alternative on-farm and off-farm activities, while at the same time noting the importance of maintaining and protecting the natural landscape and built heritage which are vital to rural tourism’*

In line with that Objective, the proposed development supports the growth of the forestry, energy and bio-energy sectors by creating a sustainable and long-term market for indigenous biomass crops and also material produced by the agricultural and forestry sectors.

The Framework (NPF, Section 9) deals with the transition to a low-carbon economy; the safe-guarding of natural capital and the creation of a clean environment, noting:



- **National Policy Objective 52** notes *‘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’.*

In line with that Objective, the proposed development facilitates the transition away from peat-fuelled energy generation to a more sustainable form of dispatchable electricity generation – namely that enabled by the combustion of renewable biomass.

- **National Policy Objective 53** - to *‘support the circular and bio economy including in particular through greater efficiency in land management, greater use of renewable resources and by reducing the rate of land use change from urban sprawl and new development’.*

In line with that Objective, the proposed development will support the circular and bio-economies by creating a viable and growing market for renewable biomass crops.

In relation to Climate Action and Planning, the NPF notes the need to address the long-term causes of climate change through the reduction in greenhouse gas emissions. With specific regard to future developments, the Framework notes the need to make balanced choices, stating (NPF, Para. 9.2):

*‘If Ireland is to make up for lost ground in relation to carbon reduction targets and move towards the objective of a low carbon and climate resilient Ireland by 2050, it is necessary to make choices about how we balance growth with more sustainable approaches to development and land use and to examine how planning policy can help shape National infrastructural decisions.’*

Clearly specific projects – including the proposed development, represent an opportunity to develop low carbon electricity generation infrastructure. The proposed transition towards 100% biomass will be achieved over a relatively short timeframe – by 2027, whereas the benefits of investing in strategic generation infrastructure that can utilise domestic and international biomass from a wide range of sources, will be long-term.

Directly relevant to the assessment of the proposed development, the Framework (Para. 9.2) notes the role the State forestry would play in the *‘provision of renewable fuels and raw materials’*. It identifies afforestation as a significant mitigation option – and in support of that it is noted that the proposed development will significantly support that sector and the cycle of planning and harvesting, by providing a strong market for the sale of thinnings and other by-products from the timber industries.

The achievement of climate action targets is addressed in **National Policy Objective 54** which stated the commitment to *‘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 emissions reductions’*. The associated supporting statement (NPF, Para. 9.2) notes the Government’s explicit support for:

- the integration of climate considerations into statutory plans and guidelines;
- the promotion of energy efficient development;
- the roll-out of renewables and the protection and enhancement of carbon pools including peatlands;
- the development of sustainable supply-chains in the bio economy;
- grey adaptation to respond to the potential impacts of climate change;
- green adaptation to use ecological properties to enhance resilience in the face of climate change.

In relation to Energy Policy and Planning, the NPF provides significant policy guidance. The NPF states (NPF, Page 122):

*‘Ireland’s national energy policy is focused on three pillars: (1) sustainability, (2) security of supply and (3) competitiveness. The Government recognise that Ireland must reduce greenhouse gas emissions from the energy sector by at least 80% by 2050, compared to 1990 levels, while at the same time ensuring security of supply of competitive energy sources to our citizens and businesses.’*

The transition to a low carbon energy future is identified as requiring:

- *‘A shift from predominantly fossil fuels to predominantly renewable energy sources;*
- *Increased efficiency and upgrades to appliances, buildings and systems;*
- *Decisions around development and deployment of new technologies relating to areas such as wind, smartgrids, electric vehicles, buildings, ocean energy and bio energy; and*
- *Legal and regulatory frameworks to meet demands and challenges in transitioning to a low carbon society.’*

This is reflected in **National Policy Objective 55** which notes it is an objective to *‘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.’*

The role of State owned bodies in the delivery of the NPF is key. This is particularly noted in relation to the development of land-banks through the National Regeneration Agency and the potential contribution this can make to the attainment of objectives with respect to residential development. However this role is not limited to housing developments, as **National Policy Objective 66** clearly notes the contribution such bodies can make to smaller settlements, such as Shannonbridge, where the existing WOP Station is a significant economic activity and driver and where the proposed fuel change can facilitate the transition of an existing fossil-fueled plant to a dispatchable generation facility fueled by sustainably sources renewable biomass:

**National Policy Objective 66** - *A more effective strategic and centrally managed approach will be taken to realise the development potential of the overall portfolio of State owned and/or influenced lands in the five main cities other major urban areas and in rural towns and villages as a priority,*

*particularly through the establishment of a National Regeneration and Development Agency.’*

#### 4.2.4 National Investment Plans

Under the NPF, a new ten-year **National Development Plan (NDP)** has been adopted for the period 2018 – 2027. That Plan establishes the investment priorities that will underpin the successful implementation of the NPF. This will guide national, regional and local planning and investment decisions in Ireland over the Plan period.

As noted above (see **Para. 4.2.3** above) Strategic Outcome No. 8 of the NPF is highly relevant to the proposed development, given it relates to the transition to a low-carbon and climate-resilient society. In relation to achieving that outcome, a series of investment priorities are set out.

In relation to Renewable Energy, the diversification of fuel sources is identified as an investment priority is (NDP, Page 75):

*‘Energy research funding to accelerate diversification away from fossil fuels to green energy, including wind, wave, solar, biomass, biofuels, biogas and hydrogen’.*

Under ‘Commercial and Private Sector Investments’ (NDP, Page 75) the conversion of the peat plants is an identified investment priority:

*‘Conversion of peat power plants to more sustainable low-carbon technologies by 2030’*

In relation to ‘Investment Actions’ the NDP (NDP, Page 76) sets out the approach to Decarbonising Energy:

*‘Ireland’s energy system requires a radical transformation in order to achieve its 2030 and 2050 energy and climate objectives. This means that how we generate energy, and how we use it, has to fundamentally change.*

...

*By 2030, peat and coal will no longer have a role in electricity generation in Ireland. The use of peat will be progressively eliminated by 2030 by converting peat power plants to more sustainable low-carbon technologies.*

*Investment in renewable energy must be complemented by wider measures to moderate growth in energy demand, diversify supply sources by greater interconnection to international energy networks, and increase adoption and utilisation of electricity storage and smart metres.*

*This will significantly increase our capacity to electrify heat and transport and promote less energy intensive/ low-carbon heating solutions, including biomass and biogas.’*

Associated with these objectives, a series of measures are identified including decarbonising electricity generation and utilising energy research funding to accelerate diversification away from fossil fuels to green energy.

In relation to Commercial State Sector Investments, the starting point for the transition of the stations is identified as being the end of the PSO (NDP, Page 79):

*‘ESB also has two peat plants at West Offaly and Lough Ree. These plants will have to be converted to more sustainable low carbon technologies following the expiry of the Public Service Obligation in respect of the plants at the end of 2019.*

The proposed development - and the transition of the LRP Station at Lanesborough, Co. Longford, will see the ESB delivering on each of these investment priorities. It will ensure the conversion of a traditional, peat-fuelled Station to low-carbon renewable and sustainable biomass. This is strongly in-line with the stated investment priorities of the NDP – while also complying with ESB’s commitments in relation to the decarbonisation of its generation fleet; Bord na Móna’s updated timeframe for the cessation of energy generation from peat; and the broad objective to support the indigenous biomass industry.

As set out in **Section 5** below, this is strongly in-line with the principles and priorities set out in the NDP the primary strategic spatial plan in place in the State.

#### 4.2.5 Regional Guidelines

In 2010 the Midlands Regional Authority adopted Regional Planning Guidelines (RPGs) for the period 2010-2022. The Midlands Regional Authority has been replaced by a new Midlands and Eastern Regional Assembly established in 2015 following local government reform. The RPGs will be replaced by a Regional Spatial and Economic Strategy (RSES) and these are expected to be adopted in early 2019. When those RSES are adopted each Local Authority Development Plan will be required to be consistent with the RSES. Pending the adoption of a RSES for the Midlands and Eastern Region the published RPGs are still in place and relevant.

The RPGs for the Midlands Regional Authority apply to the counties of Laois, Longford, Offaly and Westmeath. It is notable that the Region accommodates all three peat-fuelled Midlands generating stations, so those Stations combined (direct and indirect) contribution to the regional economy is significant.

The RPGs provide commentary on the role of the peatlands in the Regional environment and economy (RPG, Para. 3.4.6). In relation to the potential for the development and growth of a biomass industry within the Midlands, the RPGs offer significant guidance stating (RPG, Para. 3.4.6.1):

*‘The Midland Region is well placed for the development of renewable energy such as wind and biomass/biofuels given the predominantly rural nature of the landscape which includes large expanses of worked out peatland.*

*The renewable energy sector has the potential to create high value jobs, but it also has the potential to result in spin off development in manufacturing, servicing and research and development activities.*

.....

*The Midland Region also offers significant potential for the growth and development of biomass and biofuels as sustainable sources of energy, both in worked out peatland areas and on agricultural land. Biomass crops such as coppice willow and oil seed rape are well suited to the midland soils. The processing of raw biomass material into fuel (e.g. wood chips, biodiesel etc) or energy (heat, power) also present opportunities for enterprise development and job creation within the region.*

*The Midland Region which has three peat-burning power stations at Lanesboro, Shannonbridge and Edenderry is well placed to assist in achieving the target of using 30% biomass to co-fire peat power plants by 2020. The development of this sector will greatly assist in the conversion from peat to biomass/biofuel. The existing peat-fired stations also have an infrastructural network in place accessing these peatlands, working independently from existing road network, which is a significant advantage in the transport of high bulk, low energy biomass from harvest to power station.'*

There are a range of Economic Development Policies (EDP) set out in the RPGs (RPG, Section 3.5) of particular relevance, namely

- **Policy EDP.9** (RPG, Page 53) notes the role of key providers such as the ESB in the provision of infrastructure to support regional growth and economic diversification, stating it will be regional policy to: *'engage with and facilitate, where appropriate, the key infrastructure providers, in order to meet the efficient and timely delivery of key infrastructure, in a sustainable manner, necessary to support the region's growing and diversifying economy.'*
- **Policy EDP.13** (RPG, Page 53) relates to the future of the rural economy and stating that it is a policy of the Regional Authority to: *'encourage and support the sustainable diversification of the rural economy throughout the region, in a manner that sustains the attractiveness and status of the rural environment.'*
- **Policy EDP.15** (RPG, Page 53) relates to the peatlands and the inherent link between that resource and the environmental, social and economic well-being of local communities, stating that it is a policy of the Regional Authority to: *'encourage and support the agencies and stakeholders involved in the management of the industrial peatlands to develop a holistic plan that meets the environmental economic and social needs of these areas.'*

The Midlands RPGs provide key guidance in relation to the energy sector and associated infrastructure which, again, the proposed development will assist in the attainment of. Policies of note in relation to Transport and Infrastructure Policy (TIP) are as follows:

- **Policy TIP33** (RPG, Page 108) establishes a direct policy connection between the transition away from peat and the move towards increasingly sustainable renewables, noting that it is a policy of the Regional Authority to:

*‘Support the sustainable development of the infrastructure<sup>23</sup> required to assist the Midland Region in the delivery of renewable energy particularly in the context of the existing energy infrastructure in the region and the need to make a transition from peat<sup>24</sup> to renewable energy.’*

- **Policies TIP36 and TIP37** (RPG, Page 108) formally recognises the link between the RPGs and binding national and international policies stating that: *‘Subsidiary Plans will seek to promote the implementation of the Government’s Energy White Paper “Delivering a Sustainable Energy Future for Ireland” The Energy Policy Framework 2007-2020 (DCMNR, 2007), and ‘Subsidiary Plans will seek to facilitate the minimisation of emissions to the air of greenhouse gases in accordance with the Kyoto Protocol, any subsequent international agreement and the National Climate Change Strategy.’*

The proposed development will facilitate the continued operation of WOP Station, an important piece of electricity generation infrastructure and a key driver, in the regional economy. The phased transition of that station to 100% biomass enables the orderly transition of the regional economy from its traditional reliance on peat, with the anticipated emergence of an increasingly important biomass industry which will support rural and regional diversification. This is strongly in-line with regional policies as set out in the RPGs.

#### 4.2.6 County Policies

The development sites are both located within the functional area of Offaly County Council. The provisions, policies and objectives of the **Offaly County Development Plan (CDP), 2014 – 2020** apply.

The Plan sets out an overall vision, strategies, policies and objectives for the County. Central to this is the ‘Core Strategy’, the purpose of which is to set out a clear spatial framework for the growth of County Offaly over the plan period. The Core Strategy is required to be consistent with higher order spatial plans, namely those in place at national and regional level.

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<sup>23</sup> Subject to compliance with the Habitats Directive

<sup>24</sup> The potential of peatlands to be developed will be significantly determined by the Habitats Directive which recognises peatlands – including degraded peatlands with a potential to be rehabilitated – as priority habitats. This factor will be taken into account in determining the range and type of future eco-tourism uses for such areas.

The Core Strategy of the Offaly CDP seeks to (CDP, Para. 1.1):

- *‘Rationalise spatial land-use planning and population distribution in accordance with higher order plans.*
- *Align these with investment in infrastructure services and facilities.*
- *Enhance sustainability and ensure quality of life and protection of the environment’.*

In the context of the Core Strategy, the Plan contains a series of Strategic Objectives for the County, focussing on the key issues to be addressed over the lifetime of the Plan. Strategic Objective 8 deals with economic development and states that it is a Strategic Objective of the Plan to (CDP, Para. 1.3):

*‘8 - promote sustainable economic development and direct economic activity into the most appropriate locations within County Offaly for employment generation and to capitalise on opportunities available in order to enhance the strategic competitiveness and attractiveness of the county’.*

The context for the delivery of the Core Strategy is set out (CDP, Para. 1.9) with commentary provided in relation to various aspects of the plan implementation stage. In relation to economic development the Plan acknowledges (CDP, Para. 1.9.2) the role of ESB and Bord na Móna in supporting the local economy as well as the economic transition that will occur as Bord na Móna moves away from the large-scale commercial harvesting of peat:

*‘The period of this plan will be a time of planned economic recovery, and this will have consequences for the physical development of County Offaly. Within the lifetime of this plan, indigenous employment growth in Offaly will come from the vibrant start-up sector, many of which will be technology based. It will also come from more traditional areas such as Tourism, Agriculture and Food. The reuse of cutaway bog will present significant opportunities in the energy sector. In urban areas, professional services, retail and food services provide current employment and future growth potential. Further inward investment may be gained through pharmaceutical research, development and manufacturing, waste processing and energy production. The Public Sector, including health, education and central government is also a major employer in the county, as is the semi-State sector including the ESB, Bord na Móna and Coillte’.*

In relation to the energy sector, the declining and emerging phases of electricity generation, specifically with respect to the development of a biomass industry, are considered (CDP, Para. 1.9.3) as follows:

*‘The history of peat fired stations has left a valuable legacy for Offaly in the existing sites and transmission infrastructure that traverses the county and this existing distribution network can now be used for the sustainable development of new generation capacity. The main developments in the energy industry over the lifetime of this plan will be in generation, particularly the migration from non-renewables to renewables. Non-renewable sources such as Natural Gas will still have a role in maintaining the consistency of supply that is expected from consumers and there is potential for*

*development of generating capacity in the county on brownfield sites previously used for peat-fired energy production. However, there is also an opportunity for Offaly to play its role in renewable energy, including wind energy on suitable sites in the county. Energy production from Biomass could add value to the agricultural economy, which could provide more employment in a rural county. It is anticipated that all of the above types of energy production will continue to play a central role in the economy of Offaly.'*

In relation to Economic and Enterprise Strategy (CDP, Chapter 2), the CDP sets out a number of relevant statements and policies.

On the peatlands (CDP, Para. 2.3.2), the CDP states:

*'The Council recognises the importance of cutaway bog as a major natural and archaeological resource and also its critical role in employment provision in the county. The development of the county's peat resources will be promoted and facilitated. The Council also recognises the potential for the utilisation of protected peatland areas for tourist, amenity, educational and research purposes.*

...

*Peatlands offer the opportunity to contribute to the diversification of the rural economy through a number of measures including a number of employment uses.*

*They could potentially accommodate large scale energy production in the form of wind farms and bio energy fuel sources (Refer to the Energy Strategy). The Council will encourage the sustainable and appropriate use of the peatlands for employment generating uses when all other planning and environmental considerations are met. A number of the peatlands within the county are protected through European and National designations. The Council will seek to achieve a balance in developing such a valuable land resource whilst also protecting the heritage and environmental value of these areas where required.'*

In relation to Enterprise, the CDP notes the potential role the Planning Authority can play working with bodies such as ESB and Bord na Móna, stating (CDP, Section 2.7):

*'EntO-06 It is an objective of the Council to continue to liaise and work alongside the enterprise agencies, ESB and Bord na Móna and the private sector, to develop enterprise space at various locations throughout the county, where feasible.'*

Energy is dealt with in the context of the Rural Strategy (CDP, Para. 2.8.5) which again identifies the potential for the sector as an economic driver:

*'The Council recognise that the energy sector, both renewables and non-renewables, is currently a significant employer in the county and has potential for considerable growth over the lifetime of this plan. The Council will encourage and facilitate the development of local or community based renewable projects in rural areas, (please refer to the Energy Strategy, Chapter 3 for more details).'*



In specific regard to bio-energy, the CDP (CDP, Section 2.8.5) establishes a context for the biomass industry and the role this can play in providing a secure energy supply:

*‘Energy production from biomass can reduce greenhouse gas emissions, provide a secure native fuel source and provide some diversification out of traditional farm enterprises. The Council will support the development of the bio-energy, including bio-gas, industry in the county, including rural areas, where appropriate.’*

This is reflected in Rural Development Policies (CDP, Section 2.9) which states:

*‘RDP-08 It is Council policy to support the development of renewable energy in rural areas, where it is considered appropriate i.e. where it is demonstrated that such development will not result in significant environmental effects. Such development will be assessed on a case-by-case basis.*

*RDP-11 It is Council policy to encourage expansion and employment in industries such as agriculture, horticulture, forestry, peatlands, food, crafts, tourism and energy.*

Chapter 3 (CDP, Chapter 3) deals with Energy Strategy noting the long-established role of the County in power generation. The Plan references the importance of the three Midlands power plants, citing their contribution as the only remaining significant indigenous source of non-renewable energy providing 8% of the electricity used in the State in 2010.

Noting the commitment set out under the Renewable Energy Directive 2009/28/EC and reflected in the NREAP (see relevant commentary set out under **Para. 4.2.2** above) to sourcing 16% of energy from renewable sources by 2020, the Plan notes the potential contribution the County can make to the achievement of these goals.

The CDP acknowledges the on-going role that the non-renewable energy sector will have to power generation in the medium term, stating (CDP, Para. 3.4.2):

*‘Non-renewable energy will continue to play a role in the generation mix of electricity for the foreseeable future. Offaly will have a role to play in the generation of two types in particular, gas and peat.’*

In relation to future generation activities at the WOP Station site, the CDP envisages a co-fuelling stage as is currently being proposed, likely informed by the approved status of the REFIT3 tariffs noting (CDP, Para 3.4.2):

*‘The process of burning peat in Edenderry and Shannonbridge is likely to migrate to a co-fuelling process over the lifetime of the plan. Offaly County Council supports the continued operation of power generation facilities at these sites.’*

Bio-energy is specifically dealt with under Renewable Energy (CDP, Para 3.4.3) noting the potential development of the biomass sector and the inherent link between this activity and the next phase of generation activity at both Edenderry and Shannonbridge – the latter being subject of this application:

*'In Offaly there has already been planting of some bio- energy crops including Miscanthus, Oil Seed Rape and Willow. These have the potential to provide alternative markets to tillage farmers in the county. There may be significant opportunity as both Edenderry and Shannonbridge Power Plant move to co-fuelling operations. Bio-energy crops will most often be farmed using existing facilities and without recourse to the planning application system, but where an application for associated infrastructure is required, the planning authority will consider it favourably subject to environmental considerations.'*

The CDP goes on to outline a range of policies which are relevant to the proposed project, in terms of its contribution to the decarbonisation of the energy generation sector and also the growth of the renewable energy sector, including:

- **Policy EP-01** which states:

*'It is Council policy to support national and international initiatives for limiting emissions of greenhouse gases and to encourage the development of renewable energy sources.'*

- **Policy EP-02** which states:

*'It is Council policy to facilitate the continual development of renewable energy sources having regard to the proper planning and sustainable development of the area concerned, the protection of amenities, landscape sensitivities, European Sites, biodiversity, natural heritage, and built heritage, and where such proposals comply with policy contained in the County Development Plan, in the interests of proper planning and sustainable development.'*

- **Policy EP-08** which states:

*"Having regard to the county's long tradition in power generation, it is Council policy to facilitate the continuance of power generation stations within the county, as appropriate including the consideration of co-fuelling and in line with National Policy Guidelines."*

And **Objective EO-04** which states:

*"It is an objective of the Council to support and facilitate the generation of electrical power within the county and the provision of high-voltage electricity infrastructure to cater for natural growth, new and existing large customers. Further, it is an objective of the Council to ensure, insofar as is possible, that the necessary infrastructure is in place to support the existing and future economy in Offaly, to support economic development and to attract investment."*

In relation to Infrastructure and Environment Strategy, the CDP sets out the strategic commitments of Offaly County Council particularly with respect to climate change.

**EnvP-01** states it is the policy of the Planning Authority to:

*'reduce emissions to the air of greenhouse gases in order to contribute to a reduction and avoidance of human induced climate change. The Council supports and is committed to the National Climate Change Strategy and, in*

*general to facilitating measures which seek to reduce emissions of greenhouse gases. In this regard, the Council will support any initiatives taken to provide for more sustainable forms of energy use’.*

As set out in **Section 5** below, these CDP policies are strongly supportive of the proposed development.

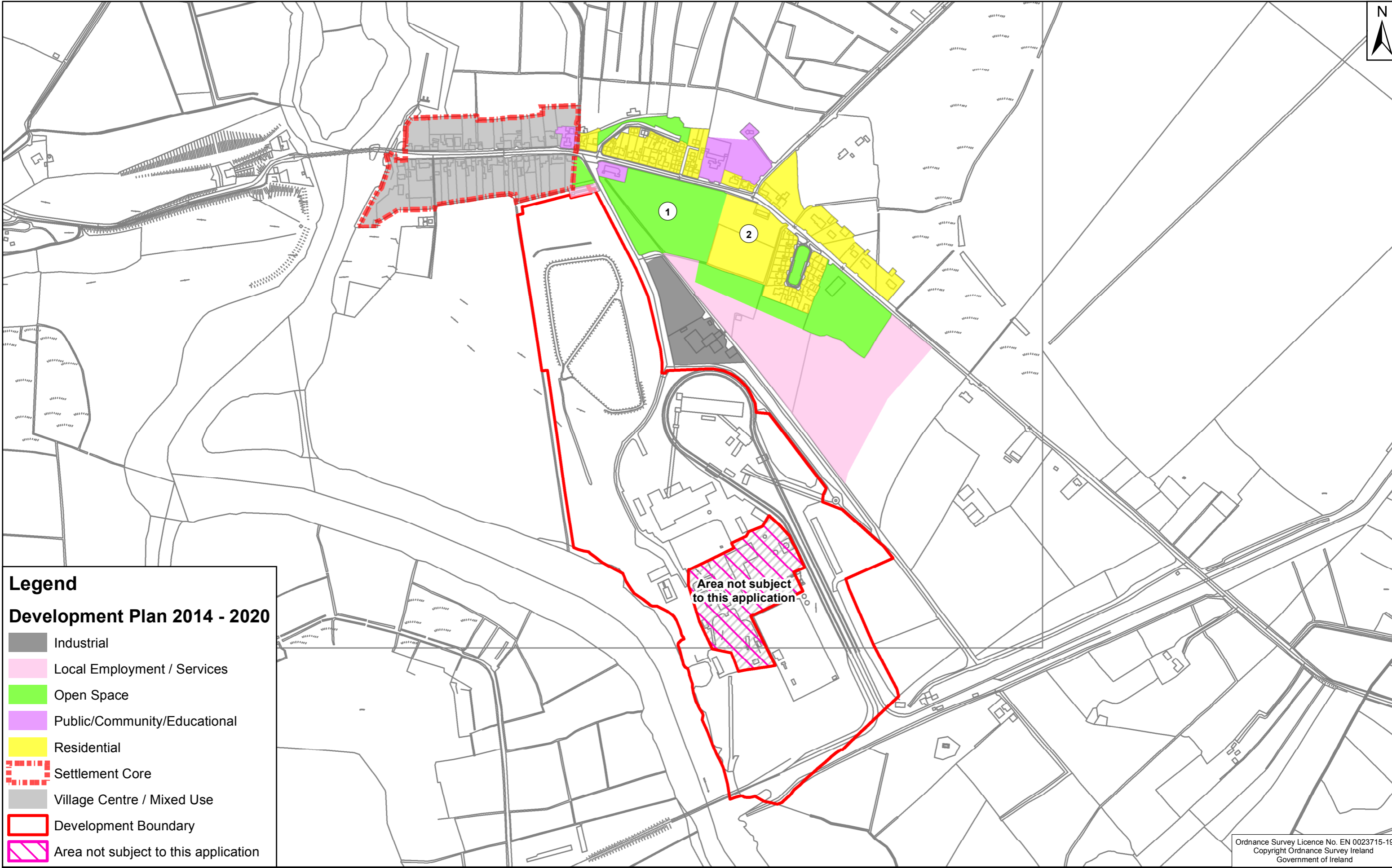
In terms of spatial development, the Offaly CDP (CDP, Volume 2) includes 21 no. settlement plans - including a Settlement Plan for the Village of Shannonbridge. The detail set out in the Settlement Plan is considered in the context of the over-arching policies set out in the CDP – particularly with respect to Chapter 1 – the Core Strategy and Chapter 8 - Development Management Standards and Land-use and Zoning.

The WOP Station site is located immediately outside the boundaries of the Settlement Plan. As shown on **Figure 4.2 – WOP Station Site and Land Zoning for the Settlement of Shannonbridge**, the site itself is un-zoned. Proximate lands are zoned for industrial use. The Plan therefore has been formulated having regard to the established industrial nature of the site and the proposed development – which will continue the established pattern of development, is compatible with this.

The ADF site lies outside village and associated settlement boundary.

In zoning terms, both sites are un-zoned and considered ‘white lands’ where the principle of development is considered having regard to the general principles of the CDP. As discussed in **Section 5** below, the proposed development will facilitate on-going generation activity on the WOP site and on-going ash disposal activity on the ADF site. These uses are highly compatible with the character of the existing lands and the principles set out in the CDP.





**Legend**

**Development Plan 2014 - 2020**

- Industrial
- Local Employment / Services
- Open Space
- Public/Community/Educational
- Residential
- Settlement Core
- Village Centre / Mixed Use
- Development Boundary
- Area not subject to this application

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PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED						
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CLIENT:	<b>ESB</b>
PROJECT:	<b>West Offaly Power, Transition to Biomass</b>
CONTRACT:	

PRODUCTION UNIT:	<b>Civil &amp; Environmental Engineering</b>
DRAWING TITLE:	<b>Figure 4.2- WOP Station Site and Land-Zoning for the settlement of Shannonbridge, as per the Offaly CDP, 2014 – 2020</b>

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DRAWING NUMBER <b>00-00</b>			SCALE <b>1:6,500</b>	
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## 5 Project Justification and Assessment

### 5.1 Project Justification

This section of the report provides a justification for the project, the continued use of WOP Station and ADF, the transition of that station to exclusive firing with biomass, and all associated development.

This submission builds on the stated needs for the proposed development (see **EIAR, Chapter 2**) having regard to the specific remit of the Board in their assessment of the proposal, and considers the project in the context of prevailing policy and the principles of sustainable development. It establishes the rationale for providing a dispatchable source of renewable generation, firing on sustainable biomass in the context of meeting Ireland’s 2030 GHG emission targets and contributing to meeting our renewable energy generation target. It also clearly sets out the need to transition WOP Station through a co-firing phase with reducing volumes of peat until the end of 2027 to achieve this.

The project is justified having regard to the following:

1. Implementation of ESB’s strategic commitments to decarbonise its electricity generation operations
2. Compliance with EU policies on the renewable energy sector
3. Compliance with national energy policy to decarbonise the sector
4. Meeting established commitments to tackle climate change by supporting the renewable energy generation
5. Minimising the socio-economic impact of the declining peat industry on the Midlands Region
6. Supporting the development of the indigenous biomass industry
7. Improving energy security
8. Supporting the ISEM capacity auction and minimising costs to the Irish consumer
9. Implementing national planning policy
10. Realising objectives set out in regional guidance documents
11. Delivering on policies and objectives set out in Offaly County Development Plan.

#### 5.1.1 Implementation of ESB’s Strategic Commitments

The proposed project will convert WOP Station to a low carbon renewable electricity generating station fuelled by sustainable biomass – a significant enhancement to the ESB generating fleet. This delivers on strategic objectives for the ESB and also to the attainment of national and international targets for decarbonisation and renewable energy generation.

This justification is fully described in the EIAR (see **EIAR, Para. 2.1**).

In summary it is noted that ESB has incorporated the transition to reliable, affordable, low carbon energy, into key corporate strategies – including **Connecting to Our**

**Future**<sup>25</sup>. As cited in that report, the company has set out Strategic Objectives including (Item 2) the production, connection and delivery of clean, secure and affordable energy, stating that (Connecting to Our Future, Page 21)

*‘ESB’s unique position as a player of scale in both Networks and Generation Markets enables it to take a leading role in the decarbonisation of society.*

*We will strengthen and adapt our traditional business models, and actively encourage and adopt new business models which leverage existing and new generation and networks assets to develop other products and services.’*

To implement those objectives ESB’s strategic document **Ireland’s Low Carbon Future – Dimensions of a Solution** sets out the specific measures the Company will implement to achieve these objectives. The document outlines ESB’s response to the challenges posed by global warming, both in terms of technological innovation and investment. In respect of the existing generating fleet, the document sets out the range of technologies that can be utilised to meet these key objectives, identifying biomass fuelled power generation as a suitable, low-carbon solution to deliver back-up capacity as well as essential system services and flexibility to the power systems in order to complement variable renewables. Emerging from the document, there is a clear emphasis on the need to increase renewable generation but to complement this with low carbon, dispatchable generation to ensure reliable and secure supply throughout the grid. Projects, such as the transition of WOP Station, are key to the delivery of these corporate objectives as well as to a range of other critical steps such as supporting the renewables sector, helping Ireland to achieve its commitment to achieving a targeted percentage of renewable energy generation and maintaining security of supply through growing use of an indigenous low carbon fuel supply and increased diversification of energy source.

### 5.1.2 Compliance with EU Policies on the Renewable Energy Sector

As outlined in **Section 4** above, the development of the renewable energy sector is central to EU policies and Directives aiming to achieve targeted reductions in GHG emissions.

Commitment to the expansion of the renewable energy sector is enshrined in Article 194(1) of the **Treaty on the Functioning of the European Union (TFEU)** which

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<sup>25</sup> ESB Annual Report and Financial Statements 2017



notes the development of renewable forms of energy is a key aim of energy policy. This strategic objective is reflected in all EU policy statement on the sector – including the Community White Paper **Energy for the Future: Renewable Sources of Energy**, which prioritised the development of the renewables sector establishing a target of doubling the share of renewables by 2010 thereby setting a positive policy framework at the highest level.

The **Renewable Energy Roadmap** established the context for a mandatory target of a 20% share of renewable energies in the EU's energy mix by 2020 – with that target endorsed by EU leaders in March 2007. **Energy 2020: A strategy for competitive, sustainable and secure energy** then set out that by 2020, the EU aimed (based on 2007 targets) to reduce its greenhouse gas emissions by at least 20%; increase the share of renewable energy to at least 20% of consumption; and achieve energy savings of 20% or more<sup>26</sup>. It also required all EU countries to achieve a 10% share of renewable energy in their transport sector. The Strategy aimed - through the attainment of these targets, to help combat climate change and air pollution, decrease the EU's dependence on foreign fossil fuels, and keep energy affordable for consumers and businesses. It set out five priorities including implementation of an EU-wide strategy to accelerate the development and deployment of low carbon technologies.

The **Energy Roadmap 2050** was then drafted in the context of the EU goal to cut greenhouse gas emissions by 80 to 95% by 2050. The Roadmap sets out four main routes to a more sustainable, competitive and secure energy system in 2050: energy efficiency, renewable energy, nuclear energy, and carbon capture and storage. The Roadmap concluded that decarbonising the energy system is technically and economically feasible, and that, in the long run, all scenarios that achieve the emissions reduction target are cheaper than the continuation of current policies. It also noted that increasing the share of renewable energy and using energy more efficiently are crucial; and that immediate replacement with low-carbon alternatives can avoid more costly changes in the future.

The importance of biofuels is acknowledged in the **Renewable Energy Directive** with the most recent recast of that Directive (REDII) providing sustainability criteria for all biofuels to ensure that they are produced in a sustainable and environmentally friendly manner. Article 2 of that Directive classifies the use of biomass to produce

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<sup>26</sup> Energy 2020, Introduction, Para. 4. Available at: [https://ec.europa.eu/ener/files/documents/2011\\_energy2020\\_en\\_0.pdf](https://ec.europa.eu/ener/files/documents/2011_energy2020_en_0.pdf)

energy as a renewable source of energy<sup>27</sup> and establishes Europe-wide sustainability and greenhouse gas emission-saving criteria for biomass fuels, which can be implemented to ensure that biomass is produced sustainably, irrespective of its geographical origin.

The policy statements described above (and in further detail in **Section 4**) set aspirational objectives and goals – the achievement of which requires projects such as that proposed – namely projects that convert existing infrastructure to lower-carbon technology, to be implemented.

Having regard to EU policy – and specifically REDII, the proposed development is a renewable energy project. Its implementation will convert the existing WOP Station from non-renewable peat to renewable sustainable biomass. This is strongly compliant with the European Commission's energy policy, and, in-turn, with policies to decarbonise the energy sector.

The proposed development contribute to the further development of the renewable energy sector. Each of the EU Renewables Directives has focussed on the further promotion of the sector, with REDII setting the most recent target for Ireland's share of energy from renewable sources in gross final consumption of energy in 2020 at 16%. Ireland's renewable electricity (RES-E) target for 2020 is 40% - which in turn is a component of that overall renewable energy target of 16%. The State could potentially be subject to fines or additional costs if these targets are missed.

The most recent data from SEAI is that 27.2% of electricity (RES-E) was generated from renewable sources in 2016<sup>28</sup>. The SEAI projects that Ireland will achieve between 13.2% and 15.4% of its overall 16% renewable energy target by 2020<sup>29</sup>.

From the initial co-firing phase, the changed fuel profile of WOP Station will positively contribute to the achievement these targets. The biomass portion of the generation would contribute directly to Ireland's renewable electricity (RES-E) targets and the country's renewable energy targets. Operating as a co-fired station (i.e. after 2020) WOP Station would contribute a little over one percentage point to the RES-E target of 40% for 2020, thereby helping the country to get closer to the overall renewable energy target, and potentially reduce any fines or additional costs that would accrue.

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<sup>27</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016PC0767R%2801%29>

<sup>28</sup> Energy in Ireland 1990 – 2016, SEAI, December 2017

<sup>29</sup> Source: Renewable Electricity Support Scheme (RESS): High Level Design, Government of Ireland, Para. 3.1

Although no official RES-E target for 2030 has yet been set, the Government of Ireland<sup>30</sup> and EirGrid<sup>31</sup> both given some consideration to 2030 RES-E targets of up to 55% in recent publications. Ireland has limited options for low- to zero-carbon synchronous dispatchable generation towards the end of the next decade. The option of nuclear is not currently available in this jurisdiction and there are numerous challenges facing carbon capture and storage. Biomass is one of the few zero-carbon synchronous dispatchable generation options available to Ireland. Where there are targets set for 2030, WOP Station will, by that date, be in full operation as a biomass fuelled facility. Operating as such it could potentially contribute over two percentage points towards whatever 2030 RES-E target has been set.

In addition to assisting the State in reaching its targets for renewable generation thereby avoiding fiscal penalties, the transition to WOP station will contribute to improved energy security at EU level. This is further discussed under Para. 5.1.7 below.

### 5.1.3 Compliance with National Energy Policy to Decarbonise the Sector

As noted in **Section 4** above, the decarbonisation of the energy sector is a fundamental objective of European and national, regional, and local sectoral policy documents and a key element to tackling the challenges posed by climate change.

Through a series of policy statements the Irish Government has supported electricity generation at the Midland peat-fuelled stations. The principle of the proposed transition to biomass, including the continued use of peat as a fuel through a transition period, is explicitly endorsed by the 2007 **Energy White Paper** which clearly stated the Government's support for co-firing (i.e. peat and biomass) as the next stage activity in the Midlands Stations.

This position was endorsed by the first **NREAP** which emphasised the need to reduce dependency on fossil fuels; improve security of supply; reduce greenhouse gas emissions and promote the green economy – all of which are supported by the proposed development.

Further support for the proposed development is set out in the **Strategy for Renewable Energy** which emphasised the role REFIT3 played in providing certainty

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<sup>30</sup> Renewable Electricity Support Scheme (RESS) High Level Design, July 2018

<sup>31</sup> Tomorrow's Energy Scenarios Report 2017

and confidence to the sector. That Strategy was again explicit in identifying co-firing as a supported technology, again giving confidence to the energy sector that the availability of the fiscal support was matched by a support in stated government policy.

In terms of the attainment of key targets with respect to tackling climate change and reducing greenhouse gas emissions, **The White Paper, Ireland's Transition to a Low Carbon Energy Future** dealt with the key timeframes for achieving targets for 2020 and 2030. That document provided a detailed context for the energy sector in terms of meeting reduction targets, identifying bio-energy as a potential fuel source for heating, transport and power generation.

The **NMP** provides an important context for the move away from peat, namely an interim feasibility review that will be prepared in 2022. That decision to provide a framework on the timeline for the transition from peat was subject to Strategic Environmental Assessment (SEA). It is notable that the option to require immediate cessation of peat-fuelled generation was considered but ultimately not required within the lifetime of the current NMP. This indicates an acceptance of on-going peat-fuelled generation in the interim, with the 2022 document to provide a context for the final stages of the transition, noting that this would be completed in advance of the 2030 date consistently referred to across policy documents. Again the update position of Bord na Móna is important in this respect – noting that policy positions are changing quite quickly, but that the proposal before the Board complies with all of these.

Sectoral documents are also key to the positive policy support for the proposed development. The **National Peatlands Strategy** established an extremely proactive context for co-firing – notwithstanding the fact that the fuel mix is predicated on an ongoing interim requirement for continued peat harvesting. The Strategy appears to strike the necessary balance between providing a structure for the management and protection of the peatlands, and accepting that there is a strong local and regional economy that depends on exploiting that natural resource – albeit in the most responsible way possible and while facilitating a move away from large-scale commercial peat harvesting. The document also provides a positive context too for biomass, anticipating the stimulating effect the transition of the peat-fired stations would have on the indigenous biomass sector.

The assessment of EirGrid of energy sources to meet supply and demand for the Period 2017 to 2026 (**All-Island Generation Capacity Statement 2017-2026**), clearly indicates the Transmission System Operator (TSO) itself anticipated that biomass will play a role in diversifying the energy system and meeting targets for the energy generation sector.

Directly associated with these policies is the availability of State supports – namely REFit3. As noted in **Para.4.2.1** above, the **NREAP** established the context for continued State Aid for the renewable energy sector in the form of REFit3. The tariff operates by guaranteeing renewable generation a minimum price for electricity exported to the grid. The express purpose of the support is the addition of 310MW of renewable electricity capacity to the Irish grid and clearly the support was designed to facilitate the transition of these stations to co-firing (peat and biomass) to the end

of 2030 – noting that the proposed development before the Board will actually see an end to co-firing by the end of 2027, well ahead of the end date for this support.

REFiT 3 contracts are now in place between the Department of Communications, Energy and Natural Resources (DCENR) and the ESB. These contracts support co-firing with peat and biomass to 31<sup>st</sup> December 2030 and specifically define “co-firing” to reference both peat and biomass within the relevant terms and conditions:

*“co-firing” means the combustion of biomass, up to 30% of the stated electricity generation capacity of the plant in any single year, in one of the existing three peat fired power stations operational under State aid clearance.’<sup>32</sup>*

This support represents significant public investment in the WOP Station and a clear endorsement of the phased replacement of peat with renewable biomass. As these contracts are legally binding on the ESB and the State, the ESB’s approach to transition out of peat is considered to align with both Government and EU Policy. The fact that the proposed development seeks to achieve faster transition than REFiT3 envisaged – i.e. ceasing fuelling by peat by the end of 2027 rather than 2030, is an additional benefit and a clear indication of ESB’s commitment to decarbonisation of its generating fleet.

Finally, as set out in **Section 4** above, Bord na Móna have outlined three commitments in their revised decarbonisation strategy **Brown to Green**, published in October 2018. These are – an immediate reduction in the amount of peat it will harvest; a commitment to the establishment of a biomass fuel supply chain; and a commitment to stop using peat as a fuel to generate electricity by 2028. The proposed development will see a significant reduction in ESB’s consumption of peat fuel at WOP Station from early 2020, and this accords with the Bord na Móna strategy. The proposed development will see ESB becoming a key consumer of indigenous biomass – a demand that will likely stimulate the expansion of that sector in the short- to medium-term, and again this is in-line with Bord na Móna’s strategy. Finally, the proposed development will see ESB cease to use peat as a fuel at WOP Station by the end of 2027. Typically, peat fuelling the Station is harvested 18 to 24 months in advance of being used. Based on this pattern, peat harvesting to serve the needs of WOP Station to the end of 2027 will likely cease by mid-2026 at the latest – again in-line with the commitments and plans set out by Bord na Móna.

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<sup>32</sup> Reference: <https://www.dccae.gov.ie/documents/REFIT/TermsandConditionsJuly2013>.

### 5.1.4 Meeting Existing Commitments to Tackle Climate Change

As set out in detail in the EIAR (see **EIAR, Para.2.4**), the proposed development assists in meeting existing commitments to tackling climate change by supporting renewable energy generation.

Technical justification for this is set out in the EIAR, and summarised as follows:

- Electricity demand across the grid is met by a range of energy generation sources, including conventional dispatchable energy plants such as gas, oil, peat and coal-fired generating stations and renewable energy in the form of hydro, solar and wind. Dispatchable facilities can literally dispatch electricity to the grid at the press of a button. By contrast, non-dispatchable renewable energy sources such as wind cannot be controlled by operators during all operating conditions. They are, by their very nature, intermittent and variable.
- To meet electricity demand EirGrid draws on both non-dispatchable and dispatchable plants, with priority given to renewable sources - reflecting the support for low-carbon generation sources. If renewable energy is not available, dispatchable sources are needed to meet demand.
- In order for the national grid to accommodate non-dispatchable generation sources, there is a requirement for the availability of reliable dispatchable energy to compensate for those times when insufficient non-dispatchable renewables are available to meet demand.

Grid and energy system balancing takes place every day but it is at its most noticeable during extreme weather events as this typically interrupts the supply of electricity from renewable sources – namely wind. During events such as these, the availability of a diverse range of dispatchable energy sources located across the grid is essential in supporting the non-dispatchable renewable energy sector. Fuelled by biomass, WOP Station would provide renewable dispatchable generation to a transmission system that will have increasing amounts of intermittent generation such as wind, solar and interconnectors. This is a key advantage of WOP Station post-2020 because dispatchable generation ensures the grid can facilitate additional renewable generation – thereby supporting the build-out of the latter type of generation, in particular wind and solar.

As set out in detail in the EIAR (see **EIAR, Para.2.4**) the transitioning of WOP Station through a co-firing phase leading to renewable generation on sustainable biomass, will both support and contribute to meeting Ireland's targets for renewable energy generation. This is an important step in increasing the contribution of the renewable sector to energy generation, and key to decarbonising our economy.

By contrast, the closure of WOP Station will not assist in meeting these targets as – in the context of steady demand, it would give rise to increased generation demand at an existing or new dispatchable plant – likely to be fuelled by a fossil fuel such as gas.

The proposed development is therefore a key to supporting other renewables and also delivering increased renewable low-carbon energy generation capacity – important elements in meeting the challenges posed by climate change.

### 5.1.5 Minimising the Socio-Economic Impact on the Midlands Region

The proposed development represents a significant investment in the Midlands Region that is critical in assisting that region during the period of significant change associated with the decline of the peat industry.

As noted in the socio-economic assessment that accompanies this application (as referenced in **Para. 4.1.2** above and included in **EIAR Appendix 5**) there is an historical reliance on the peat industry in the Midlands Region. Both ESB and Bord na Móna are key contributors to the local economy – in terms of direct employment; contribution to economic activity; and direct contributions including to the rates base of County Offaly.

Bord na Móna has committed to a move away from commercial peat harvesting for energy generation and already set in motion significant changes to its own business in terms of diversification and innovation – most recently with its announcements of October 2028.

The ESB has long-established operations in the Midlands and has made a significant investment in local communities and the economy. It is a key consumer of peat and also committed to transition away from that fuel to increasingly sustainable means of generating energy. Working with Bord na Móna, the ESB is committed to minimising the negative socio-economic impacts of this change on the Midlands region.

**Para. 4.1.2** above set out the context for the existing operation of WOP Station in economic terms. This shows the significant contribution of the WOP Station to the economy in terms of employment, commercial rates and the stimulation of other activities and industries. The station provides direct and supported employment for 454<sup>33</sup> people - 298 of whom are full time and 156 are seasonal. It currently contributes to c.9% of the rates base for the entire County of Offaly.

As set out in the socio-economic assessment, closure of the WOP Station in 2020 would give rise to the loss of all jobs directly associated with the station and ADF, except for those employed for security and temporary decommissioning and closure activities - which would be minimal. This would represent the immediate loss of 358 jobs<sup>34</sup> in a Region that has experienced difficulties in terms of generating and sustaining employment relative to other regions.

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<sup>33</sup> 376 FTE

<sup>34</sup> 280 FTE

The status of all employment supported through non-fuel purchases and non-salary spending by ESB and Bord na Móna (referred to on **Table 4.1 above** as ‘Indirect employment supported by WOP’) and those indirectly supported by the spending of salaries by directly and indirectly employed workers (referred to on **Table 4-1 above** as ‘Induced employment supported by WOP’) – comprising an additional 96 jobs, would be highly uncertain. This would constitute a significant, permanent, negative socio-economic impact on the Midlands Region.

In addition the annual rates payment of in excess of €1.6 million (2018 figures) to Offaly County Council would cease. In the context of fixed budgetary costs the associated short-fall in public funds would have to be met by other commercial operators in the County through the increase in commercial rates. This would have a significant, permanent and negative impact on the economy of the County, and in turn the Region.

In examining the significance of these losses, the socio-economic assessment notes that it would be expected that those employed in skilled engineering and site facility would likely find alternative employment – albeit outside the area. Those directly employed in the peat extraction industry however, likely have a relatively narrow skills base, may seek opportunities to retrain or work in other industries. However, in considering what alternatives may exist a number of issues are noted:

- 53% of Bord na Móna’s total workforce is aged over 45, and 69% of that workforce have no 3rd level qualifications<sup>35</sup>. Based on the age and educational profile Bord na Móna workers employed supplying WOP Station would not be well placed to secure alternative employment in the event of the plant ceasing operation in 2020.
- employment in the agriculture sector has experienced decline in recent years and may have limited capacity to absorb additional workers.
- the largest growth area for employment in the catchment area is the services sector. However, it is notable that skills are not readily transferable from peat extraction and power generation industry to the services sector.

By contrast to the ‘Do Nothing’ scenario, the proposed transition of WOP Station to biomass by 2027, allows for a significantly reduced socio-economic impact. During the initial co-firing stage peat would continue to be used as a fuel to the end of 2027 – albeit at a significantly reduced level. During this time the employment and economic activity around that industry would change – but this change would be at a

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<sup>35</sup> Source: Bord na Móna



significantly reduced pace than a scenario where the plant closes or where the cessation of peat burn (i.e. the transition to biomass) occurs immediately.

In such a scenario, it is assumed that fuel mix would be as described in the EIAR (see **EIAR, Chapter 4**) with a 40% reduction in peat burn reducing to 60% in the initial period, reducing to 0% by the end of 2027.

The economic impacts<sup>36</sup> that would be associated with the phased transition away from peat to renewable biomass are significantly more positive, including:

- a far reduced impact on employment than that outlined above, with total employment reducing from 358 FTE jobs in 2018, to 320 in 2020, 310 in 2025 and 302 post-2027; as compared with the loss of all 358 FTE jobs directly at the end of 2020;
- continued employment for those supported through non-fuel purchases and non-salary spending by ESB and Bord na Móna (referred to in the Socio-Economic assessment as the indirect and induced employment supported by WOP) which accounts for 96 jobs;
- a gradual reduction in the number of people directly employed by Bord na Móna in peat supply activities. This would coincide with an increase in the numbers employed in the indigenous biomass supply chain and activities associated with the supply of imported biomass. It is estimated that at 100% biomass there would be a requirement for 52 road hauliers – noting that these are included in the total figures set out above;
- activity on the sites would remain relatively consistent. The full-time and seasonal (part-time) fuel handling roles currently engaged by Bord na Móna on site at WOP Station and ADF are assumed to have direct equivalents during and after the transition to biomass;
- the transition to renewable biomass will also temporarily result in an increase in employment due to the construction works associated with the proposed development. It is estimated that up to 34 FTE external contractors will be employed in construction works associated with the transition. An additional 2 FTE ESB employees would have a site presence during these works.

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<sup>36</sup> All data as extracted from the detailed socio-economic report: 'Socio-Economic Assessment of impact of proposed transition to Biomass and associated development at West Offaly Power Station', as attached in EIAR, Appendix 5.

There is a marked contrast in the two scenarios particularly when the potential job losses are considered in the context of a predominantly rural region within which the emergence of alternative sources of employment and activity will be slow to develop.

The proposed development - and critically the phased approach of the transition from peat to biomass, will minimise the socio-economic impacts on the Midland's Regional economy of the move away from peat. The economic contribution that this transition will make to the region strongly justifies the relatively short-term peat use while the station transitions to becoming a low-carbon renewable station.

### 5.1.6 Supporting the Development of the Indigenous Biomass Industry

The transition of WOP Station to biomass is likely to stimulate and support the development of an indigenous biomass industry by providing a ready market for its output. This is particularly relevant to the agricultural and forestry sectors within an economic transport distance from these power plants.

There have been a number of false starts for the biomass industry in Ireland with a reluctance in the agricultural sector to move towards biomass production in the absence of a guaranteed market underwritten by multi-annual contracts.

The economic stimulation provided by WOP Station will support the diversification of the rural economy of the Midlands, particularly while that Region moves away from the traditional industries focussed on Bord na Móna's peat harvesting activities.

As a State owned commercial company, ESB is in a unique position to underwrite longer-term biomass supply contracts and to create a stable biomass demand requirement. This demand will be met by imported and indigenous biomass and should, as operations continue and demand increases, allow a sustainable indigenous biomass industry to develop in Ireland.

Beyond meeting the biomass demands of the ESB stations, the development of an indigenous biomass industry could have additional positive implications. The Renewable Heat Incentive (RHI) scheme being developed by the government will likely deliver installations with a demand for biomass to produce renewable heat. The biomass requirement at WOP Station (and other Midlands stations) would stimulate the development of that supply chain and would allow the RHI installations to develop in the confidence that suitable biomass will be available.

As such the proposed development strongly supports the development of the indigenous biomass industry – a key element in the diversification of the rural economy.

### 5.1.7 Improving Energy Security

As set out in detail in the EIAR (**EIAR, Para.2.6**) the proposed development of dispatchable, increasingly low carbon renewable generation capacity is important in guaranteeing fuel diversification and improved fuel security.

The proposed transition of WOP Station to sustainable biomass increases the contribution to the generating sector from biomass, thereby increasing fuel diversity. This has a direct and positive impact on energy security and diversity of fuel type.

As noted in **Para. 4.2.2** above, the SEAI have noted the growing reliance on imported energy sources, referring to this as reducing overall energy security. The decline of the commercial peat sector will exacerbate this trend and this will ultimately affect fuel diversification and reduce energy security by increasing the reliance on imported fuels to compensate.

The proposed transition of WOP Station to sustainable biomass is predicated on an initial reliance on imported biomass but with an anticipated rise in the availability of biomass from indigenous sources. This will, to a substantial degree, compensate for the loss of peat from the indigenous proportion of total fuels thereby addressing the decline in the contribution of indigenous fuel to the national fuel mix. This will have a positive impact on energy security, both locally and nationally.

The proposed development will therefore make a positive contribution to energy security – both in terms of fuel diversification and fuel security.

### 5.1.8 Supporting the ISEM Capacity Auction and Minimising Costs to the Irish Consumer

As set out in detail in the EIAR (**EIAR, Para. 2.7**) the proposed development of dispatchable, increasingly low carbon renewable generation capacity is important in supporting the Integrated Single Energy Market (ISEM) capacity auction and minimising costs to the Irish consumer.

If WOP Station ceases producing energy, EirGrid will have to go to the energy market to procure capacity from a new entrant earlier than planned. This would result in a higher auction clearing price for that energy – a cost which could ultimately be borne by the consumer.

As well as potentially raising the costs within the capacity mechanism there may also be an impact on the energy price. The economic impact is difficult to estimate but given the capital costs associated with the development of a new station, that capacity could be at a higher cost than energy sourced from the existing station – and this increase could prevail for an extended period. Ultimately these costs will be borne by the end user – the energy customer.

The proposed development will see full utilisation of an existing station, the capital costs of which have been met by the energy consumer through the PSO. The proposed development avoids any requirement to develop a new station and provides a source of energy generation at a lower cost than a new station could. It therefore supports the ISEM Capacity and reduces costs to the Irish consumer.

Finally, the continuation of generation at WOP Station (and at LRP Station) enables renewable generation to be added to the system without the construction of new overhead lines or transmission stations. Re-utilising the existing transmission system infrastructure reduces the environmental and economic impact of connecting the same volume of renewable generation elsewhere on the island of Ireland.

### 5.1.9 Implementing National Planning Policy

In addition to complying with national policy in relation to energy and climate change, the proposed development – in respect of both the continuation of generation on the site and also the transition to biomass, is strongly supported and in-line, with national planning policy.

The principles set out in Strategic Outcome No. 8 of **The National Planning Framework (NPF)**, relate directly to the transition to a low carbon and climate resilient society. That Objective refers to a renewables focussed energy generation and in particular, the role of companies such as the ESB, in leading this change while receiving State support in the form of support mechanisms such as REFIT:

*‘State-owned commercial enterprises are significant players in the energy market, which is subject to an EU regulatory framework. Promotion of renewable energy is supported by policy in the form of a public service obligation levy.’*

The NPF refers specifically to biomass, identifying this as an alternative source of fuel in the move away from fossil fuels with this identified as a key future planning and development policy priorities for the Eastern and Midlands Region during the life of the Plan. This is reflected in the commitment set out in National Policy Objective 53 which refers to the potential of the bio-economy, to which the indigenous biomass industry would contribute.

In relation to the rural environment and economy, there is strong support for projects such as this with National Policy Objectives 21 and 23 promoting innovation in the rural economy including support for those industries addressing climate change and sustainability; and the growth of the forestry, energy and bio-energy sectors, respectively.

In terms of addressing the long-term causes of climate change through the reduction in greenhouse gas emissions, the NPF clearly acknowledges the need to make balanced choices between growth and sustainability. This is particularly relevant to this project where it is necessary to accept a short-term continuation of peat fueling to facilitate the longer-term objective of completing the transition to 100% biomass.

National Policy Objective 55 notes the requirement to decarbonize society with respect to renewable energy use and generation, and it is again noted that projects such as this, which will retrofit the generation fleet to facilitate low-carbon fueling, are key to realising those goals.

Complementary to the broad objectives of the NPF, the NDP provides the context for the permitting of projects such as that proposed. The NDP identifies the conversion

of peat power plants to more sustainable low-carbon technologies by 2030 as a priority investment for the commercial and private sector.

The NPD notes the imperative to decarbonise the energy sector again identifying 2030 as the date by which peat will no longer be used as a fuel for generation purposes. The term used in that commitment – “progressive elimination”, is important and it is noted that the proposed fuel transition complies with that.

The policies and objectives set out in the national planning documents are aspirational. Realisation of the goals set requires projects such as that proposed to be consented and developed. Taking the lead from the guidance provided in those documents, the proposed development can assist in the attainment of those goals and the achievement of a broad range of objectives. The proposed development is therefore strongly supported by national planning policies – and is in fact necessary to ensure the attainment of key objectives and goals with respect to the energy sector, climate change and the Midlands Region.

#### 5.1.10 Realising Objectives of the Regional Guidance Documents

The proposed development – in respect of both the continuation of generation on the site and also the transition to biomass, is strongly in-line with key objectives set out in the Midlands and Eastern Regional Planning Guidelines.

Those RPGs establish a positive context for the development of the renewables sector and for the development of an indigenous biomass sector which it is considered the proposed development may stimulate.

In relation to the imminent changes to the peat industry, the RPGs establish a direct policy connection (Policy TIP33) between the transition way from peat and the move towards increasingly sustainable renewables, noting that the Regional Authority supports this transition.

On the broader economic considerations, the proposed development would assist the Regional Authority by continuing the operation of key power generation infrastructure while overseeing the transition of that facility to an increasingly sustainable fuel type. It furthermore mitigates against the significant socio-economic impacts that would arise where the station closes as outlined under **Para. 5.1.5** above.

The proposed development can assist in the attainment of regional objectives in terms of sustainable development and the energy sector, and also significantly assist in the protection and enhancement of the regional economy during a time of significant change.

As such the proposed development is strongly supported by prevailing regional planning guidance, and should be considered key to the realisation of objectives set out therein.

### 5.1.11 Delivering on Policies and Objectives set out in Offaly County Development Plan

The proposed development in respect of both the continuation of generation on the site and also the transition to biomass, is highly compatible with the Offaly County Development Plan (CDP), 2014 – 2020.

The proposed development is compliant with the principles of development set out in the Core Strategy particularly with respect to the investment in services and facilities.

The proposed development is compliant with Strategic Objective 8 dealing with economic development and employment generation, in that it provides direct and indirect economic support to the local economy in terms of employment; commercial transactions; ancillary services and critically, contributions to the rates base that amount to 9% of the County's income.

The Development Plan recognises the important role of both the ESB and Bord na Móna, and provides a positive context for the businesses in-light of the imminent decline of peat harvesting activities. The commentary of the Plan (CDP, Para 1.9.3) is particularly noteworthy in this respect, where the Planning Authority clearly anticipates that existing infrastructure can be used to accommodate the next stage of renewable energy *generation*:

*“The history of peat fired stations has left a valuable legacy for Offaly in the existing sites and transmission infrastructure that traverses the county and this existing distribution network can now be used for the sustainable development of new generation capacity.”*

[emphasis added]

The Plan goes on to anticipate and provide a positive policy context for, the switch over to renewable fuels, stating:

*“The main developments in the energy industry over the lifetime of this plan will be in generation, particularly the migration from non-renewables to renewables.”*

...

*“Energy production from Biomass could add value to the agricultural economy, which could provide more employment in a rural county. It is anticipated that all of the above types of energy production will continue to play a central role in the economy of Offaly.”*

[emphasis added]

In the context of the Rural Strategy, the Plan is positive and identifies the potential for the renewables energy sector as an economic driver. This is expanded on in relation to biomass where the potential for the industry is strongly recognised with respect to the contribution that can make to providing a secure energy supply:

*“Energy production from biomass can reduce greenhouse gas emissions, provide a secure native fuel source and provide some diversification out of traditional farm enterprises.....”*

These commitments are strongly reflected in Rural Development Policies RDP–08 and RDP–11 and also policies set out under Renewable Energy.

In the context of Energy Strategy, again the importance of the Midlands stations is recognised and the Plan (CDP, Para. 3.4.2) acknowledges the on-going role that the non-renewable energy sector will have to power generation in the medium term – a policy that is strongly reflective of the REFIT tariff:

*‘Non-renewable energy will continue to play a role in the generation mix of electricity for the foreseeable future. Offaly will have a role to play in the generation of two types in particular, gas and peat.’*

[emphasis added]

In-line with the proposed development, the Plan envisages a co-fuelling stage at each of the Midlands stations, noting explicitly that this is an activity supported by the Planning Authority.

*‘The process of burning peat in Edenderry and Shannonbridge is likely to migrate to a co-fuelling process over the lifetime of the plan. Offaly County Council supports the continued operation of power generation facilities at these sites.’*

[emphasis added]

This positive support is re-stated in relation to Renewable Energy (CDP, Para 3.4.3) with an explicit assumption that WOP Station will transition to co-fuelling.

The proposed development is then compliance and brings about the realisation of a range of policies in the CDP, including:

- Policy EP-01 in relation to the limiting of emissions of greenhouse gases and to development of renewable energy sources.
- Policy EP-02 in relation to the development of renewable energy sources;
- Policy EP-08 in relation to continued power generation including co-fuelling;
- Objective EO-04 in relation to facilitating the generation of electrical power in the County;
- Policy EnvP-01 to facilitate measures to reduce emissions of greenhouse gases.

As shown the policies of the Offaly County Development Plan are strongly supportive of the proposed development. Moreover and the proposed development would assist the County in the attainment of key Plan objectives.

## 5.2 Planning Assessment

This section provides a planning assessment of proposed development in the context of the impacts on the receiving environment and also the context of all prevailing policies. It deals with each of the four elements of the proposed development described in **Paras. 2.2** and **3.3** above.

### 5.2.1 Planning assessment of the continued operation of the existing WOP Station and ADF beyond the permitted date of 31<sup>st</sup> December 2020

Permission is sought to continue to operate the WOP Station and the ADF beyond the permitted date of 31<sup>st</sup> December 2020. Permission is being sought to continue to operate the WOP Station on an on-going basis, with no defined date for the cessation of generation activity. It is submitted that, when fuelled by biomass, the Station will be like any other industrial facility – and the imposition of an ‘end date’ would be unfounded.

The station currently has an installed capacity of 150 MW. WOP Station is connected to the national grid via five 110kV lines and one 220kV line. The Station is operating within all technical requirements including within the requirements of an IE Licence and GHG permit. The capital costs associated with the development and maintenance of the existing station have been supported by Ireland's electricity consumers through the PSO.

The cessation of generation activity on the site would result in the decommissioning of WOP Station and the demolition of the station. Associated with this the ADF would be capped and closed but will require ongoing monitoring until the IE licence is surrendered. In such a scenario the opportunity to convert a fit-for-purpose generation facility to more sustainable fuel would be missed. Moreover, the requirement to meet energy demands would remain – requiring the generation of electricity elsewhere – a requirement that would most likely be met by another dispatchable source – likely to be a carbon emitting alternative.

As set out in the socio-economic assessment that accompanies the EIAR, WOP Station's closure in 2020 would give rise to the loss of all jobs directly associated with the WOP Station and ADF, except for those employed for security and temporary decommissioning and closure activities which would be minimal. All indirect and induced jobs arising from WOP Station would no longer be supported and likely would also be lost. The continued operation of the station avoids these impacts, with resultant positive impacts on the local and regional economy.

At a macro level, continued operations will see the subject lands continue to be used for their established purpose. The associated pattern of development is compatible with the stated objectives of the Offaly County Development Plan which zoned lands in the vicinity of the WOP Station site in particular for uses that are compatible with the established character of that site. As such the continuity of use will not give rise to any conflicts arising between the existing and proposed land-use patterns.



The continued operation of the WOP facility including the station, ADF and all associated development, therefore represents a rational use of existing infrastructure. The continued operation of the station has demonstrable positive impacts associated with delivering dispatchable energy generation capacity to the grid with minimal physical development.

Having regard to these considerations this element of the proposed development is highly compatible with the principles of proper planning and sustainable development; complies with all relevant policies and should be favourably considered.

### 5.2.2 Planning assessment of the phased transition of the WOP station to firing exclusively on renewable biomass

Central to the proposed development is the proposed transition of the WOP Station to firing exclusively on sustainable biomass. This aspect of the development will deliver a strategically important dispatchable renewable energy source on the transmission network – which in itself is fuelled by renewable biomass – a key step in the decarbonisation of the energy sector.

The phases of the fuel transition are outlined in **Para. 3.3.2** above.

It is acknowledged that the transition to biomass necessitates an initial co-firing period when peat will still be combusted to generate energy – albeit at a reducing volume over time. The interim use of peat as a fuel will necessitate the continued harvesting of peat – the indirect environmental impact of which has been considered in the EIAR.

The environmental impact associated with the continued peat burn will be relatively short-term. This phased approach is necessary for ESB to undertake the transition to 100% biomass for reasons set out in **Para. 3.3.2** above, namely:

- Facilitating the orderly transition of the Midland's economy as Bord na Móna and the ESB transition away from energy generation fuelled by peat, while allowing time for the development of the green economy and the diversification of the rural economy as an indigenous biomass industry develops;
- Enabling WOP Station to access government and EU approved fiscal supports through REFIT3 which will support a proportion of the biomass burn, thereby rendering the co-fired Station economically viable;
- Allowing time for the development of a viable indigenous biomass industry which can meet increased demand from WOP Station and other initiatives such as the renewable heat initiatives;
- Allowing time for ESB to develop a reliable biomass supply-chain that complies with the relevant sustainability criteria to ensure that a 100% biomass fuelled station is truly sustainable.

In the context of this relatively short-term impact, the longer-term strategic benefits of the proposed development will be multi-faceted, including:

**1. delivery of a low-carbon generation asset within a relatively short timeframe and at a low cost**

The transition of WOP Station will make additional renewable electricity generation capacity available to the national grid and to many corporate entities who actively seek renewable energy sources – a substantial contribution to the strategic aims to decarbonise the energy sector and convert the ESB generation fleet to low-carbon fuels.

The costs associated with the transition to biomass are comparatively small relative to the investment cost that would be required to construct a new generation station of equivalent generating capacity. The proposed transition is therefore technically and fiscally justified on the basis that it prolongs the use of the station which is fit-for-purpose going forward.

**2. minimisation of the socio-economic impact of the declining peat industry on the Midlands Region**

As discussed in **Para. 5.1.5** above, the proposed development facilitates the evolution of the existing Station to a new stage of generation. The phased approach set out in this application minimises the socio-economic impact of that change and goes some way to ensure that the inevitable losses of employment associated with the decline of the peat industry can be countered by the gradual growth of the indigenous biomass sector.

**3. continued support for economic activity across the Midlands region;**

The transition to biomass will maintain energy generation in the Midlands underpinning regional development.

**4. provide market certainty and a stimulus to the green economy in supporting the development of the indigenous biomass sector.**

As discussed in **Para. 5.1.6** above the proposed development will give rise to the gradual growth of the biomass sector in the Midlands. The certainty that the ESB can provide to that economy will be significant.

Having regard to these considerations this element of the proposed development is highly compatible with the principles of proper planning and sustainable development; complies with all relevant policies and should be favourably considered.

### 5.2.3 Planning assessment of the development of fuel management and handling facilities on the WOP site to facilitate the change in fuel type

Associated with the transition to biomass, there is a requirement to develop additional fuel management and handling facilities on the WOP Station site. These elements – two purpose built concrete slabs (Biomass Storage Slabs A and B) and a Pellet Silo, will be used for the storage and management of biomass.

These elements of the proposed development are minor in nature and will not – as set out in the EIAR, give rise to any significant environmental impacts. The works

will be confined to the WOP Station site – an industrial site, and therefore be in keeping with the established nature and use of that site.

Having regard to these considerations this element of the proposed development is compatible with the principles of proper planning and sustainable development and should be favourably considered.

#### 5.2.4 Planning assessment of the development of additional landfill capacity at the existing ADF to accept additional ash from WOP Station

Associated with the extended operational life of WOP Station there will be an on-going requirement for the disposal of ash. In-line with established and licensed practice, additional capacity (in the order of c.173,130 sq.m. of landfill footprint) will be provided at the existing dedicated ADF at Derrylahan to accept c. 929,200 cubic metres (c. 879,900 tonnes) of ash in 5 No. engineered landfill cells. These works require minimal additional infrastructural works – principally the development of a second leachate lagoon, but will otherwise utilise existing site services.

The extension of the ADF will enable the continued disposal of ash on an existing licensed site with minimal requirements for additional physical development. The provision of this additional capacity within the existing site ensures continuity in terms of the established pattern of land-use.

Having regard to these considerations this element of the proposed development is compatible with the principles of proper planning and sustainable development and should be favourably considered.