

## 5 Population and Human Health

### 5.1 Introduction

This Chapter provides an assessment of the potential impacts to population and human health arising from the proposed modifications to the West Offaly Power (WOP) Station and associated ash disposal facility (ADF) to facilitate the continued operation of these facilities and phased transition of that station to exclusive firing with biomass. As the existing development is subject to the condition that all existing activity ceases in December 2020, the potential impacts of the continued operation of WOP Station and the ADF are also assessed. This will subsequently be referred to as the 'proposed development'.

This chapter considers population and human health in the receiving environment and the potential significant impacts associated with all stages of the proposed development. This includes consideration of impacts on land-use, population, socio-economic activity and employment, tourism, amenities and recreation, health and safety and human health.

Potential impacts on population and human health have also been addressed in other chapters of this EIAR including Land and Soils, Geology and Hydrogeology (**Chapter 7**), Surface Water (**Chapter 8**), Noise (**Chapter 9**), Climate and Air (**Chapter 10**), Traffic and Transport (**Chapter 12**) and Landscape and Visual (**Chapter 14**). Natural disasters such as flooding is assessed in Surface Water (**Chapter 8**).

### 5.2 Methodology

The assessment was carried out in accordance with the following guidance and tailored accordingly based on professional judgement:

- EPA Guidelines on the Information to be Contained in Environmental Impact Statements (EPA, 2002) (and revised draft guidelines 2017);
- EPA Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (EPA, 2003) (and revised draft advice notes 2015); and
- Fáilte Ireland Guidelines, on the treatment of Tourism in an Environmental Impact Statement (provided by Fáilte Ireland as part of their submission to the Scoping request issued to them for this project).

The appraisal method used for the assessment of impacts is as set out in **Table 1-3 Impact assessment evaluation criteria** in **Chapter 1** of this EIAR.

## 5.2.1 Baseline Data Gathering

### 5.2.1.1 Desktop Study

A desk based review was carried out of publicly available information relevant to the proposed development in terms of population, employment and economic activity, land-use, tourism, community facilities, health and safety and human health with the following data sources referenced:

- Ordnance Survey of Ireland (OSI) - current and historic mapping
- Aerial photographs
- Central Statistics Office (CSO) information
- An Post, Geodirectory (2017)
- Offaly County Development Plan 2014-2020
- Westmeath County Development Plan 2014-2020
- Galway County Development Plan 2015-2021
- Laois County Development Plan 2017 – 2023
- Roscommon County Development Plan 2014- 2020
- Meath County Development Plan 2013 - 2019
- Fáilte Ireland data
- Forestry Service ([www.agriculture.gov.ie/forests-service/](http://www.agriculture.gov.ie/forests-service/))
- Previous Environmental Impact Statements for the WOP Station and ADF
- Bord na Móna data
- Irish Sports Council information

A socio-economic assessment has been carried out by Future Analytics Consulting and is provided in **Appendix 5.1**. This considers the socio-economic impacts of the proposed changes from peat fuel to biomass and compares the impact of the proposed development with the Do-Nothing Scenario of closure of the WOP Station and associated ADF.

### 5.2.1.2 Consultation

Consultation undertaken as part of the EIAR which is of relevance to the population and human health impact assessment was undertaken with the following organisations:

- Offaly County Council
- Roscommon County Council
- Galway County Council
- An Taisce
- Irish Water

- National Parks and Wildlife Service
- National Monuments Service
- The EPA
- An Bord Pleanála
- Health Service Executive
- Irish Peatland Conservation Council
- Bord na Móna
- Fáilte Ireland
- Transport Infrastructure Ireland

Consultation responses to the EIA scoping report are summarised in **Chapter 1** with responses received from Offaly County Council, Roscommon County Council, An Taisce, Environmental Protection Agency, Irish Peatland Conservation Council, Fáilte Ireland and Transport Infrastructure Ireland. Additional responses were also received from An Bord Pleanála and the Health Service Executive through the EPA. Public Consultation is as detailed in **Chapter 1** of this EIAR and an open day was held in Shannonbridge in February 2018.

## 5.3 Study Area

The below sections outline the study area considered for the population and human health assessment.

### 5.3.1 West Offaly Power Station including the ADF

The study area for the consideration of population and human health is WOP Station and ADF and its immediate environs. The location of these are as outlined on **Figure 1.1** in **Chapter 1**. The WOP Station is located within the townland of Cloniffeen and the ADF and its proposed extension and access road are located within the townlands of Leitra, Clonfinlough, Clondelara and Derrylahan.

### 5.3.2 Peat Supply to West Offaly Power Station

Peat is exclusively supplied to the WOP Station from Bord na Móna which is harvested, under various EPA, IPC licences, from a defined number of existing supply bogs located within the following bog groups:

- P0500-01- Boora Group,
- P0501-01- Derrygreenagh Group,
- P0502-01- Blackwater Group; and
- P0503-01 - Allen Group.

These bog groups are as shown on **Figure 4.2** in **Chapter 4** and are located within Counties Offaly, Westmeath, Galway, Laois, Roscommon and Meath. In order to assess the potential indirect impacts, consideration is also given to overall socio-economic impacts in relation to Bord na Móna's peat supply activities.

### 5.3.3 Biomass Supply to West Offaly Power Station

The type of biomass that will be used for electricity generation at WOP will comprise both indigenous (native) sources and imported biomass. As detailed in **Chapter 4**, indigenous biomass - in the form of by-products and residues sourced from the forestry and timber processing industries and from indigenous crops and agriculture, will typically come from sources within a 100 kilometre radius of WOP Station but could also be sourced at greater distance depending on economic factors. Biomass will be sourced internationally on a commercial basis in accordance with the ESB sustainability criteria as set out in **Chapter 4**. In order to assess the potential indirect impacts, high level consideration will be given to overall socio-economic impacts in relation to the biomass supply activities.

## 5.4 Receiving Environment

### 5.4.1 Land-Use

The Offaly County Development Plan 2014-2020 describes County Offaly as follows;

*'Approximately one fifth of the county comprises peatlands and the majority of the remainder of the land is in agricultural / forestry use. Peatlands have traditionally been a significant asset to Offaly in terms of an energy resource and a source of employment through extraction and power generation, but also as an amenity and educational resource. The international scientific importance of Clara Bog and the success of the Lough Boora Discovery Park are recognition of this amenity value.*

*A comprehensive system of eskers also exists in Offaly, mainly concentrated in the northwest and centre of the county. The most comprehensive of these eskers is the Eiscir Riada which runs in a more or less continuous line from Shannonbridge to Clonmacnoise and onto Clara, Darrow and Rahugh, Co. Westmeath and dominates much of the landscape in the north west of the county'- (Intro, Section 6).*

The WOP Station is located in the village of Shannonbridge Co. Offaly on an existing brownfield site located on the banks of the River Shannon. As well as the village of Shannonbridge, typical land use in proximity to WOP Station includes pastoral farmland and the callows associated with the River Shannon.

The proposed electricity generation element of the development is within the existing footprint of the WOP Station, on a site where power generation is the established land-use since the 1960's. The site accommodates structures and

activities typical of an electricity generating station - including fuel (peat) storage and handling areas and plant; the generation station itself; and a range of ancillary services including water treatment and management systems, offices and administration area.

The ADF site is in a remote area of cutaway bogland, characterized by the existing established ash disposal facility operated by Bord na Móna. Land-use in proximity to and surrounding the ADF is primarily cutaway bog. The Offaly County Development Plan 2016-2020 states that *'cutaway bogs cover a large part of the landscape of Offaly and in their entirety, are approximately 42,000 hectares. There are a number of landuses for cutaway bog, which include wilderness, grassland, forestry and recreation. Some cutaway bog landscapes are more robust and may be considered for other uses'* (Section 7.11).

The existing disposal area comprises a number of lined landfill cells, each of which is filled, sealed and capped when filled. Ash is transported to the ADF on Bord na Móna's narrow gauge rail system in specially designed covered ash buckets. The ash is tipped from the ash buckets. Cells are covered and capped as per the existing operations – with a c. 1 m layer of peat / subsoil, added in a concave mound design. Capped cells are then re-vegetated to blend with the natural landscape.

Peat is exclusively supplied to the WOP Station from Bord na Móna which is harvested, under various EPA, IPC licences, from a defined number of existing supply bogs as outlined in **Chapter 4**.

## 5.4.2 Demographics and Local Population

### 5.4.2.1 Demographics

The proposed development is located within County Offaly within the footprint of the existing WOP Station, which is located within the townland of Cloniffeen. The ADF and its proposed extension and access road is located within the townlands of Leitra, Clonfinlough, Clondelara and Derrylahan. WOP Station is located within the electoral division (ED) of Shannonbridge and the ADF is primarily located within the electoral division (ED) of Clonmacnoise, with the extension area and access road located within the electoral divisions of Lumcloon and Shannonbridge. The peat supply bogs are located within Counties Offaly, Westmeath, Galway, Laois, Roscommon and Meath.

#### **Census Data**

The table below outlines the population change in the electoral divisions and the counties in which the peat supply bogs are located.

**Table 5-1: Population Trends 2006-2016**

Location	2006	2011	%Change 2006-2011	2016	%Change 2011-2016
Co. Offaly	70,868	76,687	8.2%	77,961	1.7%
Co. Westmeath	79,346	86,164	8.6%	88,770	3%
Co. Galway (Incl city)	231,670	250,653	8.2%	258,058	2.9%
Co. Laois	67,059	80,559	20.1%	84,697	5.1%
Co. Roscommon	58,768	64,065	9%	64,544	0.7%
Co. Meath	162,831	184,135	13.1%	195,044	5.9%
Shannonbridge ED	322	299	-7.1%	267	-10.7%
Clonmacnoise ED	321	337	5%	341	1.2%
Lumcloon ED	368	360	-2.2%	349	-3.1%

Note: ED - Electoral Division Area. Source: CSO 2016

**Table 5.1** shows that in the period 2006-2011 population rose in all Counties with significant rises in Counties Laois and Meath. The population in the electoral division of Clonmacnoise increased by 5% while in Shannonbridge and Lumcloon the population declined during this same period by -7.1% and -2.2% respectively. In the period 2011-2016 Shannonbridge and Lumcloon continued to have population decreases while Clonmacnoise had a slight increase. Population increases also took place within all counties during the 2011-2016 period though not to the same degree as the period 2006-2011.

### Offaly County Development Plan

The Offaly County Development Plan 2014-2020 notes that '*much (approximately 40%) of this population is contained within larger towns such as Tullamore (County Town), Birr, Edenderry, Clara and Portarlinton. However, the county remains largely rural in nature, with approximately 60% of its population residing in rural areas comprising a well-developed network of smaller towns and villages of less than 1,500 population (approximately 30% of population) and the open countryside (approximately 30% of population)*' (Offaly County Development Plan, 2014-2020, Intro, Section 6).

Shannonbridge has been identified as a Tier 5 village in terms of settlement hierarchy in the Offaly County Development Plan 2014-2020 and the planning principle for which states that '*development in Village areas must strike a balance in meeting the needs and demands of the village or its rural hinterland and be sensitive and responsive to the existing prevailing pattern, scale, density and design of the village*' (Section 1.14).

## Socio-Economic Assessment

A socio-economic assessment has been carried out by Future Analytics Consulting and is provided in **Appendix 5.1**. Within this assessment a defined catchment area was used to assess socio-economic impacts. This catchment area covers parts of three regions: The Midlands, The West and Mid-West and it also covers parts of eight counties; Offaly, Galway, Roscommon, Tipperary, Longford, Westmeath, Laois and Clare.

The table below outlines the population change in the State and the WOP catchment area as set out in the socio-economic assessment provided in **Appendix 5.1**.

**Table 5-2: Population State and the WOP Catchment 2006-2016**

Location	2006	2011	%Change 2006-2011	2016	%Change 2011-2016
State	4,239,848	4,588,252	8.2%	4,757,976	3.8%
WOP Catchment	255,892	278,555	8.9%	284,606	2.2%

Source: Socio-economic Assessment Report (Appendix 5.1) & CSO, 2016

**Table 5-2** above shows that the total population of the WOP catchment area in 2016 was 284,606 and the population growth rate slowed considerably from 8.9% during the 2006-2011 intercensal period to 2.1% during the 2011-2016 intercensal period. During the 2006-2011 intercensal period the population grew slightly faster in the WOP Catchment than in the State as a whole, during the 2011-2016 intercensal period the population growth rate was considerably lower than that of the State as a whole.

### 5.4.2.2 Proximity of Housing and Centres of Population

The village of Shannonbridge is located adjacent to the WOP Station. The Shannonbridge Village Plan 2016 (which forms part of the Offaly County Development Plan 2014-2020) describes Shannonbridge as a '*village situated at the bridging point of the River Shannon in west Offaly. It is situated at the Offaly Roscommon county border and is approximately 10 kilometres south of Clonmacnoise on the R357*'.

It also states that '*this settlement originated as a result of its location at the bridging point of the River Shannon, with this bridge completed in 1757, being one of the oldest over the river. The village was fortified by the British in the Napoleonic era and this is particularly evident west of the river (within Co. Roscommon), with a fort which currently functions as a restaurant*'.

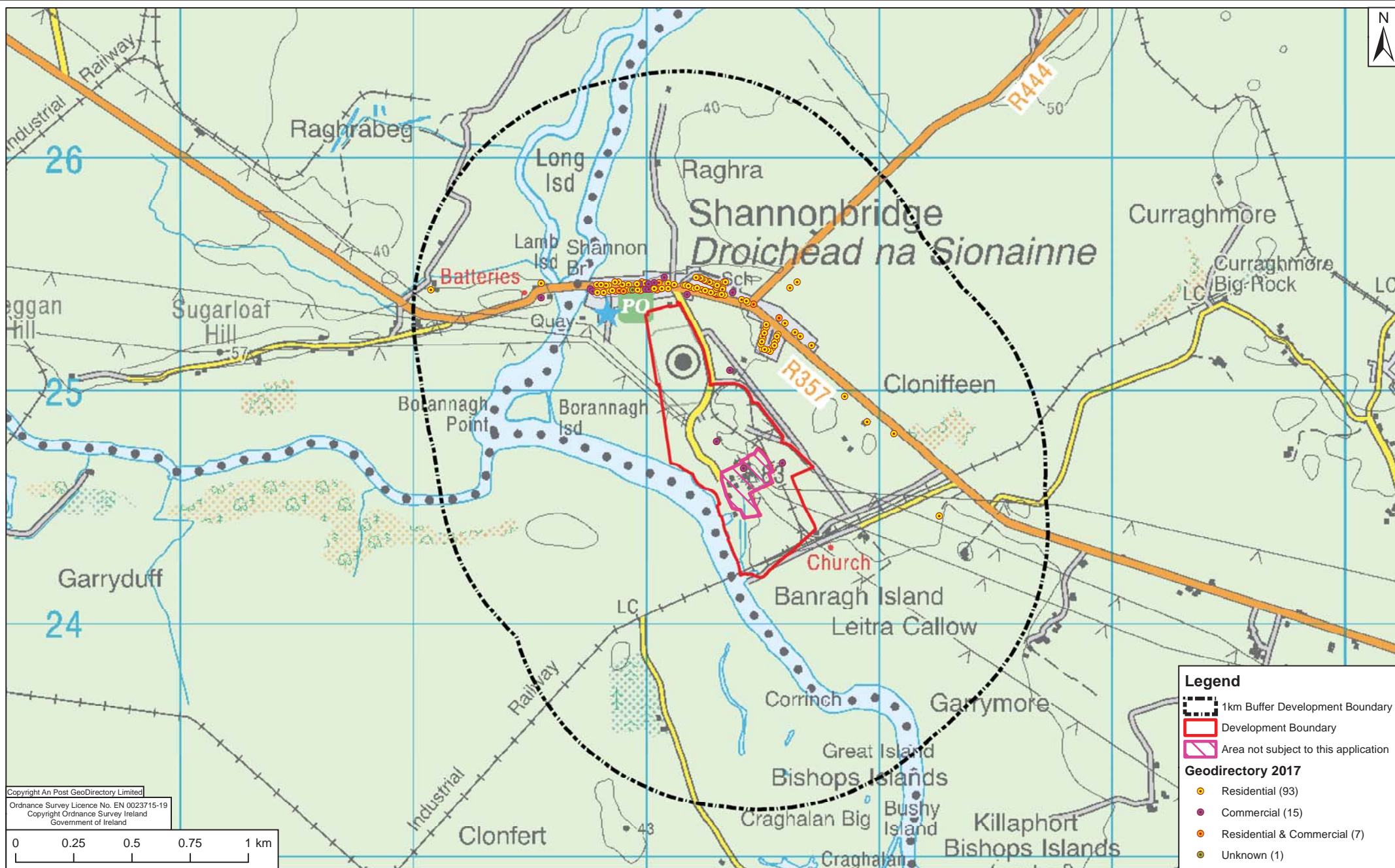
*Expansion within the village in recent decades has been very slow, with the settlement predominantly linear in pattern, with little scope for backland developments, given its natural constraints. Shannonbridge is predominantly low rise and low density*'.

**Figure 5-1** illustrates the number of residential and commercial developments located within 1 km of the existing WOP station based on Geodirectory data<sup>1</sup>. The largest concentration of residential housing is located to the north and north east of the station within the village of Shannonbridge. One off housing is also located to the east of the boundary of the station along the R357.

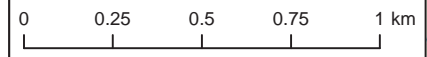
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<sup>1</sup> An Post, Geodirectory 2017





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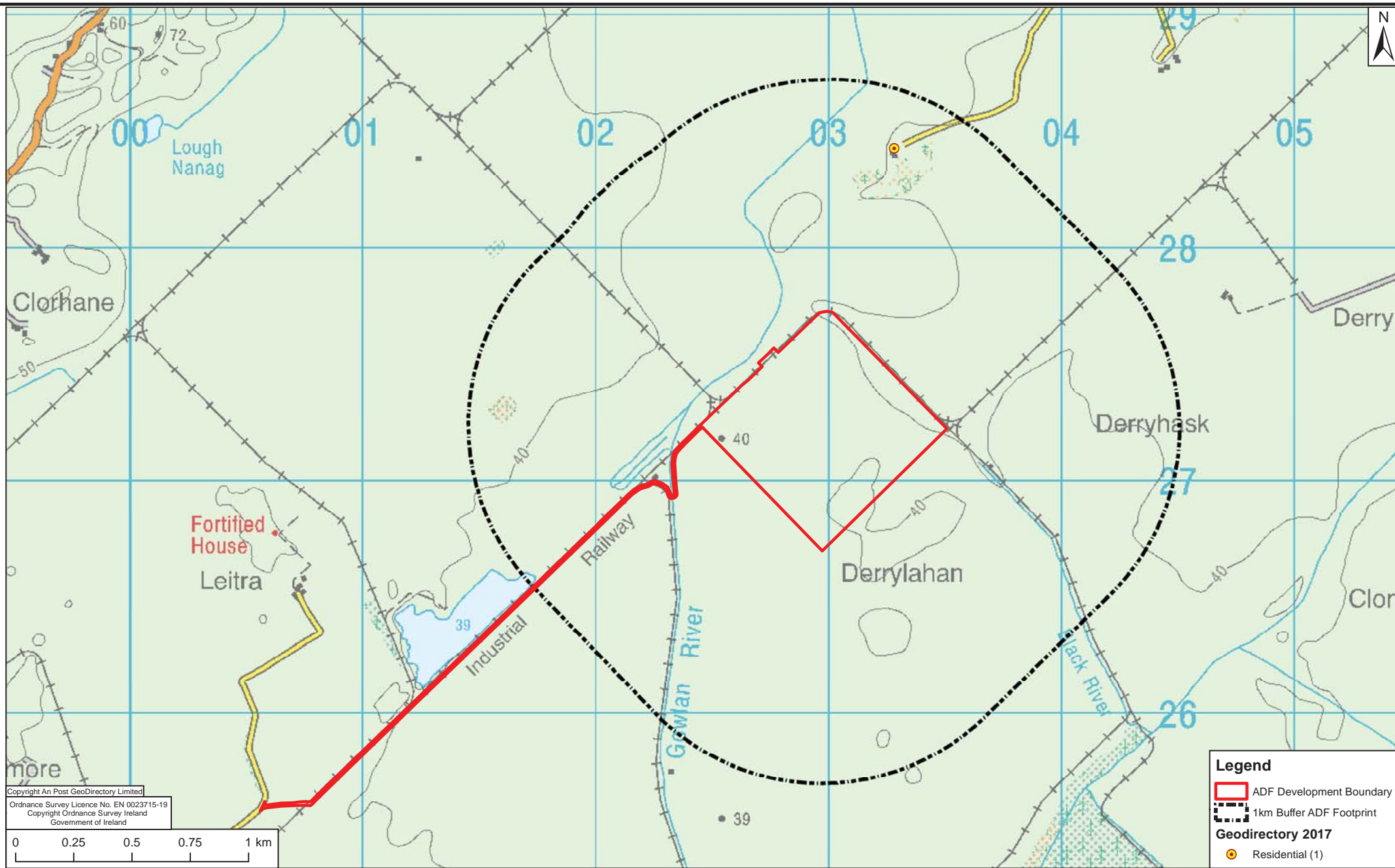
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DRAWING TITLE:	Figure 5.1- Receptors within 1km of WOP Station
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0 0.25 0.5 0.75 1 km

**Legend**

- ADF Development Boundary
- 1km Buffer ADF Footprint
- Geodirectory 2017
- Residential (1)

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The WOP ADF is located within a remote location as illustrated on Figure 5-2 with one residential dwelling located within 1 km of the ADF existing and proposed footprint.

**Table 5-3** below outlines the number of residential and commercial properties (Geodirectory data) located within 500 m and 1 km respectively of the peat bogs that supply WOP.

**Table 5-3: Proximity of Housing to Peat Supply Bogs**

Distance from Property to nearest peat supply bog	Residential	Commercial	Residential & Commercial	Unknown
0m- 500m	1528	76	401	117
500m – 1km	2261	124	494	111

### 5.4.3 Socio-economic Profile and Employment

Statistics in relation to the number of people employed in various occupational groups and industries are provided in the 2016 Census for the ED of Shannonbridge in which WOP Station is located. The WOP ADF is also located within the EDs of Shannonbridge, Clonmacnoise and Lumcloon. These occupational groups are outlined in **Table 5-4** below.

**Table 5-4: Occupational Groups in EDs of Shannonbridge, Clonmacnoise and Lumcloon**

Occupational Group (Industries)	Shannonbridge	Clonmacnoise	Lumcloon
Agriculture, forestry and fishing	11	21	15
Building and construction workers	8	7	6
Manufacturing industries	20	29	31
Commerce and trade	10	24	27
Transport and communication	5	4	10
Public administration	10	12	5
Professional services	18	35	31
Other	23	18	24
<b>Total Number of People Employed</b>	<b>105</b>	<b>150</b>	<b>149</b>

Source: CSO 2016

Within the ED of Shannonbridge the largest occupational groups are 'Other' and 'Manufacturing industries'. In the ED of Clonmacnoise 'Manufacturing industries' is also one of the largest occupational groups as well as 'Professional services'.

The Offaly County Development Plan 2014-2020 sets out policies in relation to enterprise and rural development within Offaly. These include

- EntP-01 *'It is Council policy that future development in Offaly be largely distributed throughout the county's settlement hierarchy, having regard to each individual area's (a) identified role within the region, (b) existing size, (c) existing function (d) capacity for sustainable growth (i.e. growth without detriment to its surroundings, its built or natural assets and/or its character) and (e) available infrastructure capacity. However, there is a positive presumption in terms of employment creation and therefore it is Council policy to examine such proposals within other locations on a case-by-case basis'.* (Section 2.6)
- EntP-04 *'It is Council policy to support local employment creation where it can mitigate against long distance commuting'.* (Section 2.6)
- EntP-07 *'It is Council policy to actively encourage the redevelopment of brownfield sites for enterprise and employment creation throughout the county, in particular, sites with antecedent uses or disused sites which were formerly ESB plants and Bord na Móna works'.* (Section 2.6)
- EntP-11 *'It is Council policy to prioritise, facilitate and promote the development of infrastructure that supports and attracts new employment-related investment in County Offaly'.* (Section 2.6)
- RDP-11 *'It is Council policy to encourage expansion and employment in industries such as agriculture, horticulture, forestry, peatlands, food, crafts, tourism and energy'.* (Section 2.9).

The sectoral profile of the defined socio-economic catchment area is provided in detail in the socio-economic report provided in **Appendix 5.1**. It identifies the following in terms of employment;

*'While the employment rate of the Midland region has been falling since 2012 this fall has been less pronounced than the fall in unemployment nationally and in neighbouring regions. Between 2012 and 2017 the unemployment rate for the midland region 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 % while the unemployment rate for the neighbouring border region fell from 18.9% to 6.5%.*

*The greatest loss of employment in the WOP catchment area can be seen to have taken place 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%.'*

The socio-economic report also details the following in relation to the socio-economic profile-

*'The socio-economic profile of the catchment area and Midland region clearly shows that when compared to the state as a whole, the catchment area and Midland region are lagging behind in terms of economic recovery following the economic down turn which began in 2007. This is illustrated by several indicators such as unemployment and disposable income. Whereas prior to the down turn the catchment area's population was growing at a faster rate than the state as a whole between 2011 and 2016 the rate of population growth in the catchment area has slowed and is now lower than the state as a whole.'*

*All the counties in the catchment area have a lower average disposable income per person than the average for the state as a whole. Offaly the county in which WOP is located has an average annual disposable income per person of € 16,226 this is 14.3% lower than the figure for the state as a whole'.*

#### 5.4.3.1 Employment

There are currently three modern, peat-fired stations in Ireland all of which are located in the Midland counties. As well as WOP, ESB also operates Lough Ree Power (LRP) Station in Lanesborough, County Longford. Bord na Móna operate Edenderry Power Limited (EPL) in County Offaly.

The existing WOP Station currently directly employs 41 staff. An additional 317 permanent and seasonal Bord na Móna employees are involved in the fuel supply to the station and the management of the ADF facility. This includes direct employees at the station and the ADF, rail haulage of peat and ash and in peat operations. Road haulage of peat is currently undertaken by external contractors and approximately 13 staff are employed.

These employment figures do not include those employed in ESB or Bord na Móna head offices in administration or Engineering duties. An additional 96 jobs are supported by indirect and induced employment<sup>2</sup>. The composition of this employment estimate is set out in **Table 5-5** and further detail is provided in **Appendix 5.1**.

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<sup>2</sup> Socio-economic Assessment for West Offaly Power, Future Analytics Consulting, 2018

**Table 5-5: Current WOP related Employment**

Existing Situation	Fulltime	Seasonal	Total	FTE <sup>3</sup>
ESB Staff	41		41	41
BnM Staff	148	156	304	226
Transport Employees <sup>4</sup>	13		13	13
<b>Total Direct</b>	<b>202</b>	<b>156</b>	<b>358</b>	<b>280</b>
Indirect Employment WOP	41		41	41
Induced Employment WOP	55		55	55
<b>Total</b>	<b>298</b>	<b>156</b>	<b>454</b>	<b>376</b>

Having regard to the concurrent planning proposal for LRP it is notable that the two power stations are responsible for 374 full-time direct jobs, 291 direct seasonal jobs and 82 indirect and 99 induced jobs. Therefore, collectively the plants are responsible for some 846 jobs in the region and make a significant contribution to the local and regional economy. The Bord na Móna owned EPL supports an additional 261 direct jobs (172 full-time and 89 seasonal), 29 indirect and 40 induced jobs<sup>5</sup>.

#### 5.4.4 Tourism, Amenities and Recreation

Shannonbridge though located within County Offaly also closely borders the neighbouring counties of Roscommon and Galway. Fáilte Ireland published details of the regional performance of these counties in 2016, which was updated in 2018<sup>6</sup> and details of the number of overseas visitors and associated revenue are provided in **Table 5-6** below.

**Table 5-6: 2016 Numbers of Overseas Visitors (thousands of visitors)**

	Britain (000s)	Europe (000s)	N.America (000s)	Other (000s)	Total (000s)	Revenue (€million)
<b>Ireland</b>	3,632	3,102	1,477	531	8,742	4,638
<b>Offaly</b>	30	14	6	2	52	14
<b>Roscommon</b>	25	10	14	3	52	20
<b>Galway</b>	259	666	422	102	1,449	455

**Table 5-6** illustrates that there were 52,000 foreign visitors to Offaly and similarly to Roscommon in 2016 which generated a revenue of €14 million and €20 million in

<sup>3</sup> Seasonal jobs are counted as 0.5 FTE

<sup>4</sup> Employed by Haulier Company contracted to BnM

<sup>5</sup> Socio-economic Assessment for West Offaly Power, Future Analytics Consulting, 2018

<sup>6</sup> Regional Tourism Performance in 2016 (Revised March 2018), Fáilte Ireland.

Offaly and Roscommon respectively. This is in direct contrast to Galway that had a total of 1,449,000 visitors for the same time period and generated a revenue of €455 million.

Existing tourism, amenity and recreational activities at Shannonbridge and in the surrounding area currently take place in an operating environment of an existing electricity generating station with all its associated activity.

The settlement of Shannonbridge is situated on the River Shannon which itself forms part of Fáilte Ireland's recent tourism initiative "Ireland's Hidden Heartlands"<sup>7</sup>, a parallel initiative to the Wild Atlantic Way and Irelands Ancient East.

'Irelands Hidden Heartlands' which was launched in April 2018 has a central focus on the River Shannon and the surrounding area. This extends from Leitrim down to East Clare and extends through Longford, Roscommon, East Galway as well as parts of Westmeath, Cavan, North Tipperary and Offaly. The aim of this campaign is to boost tourism and drive visitor growth across the midlands region. Fáilte Ireland are currently undertaking a Shannon Master Plan in partnership with Waterways Ireland to drive tourism opportunities both on and off the water, and in the towns surrounding it.

With respect to Shannonbridge itself, Fáilte Irelands, Discover Ireland webpage<sup>8</sup> describes its local importance highlighting the key amenities and activities available in the general area as follows:

*'A beautiful village on the banks of the River Shannon, in the heart of great angling waters, Shannonbridge is ever popular with fishermen and tourists alike and certainly has much to offer for those looking for the 'craic'. Three great waters combine to offer a wide choice of angling- a mighty stretch of the River Shannon, it's tributary the River Suck and the Grand Canal. Several other smaller waters such as the Brosna and Little Brosna also offer their own special charm not to mention the abundance of fish! Artillery fortification unique to Ireland or Britain are located here. These fortifications date from the Napoleonic era. Shannonbridge is in the middle of the Callows, an area of quiet beauty bounded by the reed-beds on the banks of the river and extending in all directions, first as green pasture and hayfields and then as peatland. It is a great centre for naturalists, both in summer when the sound of the corncrake can be heard and the meadows and peatland abound in wild flowers and, in winter, when thousands of wild geese, duck and wading birds congregate in the floodland'.*

The Shannonbridge Village Plan 2016 (which forms part of the Offaly County Development Plan 2014-2020) states that Shannonbridge's *location along Ireland's*

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<sup>7</sup> <http://www.failteireland.ie/IrelandsHiddenHeartlands.aspx>

<sup>8</sup> Discover Ireland: <https://www.discoverireland.ie/places-to-go/shannonbridge/0/25/1381>

*largest river and its proximity to Clonmacnoise have contributed to tourism being a key factor in its local economy.*

### **Tourism support and County Development Plans**

The support for tourism development is clearly set out in respective county development plans and is summarised below and includes the counties within which the peat supply bogs are located:

#### **County Offaly**

In relation to peatlands the following objectives are set out in the Offaly County Development Plan 2016-2020.

***TO-05** It is an objective of the Council to facilitate the development of a tourism resource using cutaway peatlands in conjunction with Bord na Móna and Fáilte Ireland, subject to environmental considerations and nature designations.*

***TO-06** It is an objective of Offaly County Council to encourage the development of water-based recreation activities on flooded cutaway bog where the opportunity arises, including possibly in Noggus Boy Bog and in Garryhinch, subject to environmental considerations and nature designations.*

#### **County Westmeath**

The preferred development strategy for tourism in Westmeath as set out in the Westmeath County Development Plan 2014-2020 is to provide *for the continued expansion of the tourism sector, in a sustainable manner throughout Westmeath, with particular focus on the promotion of natural amenity areas such as the lakes, canals, bogs and wetlands of Westmeath as national and international tourist destinations* (Section 2.15, Westmeath County Development Plan 2014-2020).

#### **County Galway**

The preferred development strategy for tourism in Westmeath as set out in the Galway County Development Plan 2015-2021 is to *protect and manage the assets that contribute to the unique visual and environmental character and sense of identity of County Galway, and which underpin tourism, heritage, biodiversity and quality of life* (Objective DS 5, Ref Section 2.3, Galway County Development Plan 2015-2021).

#### **County Laois**

Laois County Development Plan 2017-2023 states that *the development of the county's peat resources will be promoted and facilitated by the Council also which recognizes the potential of peatland areas for tourism, amenity, educational and research purposes. They could also potentially accommodate large scale alternative energy production in the form of solar and wind.* (Ref Section 5.10 2017-2023, Laois County Development Plan 2017-2023).



## County Roscommon

Roscommon County Development Plan 2014-2020 states that *in pursuit of sustainable tourism it is imperative that the high quality landscape and environment which attracts visitors to Roscommon is undiminished by future development* (Ref Section 3.5.5, Roscommon County Development Plan 2014-2020).

## County Meath

Meath County Development Plan 2013-2019 sets out the following objective in relation to tourism, *To protect and conserve those natural, built and cultural heritage features that form the basis of the county's tourism attraction and to seek to restrict development which would be detrimental to scenic and identified natural and cultural heritage assets* (Ref Section 4.6, Meath County Development Plan 2013-2019).

### 5.4.4.1 Visitor Attractions in the General Area

Fáilte Ireland publishes a list of Ireland's top visitors attractions. The top fee paying visitor attractions identified by Fáilte Ireland for County Offaly for 2015 was Clonmacnoise with 157,660 visitors recorded<sup>9</sup>. There were no visitor attractions located within County Offaly noted on the top free visitor attractions for 2015<sup>10</sup>. Clonmacnoise is located along the R444 regional road, and is of international importance as a spiritual, historic, archaeological and cultural centre. Clonmacnoise is located approximately 6 km from Shannonbridge and approximately 3 km from the ADF.

In addition, the area surrounding Clonmacnoise, including Mongan Bog, Fin Lough and Clonmacnoise Callows, are areas of broader visitor interest.

In addition to Clonmacnoise other visitor attractions noted in County Offaly include Birr Castle Gardens and Science Centre, Lough Boora Discovery Park, Clara Bog Nature Reserve and Visitor Centre and the River Shannon, Slieve Bloom mountains and Tullamore Dew. None of these visitor attractions are located in proximity to existing WOP Station and ADF.

Other visitor attractions in close proximity to Shannonbridge include the Clonfert monastic site, located across the Shannon in County Galway approximately 3 km from WOP Station and approximately 9 km from the ADF.

Shannonbridge itself hosts a series of defensive fortification structures on the west bank of the Shannon river. These are detailed further in **Chapter 13** (Cultural Heritage) of this EIAR. The Shannonbridge tourism website<sup>11</sup> quotes the following for example;

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<sup>9</sup> Fáilte Ireland, Visitors to Top Fee- Charging Visitor Attractions 2015.

<sup>10</sup> Fáilte Ireland, <http://www.failteireland.ie/Footer/Media-Centre/Top-Visitor-Attractions-in-2015-Revealed.aspx>

<sup>11</sup> <http://www.shannonbridge.com/tourism/battlements/>

*“These fortifications are an outstanding example of early 19th century artillery fortifications, built following the 1778 rising, to guard against a further French invasion. They were part of a line of fortifications on the Shannon: the defences face towards Connaught, assuming a French landing on the West coast”*

In addition, there are a number of local amenities such as a playground located off the main street. Services in Shannonbridge include a post office, shops, public houses, restaurants and a tourist information office. Shannonbridge GAA club pitch and clubhouse is located on the R357, southeast of Shannonbridge.

Tourist accommodation such as bed and breakfast and self-catering accommodation is provided in Shannonbridge and the wider environs.

#### 5.4.4.2 Activities in the General Area

The following leisure and recreational activities have been identified in the general area.

##### **River based Activities**

Leisure and recreational activities in Shannonbridge associated with the River Shannon and its immediate surrounds include river cruising, boating, angling, bird watching and swimming.

Cruising is a popular activity on the River Shannon and there is a mooring quay located just south of the bridge in Shannonbridge. Boating facilities such as toilets and showers are also available.

The village of Shannonbridge is a long established angling centre with numerous angling sites<sup>12</sup>. The River Suck provides excellent coarse fishing with Bream and Rudd common here.

##### **Walking and Cycling Routes**

The Grand Canal way is a 117 km national waymarked route which follows this canal and runs from Lucan road bridge in Dublin to Shannon Harbour village. The nearest section to the proposed development is located approximately 7 km from Shannonbridge and runs from Belmont Bridge to Shannon Harbour just northwest of the village of Cloghan.

The Hymany Way is a 90 km national waymarked trail circular route that runs from Portumna to Ballygar. This is one of a series of eleven sections of the greater Beara Breifne Way. This runs through Clonfert and the nearest section of which is approximately 3 km from Shannonbridge.

The Pilgrims Road runs along the Esker Riada and attracts walkers visiting the ancient route each year. An associated 25 km on-road cycling trail runs from Clonmacnoise to Ballycumber.

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<sup>12</sup> Shannonbridge Angling Centre,  
<http://www.fishinginireland.info/coarse/shannon/shannonbridge.htm>

A number of walking trails are located within Shannonbridge<sup>13</sup>. These include Shannonbridge - River Shannon loop and Shannonbridge - Fortifications loop. The River Shannon loop is identified as a 5.2 km route which runs north of the village of Shannonbridge along the banks of the Shannon and back by a quiet bog road and lane passing alongside a section of woodland at the northern end. Features of interest include the imposing Napoleonic Fortifications and the long bridge spanning the Shannon River. The Fortifications loop is identified as a 0.5 km route including the Napoleonic Fort in this riverside town. It is focused on the history of the fort with seven stops along the way.

It is known that the local road that runs alongside the eastern boundary of the station is used by local residents in Shannonbridge as a walking route.

### **Other Activities and Services**

The village of Shannonbridge hosts summer activities including an annual music festival. The surrounding peat bogs are also a source of ecological interest. There are no bus and public transport facilities currently available within Shannonbridge.

#### **5.4.4.3 Human Health**

The receiving environment for human health in the context of the proposed development is as detailed in the sections above. Health impacts are assessed via biophysical factors such as air, noise and water, as relevant. The receiving environment for these factors are outlined in Land, Soil, Geology and Hydrogeology (**Chapter 7**), Surface Water (**Chapter 8**), Noise (**Chapter 9**), Climate and Air (**Chapter 10**) and Traffic and Transport (**Chapter 12**).

In terms of Health and Safety, the station and ADF operate to a Safety Management System (SMS) and Environmental Management System (EMS) which meet the requirements of OHSAS 18001 and ISO 14001:2015<sup>14</sup>. An Environmental Liabilities Risk Assessment (ELRA) is in place as a requirement under the current Industrial Emissions Licence (P0611-02).

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<sup>13</sup>Source: Irish Sports Council, Irishtrails.ie, June 2018

<sup>14</sup> These are externally certified safety standards which are reviewed periodically

## 5.5 Impacts of the Development

This section considers and assesses the impact of the proposed development with regards to population and human health.

### 5.5.1 West Offaly Power Station

#### 5.5.1.1 Land-use

##### **Construction and Operational Phase**

The proposed development will result in a slight land-use change at the WOP Station however this is within the confines of the existing station boundary. As detailed on **Figure 4-4** in Chapter 4, Storage Slab A and silo are to be located in close proximity to the existing IPS building. This currently comprises an area of compacted hard-core with some tarmac areas used for staff car parking.

Storage Slab B as detailed on **Figure 4-8** in **Chapter 4** is proposed to be located adjacent to an existing building and the area is currently soil and made ground. The construction of Storage Slab B will require the removal of a small area of trees and some vegetation.

Considering the existing industrialised nature of the surrounding area and its existing use the impact is considered to be **neutral, slight and long term**.

#### 5.5.1.2 Demographics and Local Population

##### **Construction Phase**

Additional HGV movements will occur during the construction phase of the proposed development which have the potential to impact on the local population. A construction traffic management plan will be developed as per the requirements set out in **Appendix 4.2**. Further details of potential impact in terms of traffic and transport is provided in **Chapter 12** of this EIAR. As the construction will be undertaken within the footprint of the existing WOP Station, the construction phase will not impact on any existing accesses to properties.

##### **Operational Phase**

The key drivers to population change include births, deaths and net migration.<sup>15</sup> Maintaining sustainable employment opportunities in the Midlands region through continued operation of the WOP Station and the structured transition away from associated peat supply activities over the 2020-2027 period to allow new sustainable industries, will result in sustained socio-economic activity underpinning population dynamics and reducing potential for population migration. Impacts are considered to be **positive, significant and long term in nature**.

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<sup>15</sup> CSO, 2011

The proposed development will result in an increase in HGV movements related to the transportation of biomass. In the worst-case scenario, it is anticipated that the proposed development will result in an estimated maximum traffic movements of 129 deliveries per day. The average number of deliveries is anticipated to be 100 deliveries per day. This has the potential to impact on the local population with further detail provided in **Chapter 12** (Traffic and Transport). Apart from the R357, all the routes used for international biomass deliveries will be along Motorway, National Primary or National Secondary routes. Indigenous suppliers will use other roads at the start of their journey, but use the national road or regional road network as soon as practical. Delivery vehicles will pass through the village of Shannonbridge and have the potential to impact on local residents and amenities along these routes. The impact in terms of the perceived nuisance associated with these volumes is considered to be **negative, significant and long term in nature**.

As the proposed development will be undertaken within the footprint of the existing WOP Station, the operation phase will not impact on any existing accesses to properties.

### 5.5.1.3 Socio-economic and Employment

#### **Construction Phase**

At WOP Station the construction period for the proposed development will be approximately 6 – 9 months. The scope of works is relatively small scale, however it is envisaged that approximately 34<sup>16</sup> external contractors will be employed in construction works associated with the transition. An additional two ESB employees may have a site presence during these works for supervision purposes.

#### **Operational Phase**

The proposed development will extend the operational life of the existing WOP Station and will provide direct employment during the operational phase into a new stage of increasingly sustainable power generation. This would see the provision of continued employment at WOP Station and ADF.

As the proposed development includes the introduction of biomass as a fuel source, this will gradually replace peat as the fuel source for WOP Station. As set out in the socio-economic assessment provided in **Appendix 5.1** there will be a gradual reduction of people directly employed in peat supply activities. This will also lead to an increase in workers engaged in the indigenous biomass supply chain and an increase in the number of workers indirectly employed by the WOP Station. As the transition to 100% biomass will occur in phases it is estimated that post 2027 over 300 jobs in Ireland (direct, indirect and induced)<sup>17</sup> will be provided and maintained by the proposed development. As detailed in this socio-economic

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<sup>16</sup> FTE as per the Socio-economic Assessment for West Offaly Power, Future Analytics Consulting, 2018

<sup>17</sup> Socio-economic Assessment for West Offaly Power, Future Analytics Consulting, 2018

assessment, it is clear that the on-going activity of the WOP Station significantly contributes to the local and regional economy through the direct provision of employment and economic activity.

In terms of economic contribution, WOP currently pays approximately €1.5 million annually to Offaly County Council in commercial rates. The net amount of rates levied by the council throughout the whole county in 2017 was €16.6 million<sup>18</sup>. WOP rates contribution represents over 9% of the net amount levied by the council on a county basis. This is a **significant positive and medium term impact** in terms of contribution to Offaly County Council's annual budget requirements.

The Bord na Móna Sustainability 2030<sup>19</sup> policy launched In October 2015 sets out that company's ambition for a sustainable future which includes the commitment for the cessation of harvesting of energy peat for electricity generation, and the completion of Bord na Móna's transition from peat energy into new sustainable businesses by 2030. In October 2018, Bord na Móna announced the acceleration of this decarbonisation process, bringing forward the end of using peat for energy by two years to 2028<sup>20</sup>.

The phased transition period set out herein allows a realistic timeframe for the local economy to move from peat harvesting for energy generation purposes towards more sustainable industries. In contrast, the closure of WOP Station and the immediate cessation of peat harvesting for electricity generation purposes in 2020 would significantly impact on the socio-economic activity in the midlands region with loss of employment and insufficient time to identify alternative sustainable development opportunities.

As the WOP biomass energy generation element develops in scale, jobs will be maintained and potentially created through development of an indigenous biomass industry sector and biomass transport.

The socio-economic impact from the project is therefore **positive, significant and medium term** in nature.

### 5.5.1.4 Tourism, Amenities and Recreation

#### Construction Phase

As the proposed development at WOP Station is located within the boundary of an existing generating station, the construction of the proposed infrastructure has very limited potential to impact negatively on tourism, amenity and recreational activities. There may be spin-off benefits with construction workers using local accommodation and shops/cafes and restaurants.

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<sup>18</sup> Offaly County Council Local Authority Budget, Calculation of Annual Rate on Valuation For The Financial Year 2018, Adopted 2017 Net Expenditure

<sup>19</sup> Sustainability 2030, Bord na Móna, 2015, <https://www.bordnamona.ie/corporate-responsibility/sustainability/>

<sup>20</sup> <https://www.bordnamona.ie/company/news/articles/bord-na-mona-accelerates-decarbonisation/>

Potential impacts on tourism, amenities and recreation during the construction phase would be **positive, slight and temporary in nature**.

### **Operational Phase**

As stated above existing tourism, amenity and recreational activities at Shannonbridge and in the surrounding area currently take place in the vicinity and context of the long established operating, existing electricity generating station with all its associated activity however the proposed increase in HGV movements has the potential to impact on tourism, amenities and recreation.

Fáilte Ireland Guidelines on the treatment of Tourism in an Environmental Impact Statement states that visitor attitude surveys reveal that the following factors – in order of priority – are the reasons that tourists visit and enjoy Ireland;

- Beautiful scenery
- Friendly & hospitable people
- Safe & Secure
- Easy, relaxed pace of life
- Unspoilt environment
- Nature, wildlife, flora
- Interesting history & culture
- Plenty of things to see and do
- Good range of natural attractions

The two significant visitor attractions located in proximity to the proposed development include Clonmacnoise and Clonfert. Clonmacnoise is located along the R444 at a distance from WOP Station (6 km) and ADF (3 km). The haulage routes for both biomass and peat will not utilise the R444 and therefore the proposed development will not have any direct impacts on Clonmacnoise. Clonfert monastic site is located across the Shannon in Co. Galway, is accessed via a local road and is approximately 3 km from WOP and 9 km from the ADF. This local road is not a main route to the station and will not be directly impacted upon.

Increased HGV movements have the potential to have impact on walking and cycling routes and local amenities in Shannonbridge. The nearest section of the Grand Canal way is located approximately 7 km from Shannonbridge and runs from Belmont Bridge to Shannon Harbour just northwest of the village of Cloghan. The walking route runs under the bridge at the R357 and walkers will not be impacted upon by HGVs. Walkers along the Hymany Way will not be impacted upon as the route is not in proximity to the main route to WOP Station.

The Pilgrims Road traverses a national secondary route, the N62 north of Ferbane which has been identified as delivery route to WOP Station. As detailed in **Chapter 12**, Traffic and Transport the proposed development will result in a less than 1% increase in the ratio of flow to capacity on the national road network, it is concluded that it will have an **imperceptible long-term** impact on the wider national road network.

As per the Traffic and transport assessment provided in **Appendix 12.2** of this EIAR, The implementation of a one-way internal route for fuel delivery traffic to the WOP Station where possible will reduce the HGV turning movements from the WOP access junction with the R357. This will reduce conflicts with pedestrians crossing at this junction from left turning HGVs.

There will be an increase in the HGV movements across the bridge crossing the River Shannon. As noted previously there are no footpaths on this bridge and the increase in movements of HGVs will result in an increase in the probability of pedestrians and vehicles meeting on the bridge. The increase in HGVs will result in a small reduction in the quality of service for cyclists along the R357.

The public roadway along the northern boundary of the WOP Station is used as a walking route by locals of Shannonbridge. There are no footpaths or lighting along this roadway. A portion of the WOP biomass/peat deliveries will use this roadway to access the station. It has been continuously in use for peat fuel delivery by road. In the case where the Local Authority wish to develop a public pathway or access track along this route the ESB will engage with the Local Authority to discuss the requirement and facilitate its development.

The proposed development will have no impact on the public transport network in the area. Further detail is provided in **Chapter 12** of this EIAR.

As the proposed development will lead to an increase in HGV volumes on the transport network in the surrounding area (including at the river crossing in Shannonbridge) there may be a perception of high impact on the receiving community. However as detailed in **Chapter 12** the actual impact will be **not significant negative long-term impact** on the local road network.

#### 5.5.1.5 Human Health

Human health in the context of the proposed development is considered under health and safety, potential impacts on human health and vulnerability to natural disasters.

Safety is a core value in ESB and it is fully committed to protecting the safety, health and welfare of its employees, contractors, customers, members of the public and others who may be affected by its activities. The ESB policy is to adopt a systematic approach to health and safety management in all its Business Areas in order to create and maintain safe work environments, to comply with all relevant legal and regulatory requirements and to seek continuous performance improvement. The project will be constructed, operated and decommissioned in a manner which is fully compliant with the ESB core values.

WOP Station and ADF operate to a certified SMS and EMS which meet the requirements of OHSAS 18001 and ISO 14001:2015. This SMS and EMS includes procedures/controls in relation to oil spills, emergency procedures and general minimisation of environmental impact.

In terms of air quality, the primary concerns in respect to potential impacts from the proposed development on public health are dust/particulate matter emissions.



Noise, while not necessarily an obvious concern in terms of public health, excessive levels can result in deficiencies in hearing and sleeping patterns. It can also contribute to hypertension, heart disease, and generally annoyance. All of these effects can assist in the deterioration of an individual's personal health and well-being. Impacts on surface and groundwater as well as potentially contaminated land have the potential to impact directly on human health. Potential effects from traffic and transport include concerns relating to accidents and safety, driver delay, pedestrian amenity/delay and severance.

There is limited potential for significant natural disasters to occur at WOP Station and ADF. Potential natural disasters that may occur are limited to:

- Flooding,
- Fire; and
- Major incidents involving dangerous substances.

### **Construction Phase**

There is potential for accidents or incidents to occur during construction projects of this nature which could impact on human beings in the workforce at the station, on Contractors employees and on members of the public. However, construction is managed under health and safety legislation and under ESB's core principles and projects can be de-risked at the early design stages. In the unlikely event that these negative impacts were to occur they would be regarded as significant, and could be permanent or temporary in nature depending on their severity.

The principle potential impact to air quality and human health during construction will arise from dust generation associated with spoil storage and vehicle movements from excavation associated with the construction site and construction of the storage slabs and pellet silo. It should be noted however, that the development will occur within an existing industrial site, namely the WOP Station. Further detail is provided in **Chapter 10**, Climate and Air.

There is the potential for noise impacts associated with the construction phase primarily in relation to the on-site construction activities and deliveries. Further detail is provided in **Chapter 9**.

During the construction phase, the potential for pollutant pathways between surface soil/water and groundwater to impact surface waterbodies was considered with further detail provided in **Chapter 7**, Land and Soils, Geology and Hydrogeology and **Chapter 8**, Surface Water.

### **Operational Phase**

During the operational phase there is potential for health and safety issues to arise from plant operations and delivery and storage of fuels. For this reason the generating station operates to a very high safety standard based on good practice to ensure that accidents or incidents do not arise.

Existing and proposed fuel storage and handling configurations are such that access as required by emergency services is maintained, safe extraction and isolation of smouldering fuel is possible and the fuel handling conveyors operate on an interlock system such that in the event of a fire being detected on conveyors the fuel feed is stopped to enable effective extinguishment at the affected location and prevent spread of burning material throughout the remainder of the fuel system.

In the unlikely event that these negative impacts were to occur they would be regarded as significant, and could be permanent or temporary in nature depending on their severity.

In addition the following risks have been identified as being associated with the storage of biomass;

- Excess dust and potential risk of explosion.
- Accumulation of residual biomass fuels which may give rise to self-heating.
- Prolonged storage of any biomass fuels promoting biological activity such as composting, formation of mould and off-gassing of biomass fuels.
- Aldehydes and gases which may be emitted by the biomass fuels building up to toxic concentrations within enclosed storage spaces such as silos.

Should these arise there would be potential for impact on human health which would be significant and negative but it would be localised and brief in nature.

The proposed development also has the potential for dust release from operational activities, ash transportation, rail and HGV deliveries and biomass storage. Further detail is provided in **Chapter 10**, Climate and Air.

The proposed development could give rise to an increase in baseline noise levels resulting from operational activities, rail and HGV deliveries and fuel handling. Further detail on this is provided in **Chapter 9**, Noise.

The potential for pollutant pathways between surface soil/water and groundwater and the potential for leachate generation at the ADF to impact surface waterbodies were considered for the operational phase of the proposed development. Impacts on the surrounding surface water quality in terms of water abstractions was considered in terms of affecting the local population. Further detail is provided in **Chapter 7**, Land and Soils, Geology and Hydrogeology and **Chapter 8**, Surface Water.

During the operational phase, WOP will be licensed by the EPA, IE Licence (P0611-02) and any subsequent review of this licence. This will include limits that will be required to be met for emissions such as noise, air and water. The IE licence also includes the requirements of the Best Available Techniques (BAT) to limit emissions from large combustion plants to protect human health and the environment.

Under the requirements of the IE licence specific protocols are in place should an environmental incident occur and the EPA must be notified of any release of

environmental significance or any incident with the potential for environmental contamination. A licence review application will be submitted to the EPA for the proposed changes associated with the proposed development. WOP Station and ADF will operate under the conditions of any new licence.

The Control of Major Accident Hazards involving Dangerous Substances Regulations 2015 (COMAH Regulations) do not apply to WOP Station, ADF and the proposed development.

Flood Risk Assessments have been carried out for the proposed development at both WOP Station and ADF and are contained in **Appendix 8.1**. These assessments conclude that the proposed works will not increase the current flood risk in the catchment.

In terms of fire risk associated with the bogs surrounding the ADF, Bord na Mona are committed to the implementation and maintenance of systems to ensure in so far as is practicable, the prevention of bog fires. These measures include employee fire prevention and awareness training, provision of fire fighting equipment on machines and in buildings, implementation of fire watch procedures during production periods, fire patrols during periods of high fire risk, restriction of smoking to designated areas, promotion of public awareness regarding bog fires, liaison with local landowners/ fire service to prevent burning on adjacent properties, provision of fire warning signage, control of public access and employee vigilance. A fire prevention and firefighting policy is in place for the peat production bogs.

#### 5.5.1.6 Decommissioning Phase

There would be **short term positive** employment impacts associated with the decommissioning and demolition of the WOP Station. Should WOP Station be decommissioned at a future stage then all long-term employment associated with its operation and indirect biomass fuel supply would cease with potential for a moderate, permanent and negative socio-economic impact on the Midlands Region.

The decommissioning of WOP Station will be in line with any requirements as set out in the Decommissioning Management Plan (DMP) which is a requirement of the IE licence.

Impacts on health and safety associated with the decommissioning phase will be similar to those that may occur during the construction phase. A health and safety plan which will comply with all relevant legislation will be put in place for the decommissioning phase and will include risk assessments to cover all activities associated with decommissioning and possible demolition.

Decommissioning impacts will be similar to those for the construction phase and potentials impacts on population and human health are further detailed in Land, Soil, Geology and Hydrogeology (**Chapter 7**), Surface Water (**Chapter 8**), Noise (**Chapter 9**), Climate and Air (**Chapter 10**) and Traffic and Transport (**Chapter 12**).

## 5.5.2 Ash Disposal Facility

### 5.5.2.1 Land-use

#### Construction and Operational Phase

Landfill cell construction is an ongoing activity at the ADF with a cell being developed as another cell approaches capacity. As part of the proposed development additional capacity (or cells) will be required at the ADF.

The proposed extension at the ADF will require the extension of the landfill area footprint which will entail the removal of peat and scrub. As this extension is located adjacent to the existing ADF it is not considered that this will result in a significant change in current land-use. Overall the potential impact on existing land-use is considered to be **neutral, imperceptible and long-term in duration**.

### 5.5.2.2 Demographics and Local Population

#### Construction Phase and Operational Phase

The ADF is located in a remote location and is not in close proximity to dwellings with one dwelling located within 1 km of the ADF. The proposed development will utilise existing rail, internal road infrastructure and access, so effects on the local population will be minimised.

The number of rail movements to the ADF (average of three daily) and associated noise impact at the ADF is not predicted to change and although there is potential for the number to reduce when operating using biomass, the quantity of ash can vary considerably depending on the specific fuel that is used.

Transportation of ash by rail can also give rise to localised dust impacts from fugitive emissions, particularly during unloading operations and cell filling. Further detail is provided in **Chapter 10**, Climate and Air.

The ADF will employ two full-time staff and the volume of road traffic generated by the ADF will be very low and will have no impact on the road network.

Impact assessments for the ADF have also been carried out in relation to Land, Soil, Geology and Hydrogeology (**Chapter 7**) and Surface Water (**Chapter 8**), and include mitigation measures required to reduce adverse potential impacts on human beings, in order to minimise these impacts, where appropriate.

### 5.5.2.3 Socio-economic and Employment

#### Construction and Operational Phase

The proposed development will maintain the direct employment of Bord na Móna employees to manage the ADF and to transport ash to the ADF. The level of employment is low and can be considered a **positive, slight and long term** impact for the duration of operation of the landfill.

#### 5.5.2.4 Tourism, Amenities and Recreation

##### **Construction Phase and Operational Phase**

Tourism amenities and activities are located at such a distance from the ADF that they will not be impacted. Any potential visual effects are dealt with in Landscape and Visual (**Chapter 14**).

#### 5.5.2.5 Human Health

##### **Construction Phase and Operational Phase**

Potential impacts on human health relative to the ADF are detailed in **Section 5.5.1.5** of this Chapter of the EIAR.

#### 5.5.2.6 Decommissioning Phase

Decommissioning of the ADF will involve its final capping and landscaping with suitable material. It will then be left to rehabilitate naturally resulting in a mounded area with natural vegetative cover.

On final decommissioning there would be no further industrial employment associated with the landfill operation other than occasional monitoring visits. The impact would be a slight, negative and permanent in nature.

The decommissioning of the ADF will be in line with any requirements as set out in the Closure Restoration and Aftercare Management Plan (CRAMP) which is a requirement of the IE licence.

Potential impacts on population and human health as they relate to the decommissioning phase are further detailed in Land, Soil, Geology and Hydrogeology (**Chapter 7**), Surface Water (**Chapter 8**), Noise (**Chapter 9**), Climate and Air (**Chapter 10**) and Traffic and Transport (**Chapter 12**).

### 5.5.3 Peat Supply to West Offaly Power Station

Peat supply to WOP is an indirect activity linked to electricity generation at the generating station. Peat supply and potential impacts are therefore considered in this section.

#### 5.5.3.1 Land-use

##### **Construction Phase and Operational Phase**

Peat supply to WOP will be sourced only from licenced Bord na Móna bogs currently in production. No new bogs will be used for the peat extraction and therefore there will be no change to established land-use at these bogs. The impact will therefore **be neutral**.

### 5.5.3.2 Demographics and Local Population

#### Construction Phase and Operational Phase

As peat extraction is an established activity and will only be supplied to WOP from bogs currently licenced and in production it is not considered that the continued supply of peat poses a threat to population. **No impact** is predicted.

Impact assessments for the peat supply to WOP Station have been carried out in relation to Land, Soil, Geology and Hydrogeology (**Chapter 7**), Surface Water (**Chapter 8**), Noise (**Chapter 9**), Climate and Air (**Chapter 10**), Traffic and Transport (**Chapter 12**) and Landscape and Visual (**Chapter 14**) and include monitoring and mitigation measures required to reduce adverse potential impacts on humans beings, in order to minimise these impacts, where appropriate.

### 5.5.3.3 Socio-economic and Employment

#### Construction Phase and Operational Phase

The employment impacts associated with the peat supply to WOP are as detailed in **Section 5.5.1.3** of this Chapter. The continued operation of WOP firing on biomass and peat with the phased reduction in peat harvesting for energy generation will see changes in the employment pattern associated with these activities in the Midlands Region. Employment at WOP Station itself will continue into the future both on the energy generation side and the fuel handling side. As the WOP biomass energy generation element develops in scale, jobs will be potentially created through development of an indigenous biomass industry sector and biomass transport. A phased reduction in direct and indirect employment associated with peat fuel activities for WOP Station will occur, however, this will occur over a transition period which will allow for development of alternative sustainable industries with associated employment opportunities. In terms of employment associated with peat harvesting and delivery operations to supply WOP Station this has been assessed in **Section 5.5.1.3** above.

### 5.5.3.4 Tourism, Amenities and Recreation

#### Construction Phase and Operational Phase

As peat extraction is an established activity and will only be supplied to WOP Station from bogs currently licenced and in production it is not considered that the continued supply of peat poses a threat to any tourism, amenities or recreation. No impact is predicted.

### 5.5.3.5 Human Health

As peat extraction is an established activity and will only be supplied to WOP from bogs currently licenced and in production it is not considered that the continued supply of peat poses a threat to human health. The peat supply bogs operate under the conditions of IPC Licences which licence the extraction of peat. Conditions under these licences impose emissions limits and require reporting of any incidents. No impact is predicted.

#### 5.5.3.6 Decommissioning Phase

The Bord na Móna peat supply bogs operate under existing EPA IPC licences. The licences issued require the decommissioning of these bogs and then development and implementation of rehabilitation plans for the respective peat harvesting areas once peat harvesting activities cease permanently. The rehabilitation plans will result in bare peat harvesting areas being rehabilitated over time likely creating a myriad of habitat types supporting for example ecology, agriculture and tourism. The rehabilitation of the bare peat areas could potentially lead to their future use as tourist and amenity facilities. This would be **positive, moderate and permanent** in nature in the Midlands Region.

#### 5.5.4 Biomass Supply to West Offaly Power Station

Indigenous biomass will comprise sources such as woodchip by-products from the Irish forest sector (brush, thinnings, and residues) and residues and by-products from Irish sawmills and manufacturing industry. It is recognised that in the early years there will not be sufficient indigenous by-product and residue supply available to meet the demand of the project and for this reason biomass will also be imported internationally in the form of wet woodchip, wood pellets and other materials which again will meet the strict EU sustainability requirements. However, as the growing Irish Forest Estate matures and becomes harvestable, particularly the private sector forestry, it is expected that indigenous sources of biomass will increase over time. The WOP Station will provide a ready market for biomass materials from the Irish Forest Estate, potentially creating additional employment opportunities and generating additional income for forest owners.

It is also anticipated that the co-firing of the peat station with biomass could support the development of an indigenous biomass industry through providing a ready market for its output. Socio-economic impacts on human beings from the proposed transition to biomass will occur on a national basis will be **significant, positive and long-term**.

#### 5.5.5 Do-Nothing Scenario Impact

The “do nothing” scenario would see the closure of the WOP Station and ADF at the end of 2020 with the cessation of peat supply for electricity generation at WOP.

This would ultimately see an immediate termination of all employment at the site. In this scenario electricity generation on the site will cease in 2020 with the resultant loss of direct and indirect employment and economic activity to the Midlands Region.

This scenario would entail the loss of all 358 jobs (202 full-time and 156 seasonal) directly associated with the WOP Station and ADF by 2020 aside from security, decommissioning and closure activities at WOP Station and ADF. This scenario would also lead to the loss of 96 indirect and induced jobs supported by the WOP Station and ADF. There would be immediate significant and long term loss of

employment in WOP and in indirectly associated activities such as the fuel supply operations and routine maintenance activities. There would also be a loss of economic contribution to the local authority.

Overall there would be significant socio-economic long term negative impact from the closure of the WOP Station with loss of employment and rates contribution to the Local Authority.

The WOP Station would be decommissioned in accordance with the current Decommissioning Management Plan (DMP) as required. Following site decommissioning the station will undergo demolition in accordance with current planning requirements. The decommissioning of the ADF will be in line with the requirements of the Closure Restoration and Aftercare Management Plan (CRAMP) which is a requirement of the current IE licence.

## 5.6 Mitigation

Monitoring and mitigation measures insofar as they have the potential to impact on population and human health have been set out in other Chapters in the EIAR including Land and Soils, Geology and Hydrogeology (**Chapter 7**), Surface Water (**Chapter 8**), Noise (**Chapter 9**), Climate and Air (**Chapter 10**) and Landscape and Visual (**Chapter 14**).

A Delivery Management Plan (DMP) has been prepared in order to mitigate against any potential adverse impacts associated with increased HGV deliveries and details are provided in **Appendix 12.3**. The DMP has been prepared for the operational phase and as part of this plan a route preference assessment has been undertaken and the routes identified are shown in **Figure 12-6** and local access shown on **Figure 12-3**. The objective of this route assessment is to maximise the use of the motorway network and the national road network for deliveries, in order to minimise the impact on local populations and schools and to maximise safety. The Delivery Management Plan will be used to encourage and monitor responsible driving behaviour and safe driving habits by the suppliers of the biomass and peat. This mitigation will ensure that there is no significant impact on the local population from the volume of traffic that will be generated by the proposed development. Further details have been provided in **Chapter 12** of this EIAR.

### 5.6.1 Health and Safety

#### 5.6.1.1 Construction Phase

During the construction phase, health and safety measures as detailed in the construction methodology in **Appendix 4.2** will be implemented.

All works will be carried out so as to comply with all the requirements of the Safety and Health at Work Act 2005 and any subsequent regulations or amendments and with the requirements of the Health and Welfare at Work (Construction) Regulations, (SI 291 of 2013), any subsequent amendments and any other relevant Health and Safety legislation. All construction staff on site shall carry out a full site induction have a current Safepass card and relevant CSCS card. All works shall be



carried out in a safe manner and in accordance with the above legislation and any other guidance notes issued by the Health and Safety Authority. In particular all excavation works shall be carried out in accordance with the HSA publication A Guide to Safety in Excavations.

Detailed design risk assessments have been prepared for the works which have informed the design of the works to date and will be updated during detailed design stage. This document shall feed into a Preliminary Safety and Health plan that will be provided at tender stage.

A Project Supervisor Design Stage (PSDS) and a Project Supervisor Construction Stage (PSCS) shall be appointed for the construction works in accordance with the above legislation. The Contractor will provide a site specific health and safety plan and shall provide detailed risk assessments and method statements for review in advance of each element of work. The Contractor shall particularly address the interface between construction activities and the on-going power station operations in conjunction with the ESB and Bord na Móna.

On completion of the works the Contractor shall prepare and hand over a detailed safety file, the contents of which shall have been agreed in advance of the works.

#### 5.6.1.2 Operational Phase

A series of mitigating measures will be implemented at WOP Station to reduce or eliminate both the likelihood and impact of the identified biomass related risks occurring.

The current housekeeping regime at WOP Station will continue to be implemented and reviewed as appropriate to address the risks associated with the proposed storage and handling of biomass fuels. Regular wash-downs throughout the fuel storage and handling system will prevent the build up of excess dust and the associated perceived risk of explosion, and will also prevent the build up of undisturbed piles of residual biomass fuels which may give rise to the risk of fire due to excessive self heating.

Quick throughput is key to eliminating the risks associated with self heating of biomass fuels. A strict hygiene regime will be implemented at the station prohibiting prolonged storage of any biomass fuels, thus impeding self-heating which gives rise to biological activity such as composting, formation of mould and off-gassing of biomass fuels. The storage on the slabs and within the silos will have a typical residency of 2-3 days.

All Health and Safety Training relevant to the handling, storage and co-firing operations of biomass fuels will be provided to station personnel as appropriate. Strict confined space procedures and protection measures that includes appropriate personal protection equipment (PPE) will be implemented which will protect personnel from toxic concentrations of aldehydes and toxic gases which may be emitted by the biomass fuels within enclosed storage spaces such as silos.

A full review of the fire and explosion protection, detection and prevention systems in place will be carried out and where required by the appropriate standards

additional sensors, monitors and extinguishing systems will be implemented throughout the fuel storage and handling areas, e.g. additional hydrants in the region of the external fuel storage slabs, gas detectors in internal storage facilities, etc.

Plant modifications such as fire protection and detection systems arising from safe use of biomass relating to fire and explosion safety will be communicated to the relevant local authorities and local fire safety authority.

The SMS and EMS for the station and ADF will continue to be implemented and maintained at the station and will be updated as appropriate to include specific procedures and updated risk assessment in relation to the proposed storage and use of biomass. The ELRA will be updated to include any potential new risks associated with the proposed transition to biomass.

In summary in terms of health and safety, the following mitigation measures will be put in place for the operational phase of the proposed development.

- Continued implementation of the current housekeeping regime at the station and with review as appropriate to address the risks associated with the proposed storage and handling of biomass fuels.
- Regular wash-downs throughout the fuel storage and handling system to prevent the build up of excess dust and prevent the build up of undisturbed piles of residual fuels.
- A strict hygiene regime will be implemented at the station and the storage on the slabs and within the silos will have a typical residency of 2-3 days.
- All Health and Safety Training relevant to the handling, storage and co-firing operations of biomass fuels will be provided to station personnel as appropriate.
- Strict confined space procedures and protection measures that includes appropriate personal protection equipment (PPE) will be implemented to protect personnel.
- A full review of the fire and explosion protection, detection and prevention systems in place will be carried out and where required by the appropriate standards additional sensors, monitors and extinguishing systems will be implemented throughout the fuel storage and handling areas.
- Plant modifications such as fire protection and detection systems arising from safe use of biomass relating to fire and explosion safety will be communicated to the relevant local authorities and local fire safety authority.
- The SMS and EMS for the WOP Station and ADF and will be updated as appropriate to include specific procedures and updated risk assessment in relation to the proposed storage and use of biomass.
- The ELRA will be updated to include any potential new risks associated with the proposed transition to biomass.

## 5.7 Difficulties Encountered in Compiling Information

No difficulties were encountered during the assessment.

## 5.8 Residual Impacts

In relation traffic and transport as detailed in Chapter 12 the assessment concludes that the mitigation measures may slightly reduce the impact of the traffic generated by the proposed development, however the increase in traffic generated will not be reduced. Further detail on the residual impacts is provided in **Chapter 12**.

Following implementation of mitigation measures in relation to health and safety residual impacts of the proposed development on population and human health will be **neutral, not significant and long term**. The socio-economic impact from the project is **positive, significant and medium term in nature**.

## 5.9 Cumulative Impact

The cumulative impact of the proposed development and other existing and/or approved developments in the area was assessed by taking into account the existing baseline environment and the predicted impacts of this and other approved developments in the area.

The peat bogs that supply WOP are as detailed in **Section 5.3** of this Chapter, and with the exception of the socio-economic impacts discussed therein, there is not considered to be any other cumulative impacts.

There is one electricity battery storage project (Lumcloon Energy Ltd.) which will be developed on lands adjacent to the WOP Station. Due to the relatively small scale of this development it is unlikely that there will be any cumulative impacts on population and human health.

LRP is an existing development located c 50 km from the proposed development and will also be subject to a planning application in relation to the transition of the station from peat to biomass. From a socio-economic perspective this will have cumulative impacts. As peat is replaced by biomass in phases between 2020 and 2027 it is estimated that direct employment supported by the two plants would be in the region of 221 with an additional 322 indirect and 64 induced jobs supported by the two plants. This is considered to be **a positive, significant and long-term** impact. Further detail on the cumulative impacts with LRP station is provided in **Appendix 5.1**.

EPL is an existing development located approximately 60 km from the proposed development and utilises peat and biomass as a fuel supply. As EPL provides significant employment it is considered that from a socio-economic perspective there will be a positive, significant and short-term cumulative impact. Further detail

on the socio-economic cumulative impacts with EPL station is provided in **Appendix 5.1**.

Owing to the considerable distance from the proposed development it is unlikely that EPL and LRP will have any other cumulative impacts with the proposed development in terms of population and human health.

Other peat harvesting activities are carried out by Bord na Móna in relation to LRP and EPL and Bord na Móna also harvest peat for other end uses (e.g. horticulture). Third-party harvesting of peat also occurs on bogs throughout the Midlands, ranging from small scale turbary for domestic fuel to commercial scale peat removal for horticultural purposes. It is considered unlikely that there will be any cumulative impacts on population and human health with these activities.

Cumulative impacts in relation to impacts on population and human health as they relate to various other aspects are considered in relevant chapters of this EIAR i.e. Land, Soil, Geology and Hydrogeology (**Chapter 7**), Surface Water (**Chapter 8**), Noise (**Chapter 9**), Climate and Air (**Chapter 10**), Traffic and Transport (**Chapter 12**) and Landscape and Visual (**Chapter 14**).

There are no other known development proposals within the study area that could result in cumulative impacts.

## 5.10 References

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