

4.0 HUMAN BEINGS

4.1 INTRODUCTION

This chapter of the EIS considers and accesses the cumulative potential impact of the proposed development on the people and communities living and working in the general vicinity of the proposed development. Human beings interact with all elements of the environment and specific impacts of traffic, air quality, noise, visual environment and material assets are addressed in more detail in their individual chapters.

4.2 METHODOLOGY

In accordance with the EPA 'Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)', 2003, this chapter has considered the 'existence, activities and well being of people' with respect to 'topics which are manifested in the environment such as new landuses, more buildings or greater emissions'. Issues examined in this section include:

- Economic Activity
- Employment
- Social Consideration
- Land Use
- Health and Safety

These issues and the receiving environment baseline study are detailed below.

4.3 RECEIVING ENVIRONMENT

The subject site is located in the townland of Lumcloon, a rural area characterised by flat topography. The site of the proposed development has been used for a power plant since 1957 and the presence of a power plant at this stage is part of the character of the area. This is reflected by a number of locals living in close proximity to the site writing to the developers supporting the proposed power plant. There are large parcels of cutaway bogland and forestry to the south west and north-west of the site and the industrial railway lines associated with the former peat power station run out from the site to the surrounding boglands. Settlement in the area is sparse with once off rural housing generally located

along roadsides and larger houses associated with farmsteads set back off private lanes. Groupings of properties are occasionally found at road junctions.

The townland of Lumcloon is in the electoral area of Ferbane which is in the electoral division (ED) of Gallen. The study area for the purpose of this report includes an assessment of the townlands in the electoral division of Gallen, as identified in Table 4.1.

Table 4.1 Townlands in the Electoral Division of Gallen

• Coolnahinch	• Noggusduff
• Glyn	• Gallen
• Ballysheil	• Gallen View
• Smithstown	• Falsk
• Cush East	• Derrycarney
• Noggusboy	• Lumcloon
• Rin	• Bun

The proposed development is located in close proximity to other settlements such as Ferbane located 5km north of the site, Athlone 22km north of the site, Birr 15km south of the site, Tullamore 20km east of the site and Ballinasloe 33km west of the site. However, for the purpose of this assessment the study area relates to the electoral division of Gallen only.

4.3.1 Trends in Population

CSO data provides details on recent trends in population within the study area over a four year period i.e. from 2002 to 2006 as illustrated in Table 4.2. During this period the population increased by 5 % in the study area, which is low when compared to the 8% national growth experienced in the area and 11% growth in Co. Offaly.

Table 4.2 2002 and 2006 Population of the Study Area

	2002	2006	% increase
State	3,917,203	4,239,848	8%
County Offaly	63,663	70,868	11%
Study Area	627	597	5%

4.3.2 Age Structure

4.3.2.1 Dependency Ratio

The study area age structure can be summarised in terms of the dependency ratio and the economically active age groups. The dependency ratio expresses the percentage of population in the 0-14 and 65 years and over age cohorts. In County Offaly in 2002 the dependency ratio was 35% comprising 23% and 12% respectively in the under 15 years and over 65 years age cohorts. In County Offaly in 2006 the dependency ratio decreased slightly to 34% with 23% and 11% respectively in the under 15 years and over 65 years age cohorts.

The comparative dependency rates in the study area were 40% and 41% in 2002 and 2006 respectively thus showing a slight increase, which is significantly higher than County Offaly.

4.3.2.2 Economically Active

The '*Economically Active*' group includes persons in the age groups 15-64 years. It should be noted that not all of those in this group would be economically active in the work place. Many in the 15-25 year cohort would be in continuing education, others, for example would be classified as being on home duties. The percentage of economically active in the study area in 2002 and 2006 was 60% and 59% respectively which was below the county average of 65% and 66% in 2002 and 2006 respectively.

Table 4.3 Percentage Distribution by Age Group within the Study Area

	2002				2006			
	Actual		%		Actual		%	
	Co. Offaly	Study Area	Co. Offaly	Study Area	Co. Offaly	Study Area	Co. Offaly	Study Area
0 – 14	14,799	126	23	21	15,957	113	23	19
15 – 24	9,791	104	15	16	10,090	88	14	15
25 – 44	18,341	144	29	23	21,673	128	30	21
45 – 64	13,340	133	21	21	15,390	139	22	23
65+	7,392	120	12	19	7,758	129	11	22
Total	63,663	627	100	100	70,868	597	100	100

Table 4.4 Dependency Ratio and Economically Active within the Study Area

	2002		2006	
	Co. Offaly	Study Area	Co. Offaly	Study Area
Dependency Ratio	35	40	34	41
Economically Active	65	60	66	59

4.3.3 Households

4.3.3.1 Definition

A private household is defined as a group of persons living together (usually but not necessarily related), jointly occupying the whole part of a private dwelling house, flat, or temporary dwelling and sharing a common budget.

A non-private household is a boarding house, hotel, guesthouse, barrack, hospital or nursing home, school, religious institute, prison or similar establishments. Proprietors, managers, owners and staff of such establishments who with their families occupy flats on the premises are classed as private households.

4.3.3.2 Private Permanent Households

Between 2002 and 2006 the number of private permanent households in County Offaly increased by 18% rising from 20,144 to 23,769. The number of persons in private households also increased in County Offaly rising by 11.6%. In comparison although the number of households in the study area increased by 1.8% between 2002 and 2006 the number of persons in private households decreased by 5% from 563 to 535.

Table 4.5 Numbers of Permanent Private Households, 2002 & 2006

	2002	2006	increase/ decrease
Number of households, Study Area	167	170	+ 1.8%
No. of households, Co. Offaly	20,144	23,769	+ 18%

Table 4.6 Number of Individuals Residing in Permanent Private Households, 2002 & 2006

	2002	2006	increase/ decrease
Persons in private households, Study Area	563	535	- 5%
Persons in private households, Co. Offaly	62,258	69,498	+ 11.6%

4.3.4 Employment

Recent trends in employment were evaluated using CSO Small Area population Statistics, (SAPS) information. The information was compiled on the basis that:

- The Labourforce is defined as the sum of people aged 15+ who are at work and who are unemployed
- The participation rate is the proportion of persons in the workforce aged 15 and over expressed as a percentage of all persons in that age group
- The unemployment rate is the proportion of all people unemployed expressed as a percentage of all persons in the labour force

Table 4.7 Employment Figures

	Persons aged 15+		At Work		Unemployed		Labourforce		Participation Rate		Unemploy. Rate of Workforce	
	'02	'06	'02	'06	'02	'06	'02	'06	'02	'06	'02	'06
Study Area	501	484	199	209	20	29	219	238	39.7	43.2	9.1	12.2
Co. Offaly	48,864	54,911	25,599	31,231	2,459	2,903	28,058	34,134	57.4	62.2	8.7	8.5

The findings illustrate that the unemployment rate within County Offaly in 2006 was 8.5% which is a slight decrease upon the 2002 statistic of 8.7%. Unemployment within the study area in 2006 was 12.2 % which is an increase upon the 2002 statistic of 9.1 % and is high in comparison to the national average in 2006 of 8.5%.

4.3.5 Persons at Work by Industry

The combined total number of people at work within the study area in 2006 was 209 out of a labourforce of 238. The two largest employment sectors within the study area are:

- Manufacturing, which accounts for 45 people and
- Building and Construction, which accounts for 28 people

In the four year period from 2002 to 2006, employment in manufacturing, clerical and office workers transport workers and professional workers decreased. Increases in employment rates were noted in the four sectors, farming, fishing and forestry managers, other agricultural workers, sales workers and other workers.

Table 4.8 Distribution of Employment Sectors within the Study Area

Employment Sector	ED	
	2002	2006
Farming, fishing & forestry managers	13	18
Other agricultural workers	2	6
Manufacturing workers	53	45
Building & Construction workers	26	28
Clerical and office workers	16	10
Administrative and Government workers	10	10
Transport workers	8	7
Sales workers	14	23
Professional workers	29	20
Service workers	14	16
Other workers	14	32
Totals	199	209

4.3.6 Social & Community Facilities

Social and community facilities located in the study area are detailed below. Community organisations in the study area include:

- Lough Boora Parklands Group
- Ferbane Tidy Towns
- Ferbane Womens Group
- Ferbane Foróige Club

Schools located in the study area include:

- Scoil Mhuire Cailini, Ferbane
- Sn Muire Buachailli, Ferbane
- Gallen Community School
- St Marys National School, Cloghan
- Lumcloon National School, Cloghan

4.3.7 Heritage & Amenity

Recent efforts have been made in the area to introduce tourism related land-uses on less damaged or restored peatland areas. This includes the Lough Boora Parklands and the promotion of designated walking routes on the Grand Canal Way and the Offaly Way.

A key feature of the local landscape is the Lough Boora Parklands. The Lough Boora Parklands Group run a number of projects within the parklands the aim of which is to create recreational areas and wildlife habitats in large tracts of cutaway peatlands. The public parklands comprise wetland areas, fishing lakes, deciduous and coniferous forestry, pastureland, over 50km of walkways and a sculpture park containing a number of permanent and large scale exhibits. The closest part of these Parklands lies approximately 3km to the east of the site.

The site is located approximately 17km from the historic monastery at Clonmacnoise, which is a pilgrimage and tourist destination.

The site borders the R357 road to the immediate north of the site which is part of the R357 Blueball to Shannonbridge Scenic Amenity Route. This section of the road is considered part of a potential tourism route approach route to Clonmacnoise to the north west.

A list of the proposed Natural Heritage Areas, Waymarked Ways and Public Parks in proximity to the study area is included below;

- Proposed Natural Heritage Areas;
 - Grand Canal pNHA – located 2km north of the site at its closest point.
 - Lough Boora pNHA – located 2.5km to the south east of the site at its closest point.
- Waymarked Ways;
 - The Offaly Way – part of this Way traverses the landscape to the east of the site, from Kilcormac, through Lough Boora Parklands towards the Grand Canal.

- The Grand Canal Way – this route runs along the Grand Canal, approximately 2 km north of the site at its closest point.
- Public Parks;
 - The Lough Boora Parklands Complex comprises a number of publicly accessible parks in the study area with the closest approximately 3km from the site. This includes the archaeological site at Lough Boora Mesolithic Site.

4.3.8 Tourism

The proposed development is in proximity to the towns of Tullamore (23 km east of the site) and Birr (21 km south of the site) which are in *A Tourism Strategy for County Offaly* and Offaly County Council recognises that both towns are critical to establishing strong economic links with other tourist areas in the county and Midland Region in its entirety.

Offaly County Council has established a network of walking routes that are located in County Offaly or are passing through the County. These walks have been divided into a number of categories and encompass a snapshot of the County's landscape but are mainly focused on the Slieve Bloom Mountains. As mentioned previously the Offaly Way is located to the east of the site and is a linear route linking the Slieve Bloom Way to the Grand Canal Way, located approximately 2km north of the site at its closest point. It includes areas of mountain and riverside as well as long stretches of bogland. The route has ecclesiastical and prehistoric interest.

As mentioned above the Lough Boora Parklands, the closest part of which lies approximately 3km to the east of the site, is an important tourist area with public parklands comprising of wetland areas, fishing lakes, deciduous and coniferous forestry, pastureland, over 50km of walkways and a sculpture park containing a number of permanent and large scale exhibits. They have been well promoted on tourist sites and have instigated an increase in visitor numbers to this area.

4.4 IMPACT ASSESSMENT AND MITIGATION MEASURES

4.4.1 Economic Activity

As outlined in Section 3, Construction, it is expected that during peak construction activities, the site will employ approximately 400 persons working directly on the construction of the facility. The construction phase will take approximately two years.

The number of employees working in the building and construction sector within the study area in 2006 was 28 people, therefore it is anticipated that this proposed development will significantly increase the numbers of employees in this sector in the short term. Furthermore, the permanent employment of 45-50 people within the proposed facility during operation will have a positive impact on the manufacturing sector in the long-term. This will help to increase employment in the manufacturing sector which has witnessed a decrease in the four year period from 2002 to 2006.

It is envisaged that money generated during the construction phase alone will have an immense benefit to the community and the village of Lumcloon as well as the wider area with respect to expenditure on local goods, services and accommodation. As a result a number of indirect jobs will be created in the service industry during the construction phase.

As noted above, it is estimated that approximately 45-50 personnel will be employed in a full time capacity at the proposed facility during operation. A number of indirect jobs will be created in the service industry in the local area to facilitate the development. It is considered that the revenue generated from the additional employment within the study area will result in additional significant monies, which will have positive impact on local service demand, accommodation etc in the long term resulting in increased expenditure within the locality.

Where possible, local residents will be employed during the construction phase of the proposed development and a number have already made enquiries about employment opportunities. As a result, it is anticipated that during the construction phase the proposed development will increase employment within the study area and introduce related expenditure into the economy as detailed above.

4.4.2 Social Considerations

The project will make a major contribution to the region through foreign direct investment, new employment and annual rates to the local authority. During the two year construction phase the project will provide a boost to the local economy:

- Approximately 400 new jobs will be created during construction of the development
- Steel, concrete and building materials will be sourced locally
- Demand for house lettings and B&B's will increase
- Shops, pubs and restaurants will benefit creating a number of indirect jobs

When the plant is in operation:

- 45-50 high-end jobs will be created
- Derelict site will be redeveloped into a State of Art Power Plant
- Local subcontractors will be required creating a number of indirect jobs

Impacts upon society as a result of this development have been considered in detail in this EIS. Detailed descriptions of the effects, residues and emissions associated with the facility are presented in Sections 5-17 under the following headings:

- Planning and Policy
- Landscape and Visual Impact
- Soils & Geology
- Groundwater
- Hydrology
- Flora & Fauna
- Air Quality
- Climate
- Noise
- Roads and Traffic
- Archaeological, Architectural and Cultural Heritage
- Material Assets
- Interactions

4.4.3 Landuse

Lumcloon Energy Ltd, intends to apply for full planning permission for the development of a 350MW Gas Fired Power Plant on lands owned by Lumcloon Energy Ltd. in the town land of Lumcloon, Ferbane County Offaly (Figure 1.1, Site Location Map). The proposed facility will be located on an area of 11 acres. This environmental impact assessment evaluates the site in its entirety.

As outlined in Section 16, Material Assets, there will be no severance of land as a result of the proposed development or loss of rights of ways or amenities or rezoning of land required. The proposed development will be constructed on Lumcloon Energy Ltd. lands only and not on any other agricultural lands, therefore a statistical farm survey, which would evaluate land take or severance factors, was considered unnecessary. Cognisance of the impact that this development will have on the environment as a whole has been evaluated in Section 5-17.

4.4.4 Health & Safety

4.4.4.1 Construction Stage: Potential Impacts

The construction of all facilities can give rise to an impact on the health and safety of human beings if such activities are not managed in an appropriate manner. During the construction stage of this project there is a potential impact on the health and safety of human beings due to the increased volume of traffic accessing the site and the typical health and safety issues associated with any construction site such as slips trips and falls, etc. There is a low risk of nuisance levels of dust and noise being generated on site and impacting in a minor way on the health and safety of human beings. There is a low risk that persons visiting the site or accessing the site illegally during the construction stage may potentially be subjected to a range of impacts on their health and safety associated with construction sites.

4.4.4.2 Operational Stage: Potential Impacts

The operation of industrial facilities can give rise to an impact on the health and safety of human beings if such undertakings are not managed in an appropriate manner. The health and safety of persons working at the facility and those off site may be affected by a range of hazards associated with industrial facilities of this type.

Under S.I. No. 74 of 2006 (the Seveso/COMAH Regulations) the planned diesel storage capacity at the facility means that the power plant will be classified as a lower tier Seveso site and must provide certain information to the "Central Competent Authority". The Health and Safety Authority (HSA) is designated as the Central Competent Authority under the Seveso Regulations. The proposed gas turbines are of types for which the Planning Authority is obliged to seek technical advice from the HSA. A Major Accident Hazards (MAH) Report has been prepared and is contained in Appendix 4.1. The report identifies all of the major accident hazards in the facility and includes an assessment of the extent and severity of the consequences of such accidents.

The potential hazards which have been identified consist of the following;

- Storage of dangerous substances
- Gas releases
- Diesel releases
- Turbine disintegration
- Transformer explosion
- Damage due to vandalism/terrorism

- Aircraft impact
- Ground movement
- Offsite fire

The potential consequences of the above hazards are assessed as part of the Major Accident Hazards Report and the results show that no normally occupied locations (residential, school or industrial) will be exposed to significant hazard effect levels as a result of operations at the facility. The report concluded that the operation of the facility would not pose undue risks either to the surrounding population or to workers in the facility.

4.4.4.3 Mitigation Measures

The construction stage of the project will be managed in accordance with the *Safety, Health and Welfare At Work (Construction) Regulations 2006*, the *Safety, Health and Welfare at Work Act, 2005* and any associated Codes Of Practice and international best practices for projects of this type.

A *Project Safety Plan* will be developed to ensure that the safety of human beings is not impacted on in a negative way by the construction works. Nuisance noise and dust levels on site will be kept to a minimum. The site will be adequately secured to prevent unauthorised access and all visitors to the site will be required to report to the site manager. When implemented these mitigation measures will not have any additional negative impact on the health and safety of human beings. A construction project supervisor and a safety coordinator will be appointed in accordance with the *Construction Regulations, 2001* and will be on site during the construction phase of the proposed development. This person will have responsibility for ensuring that relevant health and safety legislation is adhered to and that recommended mitigation measures are implemented.

When implemented these mitigation measures for the construction phase will not have any additional negative impact on the health and safety of human beings.

The mitigation measures incorporated into the facility to prevent potential hazards being realised or to mitigate their consequences should they occur are outlined in the Major Accident Hazards Report in Appendix 4.1.

4.5 RESIDUAL IMPACTS

Strict adherence to the mitigation measures recommended in Sections 5 to 16, will ensure that there will be no negative environmental impacts or effects on Human beings from the construction and operation phases of the proposed development.

4.6 REFERENCES

- Environmental Protection Agency (2003). *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*. EPA, Wexford, Ireland.
- Environmental Protection Agency (2002). *Guidelines on the information to be Contained in Environmental Impact Statements*. EPA, Wexford, Ireland.
- Central Statistics Office (CSO) 2002 and 2006. *Small Area Population Statistics (SAPS)*. CSO, Dublin 6, Ireland.
- Offaly County Council (2008). *Offaly County Development Plan 2009 – 2015*, Offaly, Ireland.