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INTRODUCTION

4.1 This chapter of the Environmental Impact Assessment Report (EIAR) examines the potential effects of the proposed development on Population and Human Health. It considers the likely effects arising from the proposed development during construction, operations and decommissioning under the following headings:

- Population, Population Density, Household Statistics and Age Structure.
- Socioeconomics, Employment, Economic Activity and Investment.
- Land Use.
- Tourism, Amenity and Services; and
- Human Health and Safety.

Statement of Authority

4.2 This chapter of the EIAR was prepared by SLR. The project team consists of:

- Lynn Hassett BSc, MSc, PIEMA, MIEnvSc
- Aislinn O’Brien, BA Int., MSc, MCD, MRTPI, MIPI

4.3 Lynn is an EIA co-ordinator with a BSc in Applied Ecology (2000) and a MSc in Environmental Impact Assessment (2001). She has 15 years of experience of in EIA across the not-for-profit, public and private sectors in the UK and Ireland. She has worked on both the review of EIA on behalf of planning authorities assessing applications and in the production of them to support planning applications being lodged. She is a Practitioner member of the Institute of Environmental Management and Assessment, which she is a member of since 2001. She is also a Full Member of the Institution of Environmental Sciences, which she joined in 2023.

4.4 Lynn has acted as a project manager of the EIA process on a number of urban development, wind and quarry projects with responsibility for the co-ordination between project designers and the entire multi-disciplinary environmental team. As a generalist, she has also written the introductory chapters of a large number of EIARs, including the Introduction, Project Description, Alternatives, Population and Human Health, Material Assets, and Major Accidents and Disasters, co-ordinating with the wider EIA team for input.

4.5 The Chapter was reviewed by Aislinn O’Brien, MSc, MCD, MIPI, MRTPI. Aislinn is a chartered town planner with over 16 years professional planning experience. During this time Aislinn has project managed and coordinated numerous planning applications and EIARs.

Summary of Proposed Development

4.6 The proposed development replaces the existing energy systems at the Medite factory with two new biomass-fired energy plants, one for each of Medite’s production lines. As the existing boilers are approaching the end of their design life, their replacement with substantially better technology will guarantee the continued operation of the plant, secure greater energy efficiency, and reduce environmental emissions. The project will sustain continued employment in the region.

4.7 For further detail of the proposed development and the application site context, refer to **Chapter 2** of this EIAR.

Consultation

4.8 A pre-application meeting was held between the applicant and An Bord Pleanála (8 February 2022). Throughout the design process, consultation meetings have also been carried out with various

other interested parties such as Tipperary County Council, the EPA, Inland Fisheries Ireland, the NTA and the Regional Design Office (Roads). Further details, including on feedback received, is included within the relevant technical chapters of the EIAR.

- 4.9 An informal EIA Scoping process has been undertaken, during which prescribed bodies and other interested parties were provided with a Preliminary Scoping Report (Appendix 1-1) outlining the key issues considered to be of importance to the EIA specialist and the proposed methods of assessing the potential scale of impacts from the proposed development. Further details are included in **Chapter 1** of this EIAR.
- 4.10 Public consultation has also been undertaken by way of distribution of information leaflets within the local area and creation of a project website, through which members of the public were invited to comment on the proposals. Consultation responses obtained from the informal scoping exercise and public consultation are set out in **Chapter 1**. The responses that are of most relevance to population and human health are summarised in **Table 4-1** below.

Table 4-1
Consultation Responses

Prescribed Body	Comment
Faillte Ireland	The consultee forwarded an updated copy of Fáilte Ireland's Guidelines for the Treatment of Tourism in an EIA, which you may find informative for the preparation of the Environmental Impact Assessment for the proposed project. The purpose of this report is to provide guidance for those conducting Environmental Impact Assessment and compiling an Environmental Impact Assessment Reports (EIAR), or those assessing EIARs, where the project involves tourism or may have an impact upon tourism. These guidelines are non-statutory and act as supplementary advice to the EPA EIAR Guidelines outlined in section 2."
Health Service Executive	<p>The EIAR should identify the nearest sensitive receptors and consider the impact of the proposed development on them. Sensitive receptors include but are not limited to.</p> <ul style="list-style-type: none"> • Occupied houses • Farms (including stud farms and facilities for the production of vegetables and crops) • Schools • Childcare facilities • Medical facilities and nursing homes • Golf courses, sports, and community facilities and • Food premises. <p>Potential for emissions to surface water, groundwater, and air (including noise, vibration, and dust) should be assessed in the EIAR.</p> <p>Other areas for consideration in the EIA include.</p> <ul style="list-style-type: none"> • Staff welfare facilities • Public consultation in addition to consultation with statutory and non-statutory agencies • Potential significant impacts arising during the construction of the proposed development

	<ul style="list-style-type: none"> • Cumulative impacts of developments in the locality. <p>Other licenced facilities, industries, and commercial activities within the vicinity of the facility should be identified and assessed when considering the potentially significant cumulative impacts from the proposed development. The EIA should include cumulative traffic, noise, dust, and hydrological impacts.</p>
Various	<p>Chapter 1 of the EIAR identifies the full range of prescribed bodies consulted, along with a summary of their feedback. The technical chapters have addressed feedback in relation to the assessment of the potential for environmental emissions. Conclusions from the technical assessments are set out later in this chapter, in order to quantify the potential for associated population/human health impacts.</p>
Community Consultation	<p>Concern regarding small particles of wood dust/fibres emanating from the existing facility.</p> <p>Suggestion that an independently monitored air quality station be installed at Redmondstown Cottages area.</p> <p>Concern regarding the potential for increased noise levels as a result of the proposals.</p> <p>Suggestion that traffic calming measures be implemented around the facility entrance.</p> <p>Lack of residents at Redmondstown Cottages currently employed at the facility.</p> <p>Clarification requested as to the future plans for vacant properties to the north of Redmondstown Cottages / south of Medite</p>

METHODOLOGY

Desk Based Research

- 4.11 This chapter has been prepared following a review of:
- the National Planning Framework 2040;
 - the Regional Spatial and Economic Strategy for the Southern Region;
 - Tipperary County Development Plan 2022 – 2028;
 - Waterford City and County Development Plan 2022 – 2028;
 - Tipperary Local Economic and Community Plan 2015 – 2020;
 - Waterford Local Economic and Community Plan 2015 – 2020¹;
 - Clonmel and Environs Development Plan 2013 (as varied²);
 - The Draft Clonmel and Environs Local Area Plan 2024-2030; and
 - Central Statistics Office (CSO) data.
- 4.12 Tipperary County Council is currently preparing a new Local Area Plan for Clonmel to cover 2024-2030, the DRAFT Plan was published in July 2023. This has also been taken into consideration in the preparation of this Chapter of the EIAR. Two of the priority issues that were identified in the Issues Paper relate to the continued economic competitiveness of the town and climate change adaptation/resilience.
- 4.13 This chapter has also had regard to the following guidelines:
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (Environmental Protection Agency, May 2022).
 - *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Housing, Planning and Local Government, August 2018).
 - *Guide to Effective Scoping of Human Health in EIA* (IEMA, November 2022);
 - *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report* (European Commission, 2017); and
 - *Guide to Determining Significance for Human Health in EIA* (IEMA, November 2022).
- 4.14 The ultimate determination of significance of effects are made in line with the EPA's Guidelines on the 'Information to be Contained in Environmental Impact Assessment Reports' (EPA, May 2022).
- 4.15 Demographic data has been sourced from the Central Statistics Office (CSO)'s Census of Ireland (2016) and (2011) records and the preliminary population data from the 2022 Census. Demographic information relating to the State, County Waterford, County Tipperary and the 'Study Area'³ has been assessed to establish the existing demographic trends. The 'Study Area' for the demographic

¹ Although it is noted that these LECs are no longer in date, this is the case across most of the Local Authority's Local Economic and Community Plans. However, as provided for in the Local Government Reform Act 2014 they form an important local element of the national development framework and support collaboration to increase the quality of life in our communities and are considered appropriate for consideration

² Tipperary County Council has confirmed that the 2013 LAP (as varied) remains in force until the emerging Draft Clonmel LAP 2024-2030 takes effect

³ The study area is defined as 2km from the boundary of the application site and census data quoted is based on the Electoral Divisions covering this buffer area.

analysis of this chapter is defined in terms of Electoral Divisions (EDs) and is focused on a 2km buffer surrounding the development site area, illustrated in **Figure 4-1**. The most localised level of census data usually considered in EIA is that of the ED areas, hence their reference in relation to population and demographic baseline information. The buffer area of 2km has been selected to ensure that a range of community services and facilities representative of the local area were included. The data gathered has informed the assessment of existing populations within the immediate environs of the proposed development and allows for a comprehensive assessment of the likely effects on population trends which may occur during the continued operation, and decommissioning, of the proposed development.

- 4.16 A socio-economic profile of the existing environment was mostly established using Census 2016 data (the latest date for which this level of Census information breakdown is available⁴) to outline an employment profile of the Study Area.
- 4.17 Land use in the area was examined through a desktop assessment and by using Corine Land Cover data (EPA, 2018) to determine the likely effects on existing land use patterns which may arise as a result of the proposed development.
- 4.18 With regard to tourism, Fáilte Ireland have published a guidance document on tourism and environmental impacts in entitled 'EIAR Guidelines for the Consideration of Tourism and Tourism Related Projects'. This document has been considered, as recommended by Fáilte Ireland in its EIAR scoping response and is addressed later in this chapter. The document informed the methodology used in assessing the likely effects on tourism. A profile of tourism in the region was established through examination of Fáilte Ireland statistics in order to indicate the strength of recreation, amenity, and tourism in the surrounding region. Recreation and amenity facilities and attractions in the area were identified through a desktop study and distances from the proposed development were established. Likely effects as a result of the proposed development were then considered in relation to the tourism profile and amenity and recreation facilities and attractions of the area.
- 4.19 The assessment on human health and safety has had regard to the most recent publicly available CSO data to establish a baseline health profile of the Study Area. A desktop examination of potentially hazardous land uses in the Study Area was carried out and vulnerability of the proposed development to natural disaster was assessed through a desktop geographical study.
- 4.20 In relation to cumulative effects, the likelihood of the proposed development acting 'in combination' with other projects; including those listed in **Appendix 1-5** of **Chapter 1**; have been assessed.

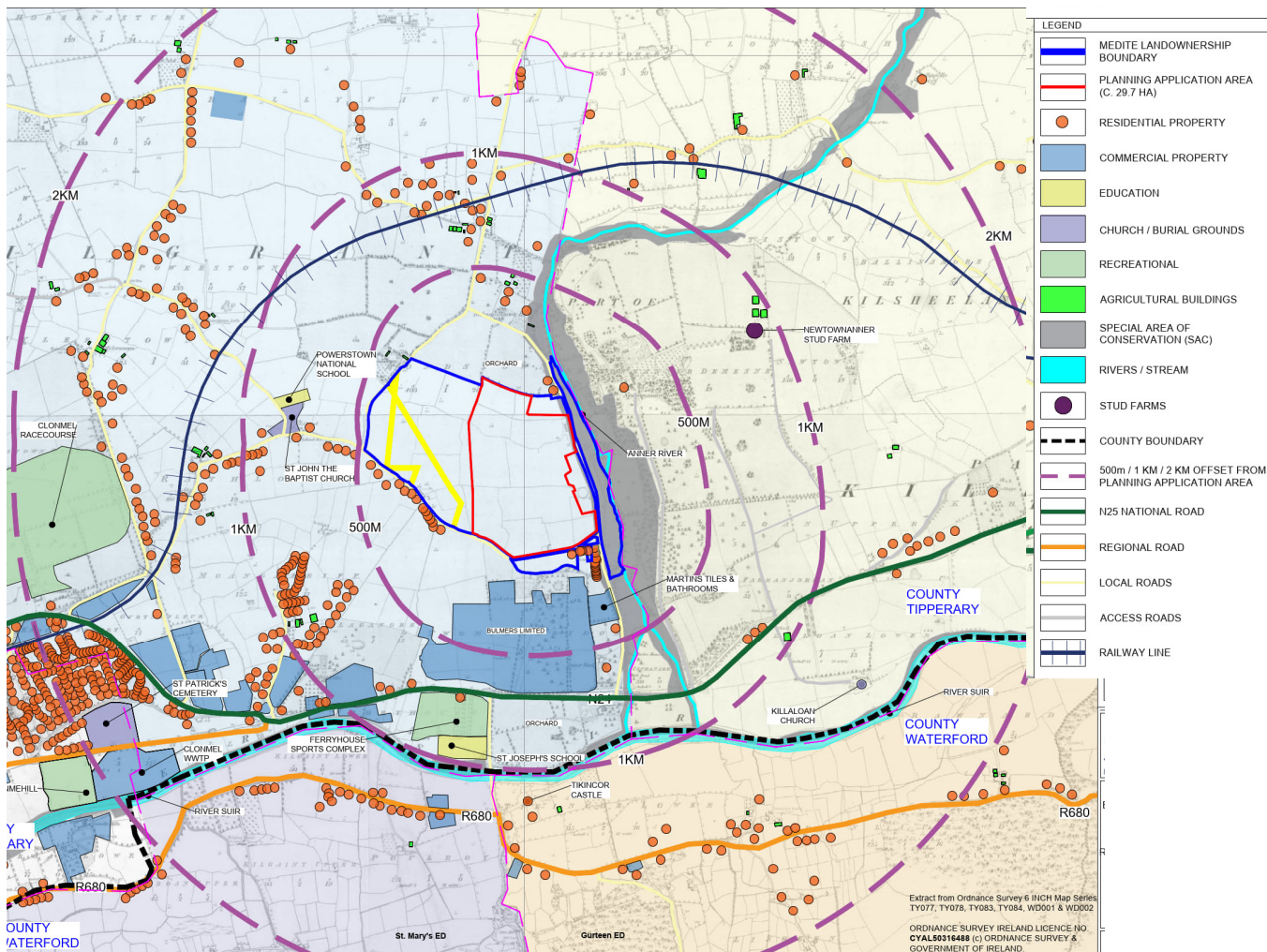
Study Area

- 4.21 The proposed development site is located on the periphery and to the northeast of Clonmel town and its wider urban area. It is situated north of the N24, and the surrounding environment can generally be classified as rural and agricultural in character. According to Corine Landcover data the surrounding land use has been primarily classified as non-irrigated arable land and pastures. There is also an area of broadleaf forest to the east of the site. The Anner River flows through the forested area and is located in close proximity to the eastern boundary of the application site. A large industrial development, Bulmers Ltd., is located to the south and Irish Rail tracks are located to the north.

⁴ At the time of writing only the preliminary results of the 2022 census had been released, which was limited to population data

- 4.22 The Study Area has been defined by a 2km buffer zone from the development site area and includes the Electoral Divisions (EDs) of Clonmel Rural, Gurteen, Kilsheelan / Killaloan and St. Mary's located within this buffer zone. For comparative purposes, the EDs of Clonmel East Urban and Clonmel West Urban have also been considered as part of the assessment presented in this chapter.
- 4.23 The Study Area and relevant EDs are illustrated in **Figure 4-1** below.

Figure 4-1
Receptors within the Study Area



Quantification of Impacts

- 4.24 Baseline information obtained through the desktop review has been reviewed in light of the information on the proposed development as set out in **Chapter 2** of this EIAR. The projected significance of impacts has been attributed based on professional judgement and in accordance with the suggested terminology as set out in the EPA 2022 Guidelines on the Information to be contained in Environmental Impact Assessment Reports (see **Table 4-2**).

Table 4-2
Significance of Effects in accordance with EPA 2022 EIAR Guidelines

Level of Significance	Description
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics.

POPULATION, POPULATION DENSITY, HOUSEHOLD STATISTICS AND AGE STRUCTURE

4.25 Population relates to the people living in an area. Assessing the demographic makeup of an area allows an analysis of potential vulnerabilities within the population that has potential to be impacted by a proposed development. This section provides a comprehensive overview of the population profile of the Study Area and compares these with corresponding topics within the administrative area of the Clonmel Urban Area, Tipperary and Waterford County, and the State, in order to create a baseline demographic profile of the receiving environment and identify likely effects on demographic trends arising as a result of the proposed development.

Existing Environment

Population

4.26 In total, there are 462 no. potential residential receptors within the study area. This can be separated as follows:

- Within 500m of the development site area: 40 residences
- Within 1km of the development site area: 92 residences
- Within 2km of the development site area: 330 residences

4.27 The closest residential receptors to the application site are located to the north and south along the local road to the east of the site, located approximately 25m, respectively.

4.28 In the years between the 2011 and the 2022 Census, the population of Ireland increased by 11.7% (see **Table 4-3 below**). During this time, the population of Tipperary and Waterford County grew by 5.6% to 167,661 persons and by 11.7% to 127,085, respectively, and the population of Clonmel (Urban) increased by 4% to 10,003. In the same period, the population of the Study Area grew slightly by 2.5%.

Table 4-3
Population 2011 – 2022 (Source CSO)

Population 2011 - 2022				
Area	2011	2016	2022	% Change
State	4,588,252	4,761,865	5,123,536	11.67
Tipperary County	158,754	159,553	167,661	5.61
Waterford County	113,795	116,176	127,085	11.68
Clonmel (Urban)	9,621	9,526	10,003	3.97
Study Area	8,115	8,127	8,321	2.54

4.29 It is notable that the population of the Study Area has grown at a lesser rate than that of the above stated comparators. For all areas, the rate of population growth was much faster between 2016 and 2022 than in the previous period (between 2011 and 2016). It is important to note that the census data collection date was in early April 2022, only a few weeks after the start of the war in Ukraine. It is possible that there has been further population growth in the intervening period.

Population Density

4.30 The population densities recorded within the State, Tipperary, and Waterford Counties, Clonmel (Urban) and the Study Area during the 2011, 2016 and 2022 Census are set out below in **Table 4-4**. The population density of the Study Area has increased slightly from 60.1 no. persons per square kilometre in 2011 to 61.6 no. persons per square kilometre in 2022; representing an overall increase in population density of 2.5%. This is the lowest percentage increase in population density across the comparison areas.

Table 4-4
Population Density 2011–2022 (Source: CSO)

Population Density 2011 - 2022				
Area	Population Density (Persons per square kilometre) 2011	Population Density (Persons per square kilometre) 2016	Population Density (Persons per square kilometre) 2022	% Change
State	67	70	75	11.9
Tipperary County	37.1	37.3	39.2	5.7
Waterford County	61.3	62.6	68.5	11.7
Clonmel (Urban)	1882.8	1864.2	1,957.6	4.0
Study Area	60.1	60.2	61.6	2.5

- 4.31 The Study Area is far less densely populated than the Clonmel (Urban) comparator. It is slightly less densely populated than the state and Waterford County, with population densities of 75 and 68.5 persons per square kilometre in 2022, respectively. Tipperary County is the only comparator that is more sparsely populated than the Study Area.

Household Statistics

- 4.32 **Table 4-5** sets out the number of households and average household size (in persons) for the State, Tipperary, and Waterford County, Clonmel (Urban) and the Study Area for 2011 and 2016 (the latest date for which information is broken down to this level).

Table 4-5
Number of Household and Average Household Size 2011–2016 (Source: CSO)

Number of Household and Average Household Size					
Area	2011		2016		Percentage Change
	No. of Households	Avg. Size (persons)	No. of Households	Avg. Size (persons)	
State	1,654,208	2.73	1,702,289	2.75	2.9
Tipperary County	58,497	2.70	59,276	2.68	1.3
Waterford County	42,335	2.65	43,549	2.63	2.9
Clonmel (Urban)	4,078	2.29	4,081	2.2	0.1
Study Area	2,847	2.90	2,881	2.9	1.2

- 4.33 The total number of households within the Study Area has increased slightly from the years 2011 to 2016, from 2,847 no. households to 2,881 no. households. This represents an increase of 34 no. households. All EDs in the Study Area except for Clonmel Rural experienced a slight decrease in the number of households within, while Clonmel Rural experienced an increase of 59 no. households. In percentage terms and among the above stated comparators, the State and Waterford County experienced the largest increase in terms of total number of households. The lowest increase was experienced at Clonmel (Urban). With respect to average household size in persons, that of the Study Area is only slightly higher than the comparator areas reviewed at 2.9 persons per household.

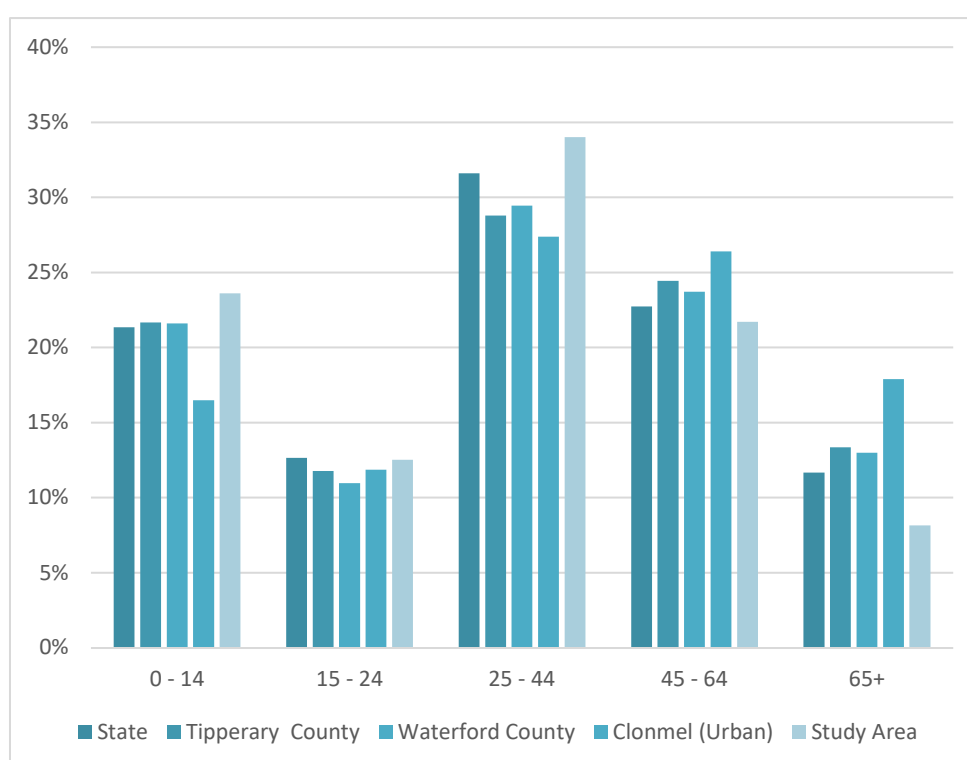
Age Structure

- 4.34 The age structure of the Study Area recorded in 2011 and 2016 is largely in line with that of the national age structure and age structure of the State as detailed in **Table 4-6**, **Figure 4-2**, **Table 4-7**, and **Figure 4-3** below.
- 4.35 In all areas, the majority of the population were in the 25-44 age cohort, and the second largest group comprised of the 45-64 cohort. The Study Area was host to a higher percentage of persons in the 0 – 14 age cohort, compared to that of the comparator areas. The older age cohort of 65+ was also slightly less than the proportion of this age group represented in the comparison areas.

Table 4-6
Population Distribution by Age Category - 2011 (Source: CSO)

Population Per Age Category in 2011						
Area	0 - 14	15 - 24	25 - 44	45 - 64	65+	Total
State	979,590	580,250	1,450,140	1,042,879	535,393	4,588,252
Tipperary County	34,386	18,675	45,698	38,799	21,196	158,754
Waterford County	24,580	12,481	33,520	26,970	14,779	113,795
Clonmel (Urban)	1,585	1,140	2,634	2,540	1,722	9,621
Study Area	1,916	1,016	2,760	1,762	661	8,115

Figure 4-2
Population Distribution by Age Category in Percentage Terms - 2011 (Source: CSO)

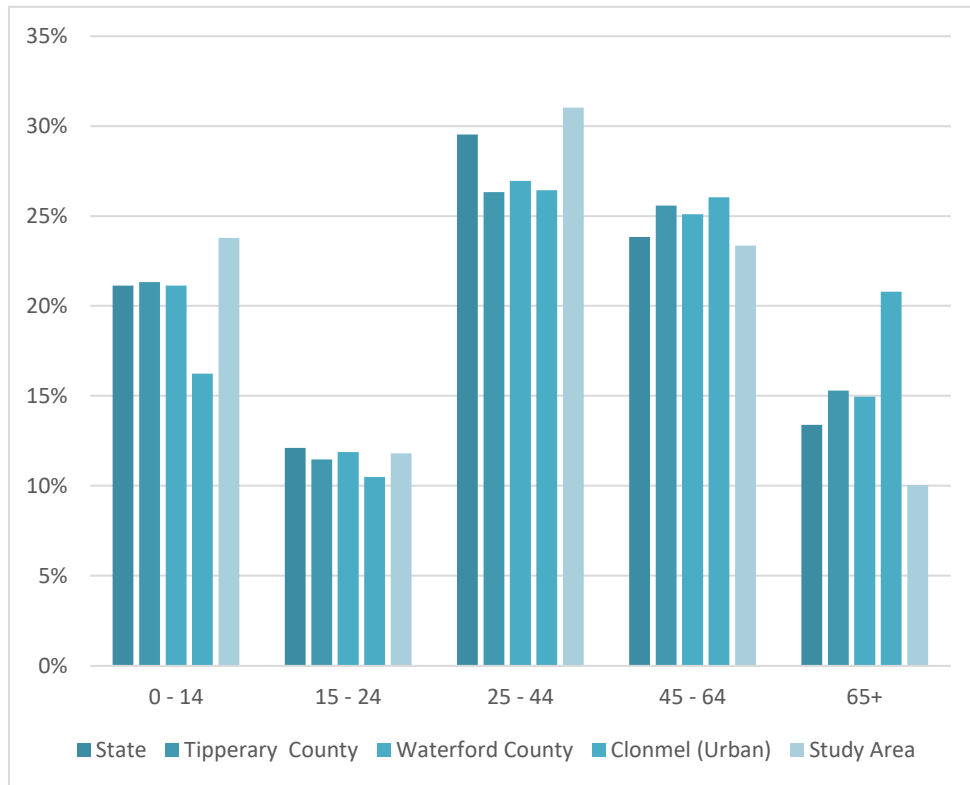


4.36 In 2016, the Study Area was also composed of a higher proportion of persons in the 0 – 14 and 25 – 44 age cohorts, when compared to the other comparators. It also has a lesser proportion of its population in the 65 plus cohort when compared to the other comparators.

Table 4-7
Population Distribution by Age Category - 2016 (Source: CSO)

Population Per Age Category in 2016						
Area	0 - 14	15 - 24	25 - 44	45 - 64	65+	Total
State	1,006,552	576,452	1,406,291	1,135,003	637,567	4,761,865
Tipperary County	34,035	18,306	42,003	40,811	24,398	159,553
Waterford County	24,545	13,800	31,304	29,156	17,371	116,176
Clonmel (Urban)	1,547	1,000	2,518	2,481	1,980	9,526
Study Area	1,932	959	2,522	1,898	816	8,127

Figure 4-3
Population Distribution of Age Category in Percentage Terms – 2016 (Source: CSO)



4.37 In summary, it is noted that the population characteristics of the Study Area vary somewhat to that of the aforementioned comparators of the State, Tipperary, and Waterford County, and Clonmel (Urban). It has experienced a lower level of population growth between 2011 – 2022, compared to the other areas analysed. The Study Area is the one of the most sparsely populated of all comparators. Only Tipperary County has a lesser population density than it. In relation to household statistics and age distribution, the Study Area has a slightly larger household size at 2.9 persons per household, is composed of a higher percentage of persons in the 0-14 and 25-44 age cohorts, and a lesser percentage distribution in the 65 plus age cohort.

Potential Impacts – Construction

4.38 The potential effects on population and demographic trends arising from the proposed development during its construction phase relate to potential population increase or decrease.

4.39 During the construction phase of the proposed development, it is likely that many of the workers travelling to the site will do so from outside of the study area. This is due to the specialist nature of contractors expected to be employed at the site at the time of construction.

4.40 It is expected that some workers from the locality within the Study Area will be employed, as well as those from the Clonmel urban area. However, the relatively low population available for work in the Study Area, combined with a high percentage of employed persons, as identified in **Table 4-8** below, indicates that there is a limited available work force in the Study Area, and this further suggests that workers employed at the construction site are likely to travel from the wider region.

4.41 This will give rise to brief/short-term population growth in the Study Area during working hours. This is associated with the direct employment of construction workers, trades people, labourers, and specialised contractors. The construction phase of the proposed development has potential to

create between approximately 50 and 240 jobs. These employment projections are set out in **Chapter 2** of this EIAR. The short-term (during working hours) population associated with the construction phase is directly related to these employment projections. Although difficult to quantify, it is possible that the indirect employment created at the construction stage (through increased demand for local services) will help to sustain the existing population within the Study Area. The potential for effects is considered to be imperceptible in relation to the general population heading.

Table 4-8
Economic Status of the Total Population Aged 15+ in Percentage terms - 2016 (Source CSO)

	State %	County Tipperary %	County Waterford %	Clonmel (Urban) %	Study Area %
At Work	53.43%	50.57%	49.76%	41.35%	56.87%
Looking For First Job	0.84%	0.84%	0.93%	1.00%	0.81%
Unemployed having Lost or Given Up Previous Job	7.08%	7.82%	8.15%	10.44%	7.33%
Student	11.37%	10.30%	11.25%	8.33%	10.61%
Looking After Home/Family	8.14%	9.11%	8.33%	8.96%	3.42%
Retired	14.52%	15.74%	16.50%	21.01%	11.95%
Unable To Work due to Sickness or Disability	4.22%	5.26%	4.56%	8.57%	4.13%
Other	0.40%	0.37%	0.51%	0.34%	0.31%

- 4.42 The population of the Study Area recorded in the 2022 Census was 8,321 persons. An estimate of between 50 and 240 jobs associated with the construction works is not expected to result in an increase of the population of the Study Area apart from a slight increase daily during construction hours and return back to normal outside of working hours. As construction work is temporary it is unlikely that workers will take up residence in the Study Area, however, it is possible that some workers will stay in accommodation within the Study Area or in Clonmel town. Workers may also stay in accommodation in the wider Tipperary and Waterford County area. Overall, the potential for the increase in population during the construction stage is considered to be negligible.
- 4.43 It is unlikely that permanent impact to population in the Study Area will occur, in terms of changes to population trends, density, household size, or age structure as a result of the construction phase. There is potential for disturbance to residential amenity within the population in closest proximity

to the proposed development. This local population already co-exists with the existing operational facility therefore potential effects are considered to be imperceptible.

Potential Impacts – Operational

- 4.44 Once constructed, it is envisaged that there will be direct and indirect employment associated with the operational phase of the proposed development (i.e., once the planning application has been implemented). Opportunities for mechanical-electrical contractors, specialist trades people, and delivery drivers to become involved with the operation and maintenance of the project will arise.
- 4.45 As set out in **Chapter 2** of this EIAR, it is expected that the operational phase of the proposed development will facilitate the sustainable retention of 170 long term jobs at the Medite facility. These jobs include operations and maintenance, back-office support and indirect jobs created by other activities related to the wider manufacturing operation and supply chain.
- 4.46 It is anticipated that the long-term employment opportunities created during the operational phase will provide an opportunity to support the local population within the Study Area. This is considered to be of particular benefit when considering the young age of the population within it. The effect is, however, expected to be not significant given that it will replace existing employment at the currently operational site.

Potential Impacts – Decommissioning

- 4.47 It is assumed that the typical life expectancy of the new biomass boilers is comparable with the life expectancy of the previous natural gas and biomass boilers. For the purposes of this assessment, the decommissioning phase of the proposed development refers to the future replacement or dismantling of boilers and associated infrastructure from the site. The potential impacts associated with the decommissioning phase in relation to population and demographics will be similar to those associated with construction phase and will be subject to future assessment through the planning process.
- 4.48 A construction crew will be required for dismantling the infrastructure. As the decommissioning of the project is expected to be less intensive than the construction phase, it is likely that less construction workers will be required for this phase. During the decommissioning phase, the population of the Study Area will increase daily during working hours and return back to normal outside of working hours.
- 4.49 As removal works will be of relatively short duration, it is unlikely that workers will take up residence in the Study Area, however, it is possible that some workers will temporarily stay in accommodation within the Study Area. Workers may also stay in accommodation within the wider Tipperary and Waterford County area during the decommissioning phase. As with the construction stage, the decommissioning phase has negligible potential to increase population. Therefore, the decommissioning phase is expected to result in an imperceptible effect on population in terms of changes to population trends, density, household size, or age structure.

Mitigation Measures

- 4.50 As there will be no significant effect on population trends, density, household size or age structure, no mitigation measures are required.

Residual Impacts

- 4.51 The residual effects of the proposed development with respect to population are associated with employment opportunities to support the local population during the operational phase of the proposed development. This is likely to result in a temporary slight population increase in the Study

Area. Any impact to the population of the Study Area in terms of changes to population trends, density, household size, or age structure are anticipated to be ‘Imperceptible’, i.e. causing ‘an effect capable of measurement but without significant consequences’. It is therefore unlikely that long term residual effects will occur to population and demographic trends as a result of the proposed development.

SOCIOECONOMICS, EMPLOYMENT AND ECONOMIC ACTIVITY

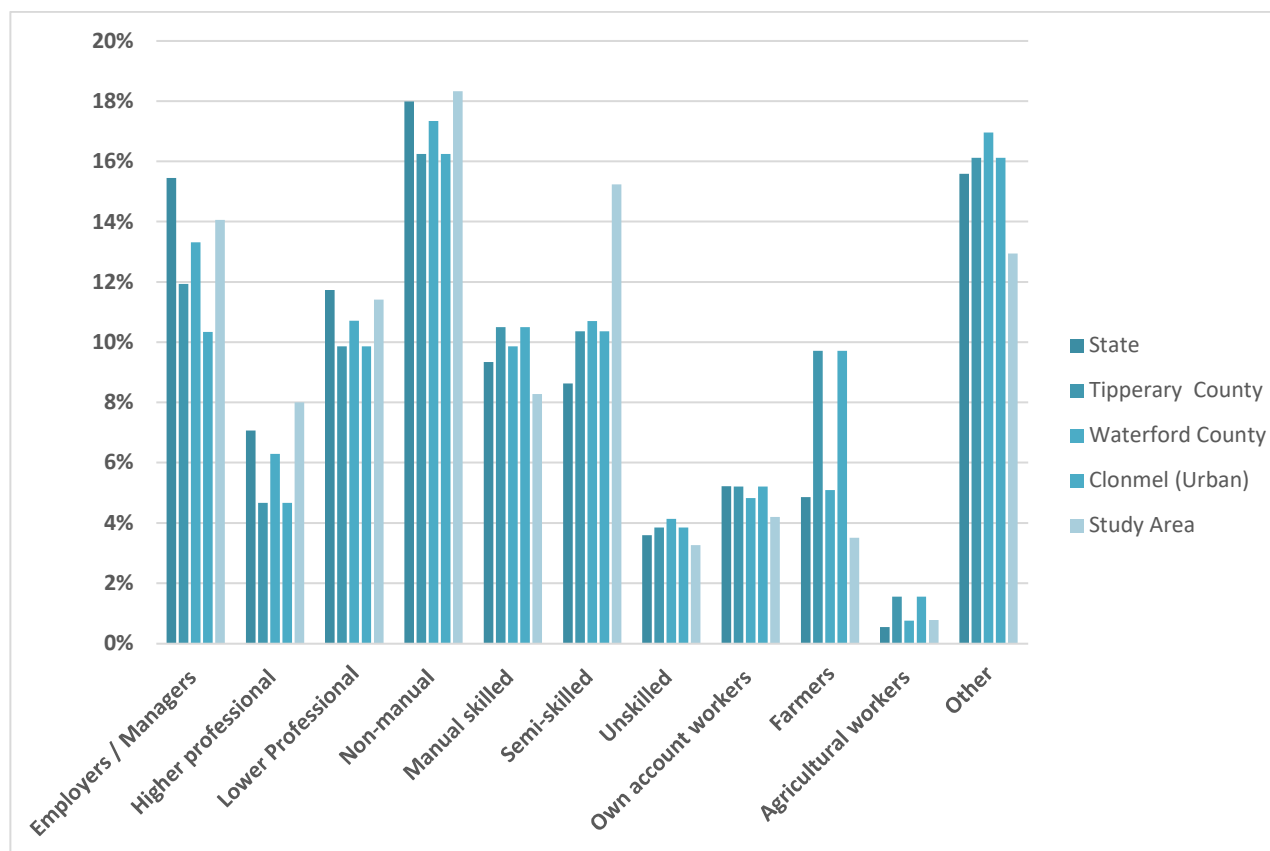
4.52 This section provides a comprehensive overview of the socio-economic, employment and economic activity associated with the Study Area, Tipperary, and Waterford County, Clonmel (Urban) and the State, in order to provide an understanding of the overall socio-economic profile of the receiving environment and the potential effects arising from the proposed development.

Existing Environment

Employment and Economic Activity

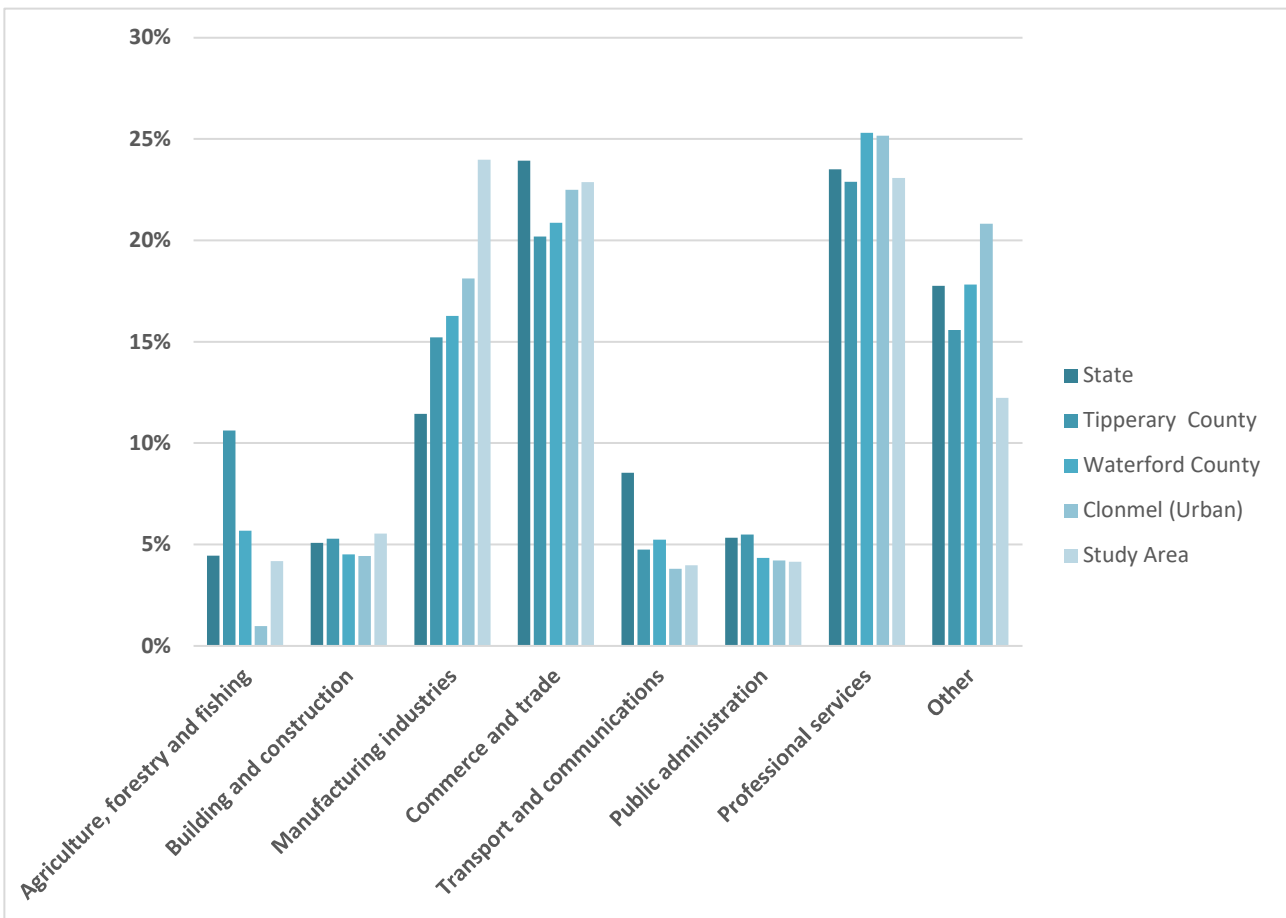
4.53 Socio-economic grouping divides the population into categories depending on the level of skill or educational attainment gained. **Figure 4-4** illustrates the percentages of those employed in each socio-economic group in the State, Tipperary, and Waterford County, Clonmel (Urban) and the Study Area, as per the 2016 Census.

Figure 4-4
Employment by Socio-Economic Group – 2016 (Source: CSO)



4.54 The highest level of employment within the Study Area was recorded in the Non-manual and Semi-skilled economic groups at 18.33% and 15.24%, respectively. The Study Area also comprises of a high level of workers in relative percentage terms in the category defined as ‘all others gainfully occupied and unknown’ at 12.94%. It should be noted that the CSO employment figures grouped by socio-economic status includes the entire population for the Study Area. As such, the socio-economic category of ‘Other’ includes those who are not in the labour force. Therefore, it should also be considered that in 2016 there were 1,932 no. persons recorded in 0-14 age cohort, which are generally considered too young to work.

Figure 4-5
Employment by Industry – 2016 (Source CSO)



4.55 With respect to employment by Industry, **Figure 4-5** highlights that the highest level of employment within the Study Area was recorded in the Manufacturing Industries category at 23.99%, accounting for 845 no. persons. The Study Area also comprises of a high level of workers in relative percentage terms in the Commerce and Trade, Professional Services, and employment category defined as ‘other’ at 22.88%, 23.08% and 12.23%, respectively.

Employment and Investment in the Study Area, Energy Targets, and the Bio Economy

4.56 The existing facility which manufactures Medium Density Fibreboard (MDF) was established in 1982. MDF is a wood-based sheet material manufactured from wood fibre bonded together with a synthetic resin adhesive. Various grades are manufactured at Medite using different adhesives and additives. The facility has an area of 62 hectares and employs 170 full time staff and the main processes operate 24 hours per day, 7 days per week. The production facility involves the

processing of up to 650,000 tonnes of Irish sourced wood per annum and as such it also supports further employment through the supply chain across the southern region and beyond.

4.57 The proposed development is considered an investment in the future commercial sustainability of the Medite Europe DAC operation and will deliver business continuity. This continuity will have considerable benefits to the local and regional economy, helping boost the long-term sustainability of the Medite production process and secure the long-term employment at the manufacturing plant.

4.58 The Clonmel and Environs Development Plan 2013 (as varied) describes that it is important to retain existing traditional industry-based development and also to expand this where appropriate. The industrial zonings set out in allow for industrial and a range of related uses such as logistics development, manufacturing, and warehousing. The following relevant policy is also provided:

Policy ECON 2: Zoning of land for Industry

It is the policy of the Council to provide for and encourage the development of industries, SMEs, and offices at appropriate locations in the plan area.

4.59 The Tipperary Local Economic and Community Plan 2015 – 2020 notes the higher than national average number of workers in manufacturing industry within the county (6th highest in the country). Most of these are noted as being clustered in Clonmel, Roscrea, Cashel, Nenagh and Thurles.

4.60 The Tipperary County Development Plan 2022 – 2028 provides a section (section 4.3.1) specific to Clonmel as a Key Town within the County. Tipperary has three designated ‘Key Towns’, Clonmel, Nenagh and Thurles. Clonmel, along with the other large Irish regional centres of Kilkenny City, Ennis, Carlow, Tralee, and Wexford, is identified as a large population scale urban centre, functioning as a self-sustaining regional driver with comparable structure to the five other regional centres identified in the National Planning Framework. It describes that Clonmel accommodates 22% of all Tipperary jobs. The ‘Clonmel Strategy for Growth’ further states that:

“...The Council will continue to support the role of Clonmel as a strategic location for large-scale industry, including life-sciences, technology, food production and manufacturing.”

4.61 It is also targeted that Clonmel grows by at least 30% in terms of population to approximately 22,282 people and aims to, to attract a range of large employers and regional services, amenities, and infrastructure. Clonmel is described as:

“...a self-sustaining regional economic driver and a key location for investment and choice and will support the overall development of the Southern Region.”

Indices of Deprivation

4.62 Pobal is an organisation that works on behalf of Government to support communities and local agencies toward achieving social inclusion and development. The organisation produces mapping information including on deprivation indices in order to identify areas in need of social/community investment. The overall levels of deprivation have been based on census data in relation to demographic profile, social class composition and labour market situation.

4.63 According to the deprivation indices based on 2016 census data, both County Waterford and County Tipperary are categorised as ‘marginally below average’ (i.e., slightly disadvantaged). The EDs of Kilsheelan / Killaloan and Clonmel East are also in this category, while the ED of Clonmel West is categorised as ‘disadvantaged’. The EDs of Clonmel Rural, Gurteen and St. Mary’s are categorised as ‘slightly above average’.

Energy Targets

- 4.64 The proposed development is also of strategic importance, in the context of renewable energy production. The economic importance of this sector is acknowledged by the Tipperary County Development Plan 2022 – 2028 which states that it will support the Climate Action Plan (DECC, 2019) as it relates to renewable energy production, having consideration to the strategic importance and potential benefits of renewable energy investment to rural communities.
- 4.65 The Government published a Climate Action Plan (CAP) in June 2019. The CAP was consequent of the Irish Government declaring a climate and biodiversity emergency on 9th May 2019. The CAP identifies how Ireland will achieve its 2030 targets for carbon emissions throughout various sectors with a number of actions. On 4th November 2021 the Government launched an updated national Climate Action Plan 2021, an ambitious plan to put Ireland on a more sustainable path, cutting emissions, creating a cleaner, greener economy and society, and protecting us from the devastating consequences of climate change.
- 4.66 The Climate Action Plan follows the Climate Act 2021, which commits Ireland to a legally binding target of net-zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030. These targets are a key pillar of the Programme for Government. Among the most important measures in the plan is to increase the proportion of renewable electricity to up to 80% by 2030. The emissions reduction targets by sector to 2030 are as follows:
- Electricity: 62-81%.
 - Transport: 42-50%.
 - Buildings: 44-56%.
 - Industry/Enterprise: 29-41%.
 - Agriculture: 22-30% reduction; and
 - Land Use, Land Use Change and Forestry (LULUCF): 37-58%.
- 4.67 Under section 16.3.2 Further Measures to Reduce Emissions and Increase Removals, it is stated that:
- We will double the indigenous biomass supply as a fossil fuel substitution to generate heat and electricity. The felling of trees is regulated by the Forestry Act 2014 which ensures that harvested areas are managed sustainably, and environmental requirements apply. The doubling of biomass supply will mainly come from commercial forests planted since the 1980s.
- 4.68 Relevant to the proposed development, the following actions are also provided:
- Action 320: Double the biomass supply as a fossil fuel substitution to contribute to the decarbonisation of the energy system.
 - Action 377: Support the mobilisation of timber for use in the processing and biomass sector.
- 4.69 The Tipperary Local Economic and Community Plan 2015 – 2020 states it will focus on delivering identified priorities, including the following:

High Level Economic Priority 2

Encourage enterprises in energy efficiency use by supporting enterprises in energy efficiency reduction/improvements and by growing the renewable energy enterprise sector.

- 4.70 The following related strategic action is also provided in this regard:

Related Strategic Action (E2.1)

Maximise competitiveness of businesses through best practice energy management by increasing awareness of supports available.

- *provision of energy management training across all sectors e.g., manufacturing, tourism, retail, agriculture, etc. as appropriate*

The Bio Economy

- 4.71 Section 9.2 Resource Efficiency and Transition to a Low Carbon Economy of the National Planning Framework (NPF) describes that Ireland is advancing its development as a circular economy and bio economy where the value of all products, materials and resources is maintained for as long as possible and waste is significantly reduced or even eliminated.
- 4.72 The transition to a bioeconomy as part of a more sustainable circular economy has been highlighted as method of rejuvenating rural towns and villages, sustaining a vibrant rural community, and reversing population decline. It seeks to capitalise on the value of bio-based products, materials, and resources, by maintaining such materials in the economy for as long as possible, and thus, minimising the generation of waste. This will provide an essential contribution to the country's national goal of developing a sustainable, low carbon, resource efficient and competitive economy.
- 4.73 The NPF refers to bio-based material, such as wood, crops, or fibres, which can be used for a wide range of products and energy uses. Apart from providing an alternative to fossil-based products, bio-based materials are also renewable, biodegradable, and compostable.
- 4.74 The NPF strives to adopt the principles of the circular economy to enable more sustainable planning and land use management of the country's natural resources and assets. In this regard it refers to the Circular Economy Package and indicates that in a circular economy, a cascading use of renewable resources should be encouraged together with its innovative potential for new materials, chemicals, and processes. The following National Policy Objective (NPO) is provided in this regard.

National Policy Objective 53:

“Support the circular and bio economy including in particular through greater efficiency in land management, greater use of renewable resources and by reducing the rate of land use change from urban sprawl and new development.”

- 4.75 The Regional Spatial and Economic Strategy for the Southern Region 2019-2031 also provides supporting Regional Policy Objectives (RPO) in this regard:

RPO 57 - National Policy Statement on Bioeconomy

“It is an objective to support the National Policy Statement on Bio-economy (2018), subject to the implementation of mitigation measures outlined in the SEA and AA undertaken where necessary and the exploration of opportunities in the circular resource-efficient economy including undertaking a bio-economy feasibility study for the Region to identify areas of potential growth (including opportunities presented in the EU Bio-economy Strategy updated in 2018 for urban bio-economies and piloting circular bio economy cities) to inform investment in line with the national transition objective to a low carbon climate resilient and circular economy - National Policy Statement on Bio-economy”

RPO 58 - Bio-economy and Rural Areas

“It is an objective to facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together the bioeconomy, subject to required environmental assessment processes where necessary and balanced with while at the same time noting the importance of maintaining and protecting the natural landscape”.

4.76 The Tipperary County Development Plan 2022 – 2028 also provides the following pertinent objective relevant to sustainable waste management:

10 - B

Support the National Policy Statement on the Bioeconomy (Government of Ireland, 2018) and any review thereof, having consideration to the strategic importance of the bioeconomy to rural Tipperary and support the preparation of a Bioenergy Implementation Plan for the Southern Region in conjunction with the Local Authorities and the Southern Regional Waste Management office.

4.77 In 2012 the Irish BioEnergy Association published a report titled ‘The Economic Benefits from the Development of BioEnergy in Ireland to meet 2020 Targets’⁵. This report was undertaken by DKM Economic Consultants and RPS Consulting Engineers for the Irish Bioenergy Association (IrBEA) with the support of the Sustainable Energy Authority of Ireland. The findings of the report outline the economic benefits associated with the development of an expanded bioenergy sector in Ireland with a view toward achieving the State’s now superseded ‘2020 Targets’. The key economic indicators of this report are set out below:

- In total, it is estimated that almost €1.5 billion in direct investment in biomass processing infrastructure and equipment will be required over the period from 2011 to 2020 to deliver the output needed to meet the targets under RES-E, RES-H and RES-T.
- Of this, approximately 55% would be spent in the Irish economy (the balance being imported plant and equipment).
- In addition, once fully operational, almost €430 million (2011 money) would be spent annually on operating these facilities.
- In terms of employment, almost 8,300 work years would be generated throughout the domestic economy during the construction and installation of the various facilities required to deliver on the targets.
- Permanent ongoing employment generated by the sector would grow to over 3,600 FTEs by 2020. This includes employment in the facilities themselves, in supply industries and in the wider economy; and
- These figures record the net or incremental employment impacts across the different sectors only. In some instances, for example, the net impacts may be relatively modest as they are to a large degree securing the employment associated with existing activities.

4.78 The report also provided relevant findings with respect to the impact on the rural economy, emissions savings related to carbon tax and other relevant impacts as summarised below:

Impact on the Rural Economy

4.79 A very significant proportion of the employment generated in the both the construction and operation of the bioenergy facilities and infrastructure will be in rural Ireland. Most of the facilities themselves will be based in rural areas, and most of the feedstock will be grown or produced there.

- The bioenergy sector can, therefore, offer farmers and other rural-based businesses new business opportunities and provide alternatives to traditional farming activities. Revenue generated from the production of bioenergy feedstocks or from the sale of energy produced from bioenergy can help to sustain farm incomes and, because the majority of this income

⁵ Irish BioEnergy Association (2012) ‘The Economic Benefits from the Development of BioEnergy in Ireland to meet 2020 Targets’.

will be spent locally, will help to maintain income and employment within the wider rural community; and

- This will, in turn, contribute to sustaining rural communities and help deliver more balanced regional economic development.

Environmental Impacts and the Value of Emissions Reductions

4.80 Key points related to Environmental Impacts and the Value of Emissions Reductions are as follows:

- It was estimated that the achievement of the 2020 targets would result in a saving of 3.14 million tonnes of CO₂ per annum by 2020. This is equivalent to roughly 5% of total GHG emissions in 2009, and would have represented a significant contribution to the required reduction in GHG emissions to be achieved by 2020, under Ireland's international commitments; and
- The value of the emissions reduction was estimated at €94 million per annum by 2020, based on the level of carbon tax envisaged in the Government's National Recovery Plan 2011-2014.

Other Impacts

4.81 Other impacts are as follows:

- While the development of the bioenergy sector in Ireland has the potential to support significant spending and employment creation in the domestic economy, a significant proportion was also expected to "leak" out of the economy in the form of imported equipment and professional services.
- There is, therefore, the potential for Ireland to secure an even greater share of the economic benefits through the development of a local supply base.
- This also offers an opportunity for the development and testing of new technologies, processes, and skills, which could, in turn, be used to develop an export-focussed industry, as has happened in other countries.
- It is stated that this will be dependent however on the growth of a critical mass of local activity in the bioenergy sector; and
- The expectation under the baseline scenario is also that significant amounts of bioenergy will need to be imported to reach the required targets. It is inferred that if this could be substituted by domestic production, further economic opportunities and benefits would accrue to Ireland.

4.82 Although a publication date is not stated, the SEAI subsequently published a more recent report titled 'Sustainability Criteria Options and Impacts for Irish Bioenergy Resources'⁶. This report examines the sustainability of using biomass fuels to produce renewable energy in Ireland. The research found that Ireland is in a position to supply sustainable biomass to the energy sector, but only if suitable sources of biomass are used. As part of an assessment with respect to 'sustainability indicators', the sustainability of economic indicators was considered as part of this. Key points made with respect to economic indicators are summarised below:

- **Workforce:** In relation to the workforce, a lack of expertise or the requirement for extensive retraining of the workforce could act as an economic barrier to bringing a biomass fuel to the market. Conversely, there may be an opportunity for the Irish workforce to develop specialist expertise in a bioenergy technology or capitalise on existing expertise in cultivation. Because a need to retrain or requalify could be considered to be both a positive

⁶ SEAI, *Sustainability Criteria Options and Impacts for Irish Bioenergy Resources*.

and a negative, a risk score was not attributed under this indicator. However, it is stressed that the workforce does require training.

- **Energy security and diversity:** Approximately 3.2% of Ireland’s primary energy requirement was met by bioenergy (biomass and renewable waste, biogas, and liquid biofuel) in 2016, according to SEAI’s Energy in Ireland Report⁷. An increase in bioenergy’s contribution to Ireland’s energy requirement would increase energy diversity by displacing fossil fuel imports. Energy security also needs to be considered. For example, relying on a single supplier or single country of origin could mean that supplies could be reduced or stopped completely by a single disruption in the supply chain.
- **Economic sustainability:** It may be necessary to support both the production and supply of the biomass fuels, and to promote its consumption, rather than leave it to the market to dictate. For example, biofuels are supported by an exemption from carbon tax and oil companies are required to meet a blending obligation; renewable electricity is supported by REFIT (Renewable Energy Feed-In Tariff).
- **Market demand:** Market demand will depend on several factors – cost is typically the most important. The most appropriate means of comparing the cost of different fuels and technologies is to use the levelised cost of energy (LCOE). The LCOE represents the total cost per unit of energy produced from a plant (e.g., heat from a boiler) over its lifetime; it includes the capital investment, operational and fuel costs. This indicator measures the relative cost of fossil fuel and biomass fuel. Where the LCOE is available, this should be used. It is noted that There is some level of overlap between some of the economic indicators. In the case of this indicator, market demand may be dependent on state support and, therefore, the more state support provided, the more competitive a fuel may become.
- **Infrastructure and logistics for distribution of bioenergy:** A biomass fuel may meet all the sustainability criteria, but the supply chain may need to be significantly altered to provide a route to market. This would require investment and it would take time. In this context, we consider it more sustainable where a biomass fuel requires less supply chain change. This indicator covers the infrastructure and logistics required to distribute the bioenergy, e.g., extension of the natural gas grid to allow for injection of methane or redevelopment of port facilities for importing solid biomass. This indicator does not include the development of infrastructure required for cultivating, extracting, or processing the biomass e.g., construction of forestry roads for extraction of forest thinning or construction of wood-pelleting plants.
- **Capacity and flexibility of use of bioenergy:** There are two aspects considered in this indicator, the impact on the supply chain and the impact on the end user. Like the previous indicator, it is considered more sustainable where there is existing capacity in place to bring the fuel to market and the end user has the means to use the fuel.

Planning Guidance Recommendations for Bioenergy Projects in Ireland

- 4.83 In 2017 the Irish Bioenergy Association produced a set of planning policy and development guidance recommendations relating to the specific development implications associated with the development of bioenergy projects in the Republic of Ireland.

⁷ SEAI (2016) *Energy in Ireland 1990 – 2015*.

- 4.84 One of the recommendations includes the desirability of project promoters to consult with members of the local community where a project is proposed, as has been undertaken in this case.

Potential Impacts – Construction

- 4.85 The site preparation and construction of the proposed development will provide employment for technical consultants, contractors, and maintenance staff.
- 4.86 It is considered that between approximately 50 and 240 staff/contractors could be employed during the construction phase of the project. The employment of tradespeople, labourers, and specialised contractors for the construction phase will have a direct short-term, positive impact on the local economy, bringing significant benefits to local service providers and businesses with a direct and indirect financial benefit to the local community.
- 4.87 It is likely that there will be some indirect employment for people living in the Study Area who may be qualified for non-specialist construction related roles or involved in the provision of local services. Materials will also be sourced in the locality where possible. This will assist in sustaining employment in the local construction trade. As a result, the construction phase of the proposed development will have a medium-term, positive impact on the employment profile of the area and a medium-term, positive impact on local businesses and services in the Study Area, Clonmel and in nearby towns located in Counties Tipperary and Waterford. It is considered that this would have a slight significant effect on the local economy.

Potential Impacts – Operational

Economic Value and Employment Potential

- 4.88 The proposed development will enable Clonmel to continue fulfil its regional role and perform as the primary economic development centre of County Tipperary. Clonmel accommodates 22% of all Tipperary jobs. The existing operation employs 170 full time staff, representing a 4.8% of the total 3,523 people employed in the Study Area⁸. The proposed development will facilitate the sustainability of continued employment opportunities as it will enable the facility to move to self-reliance in terms of meeting its energy needs.
- 4.89 The proposed development will contribute to achieving Ireland’s energy target as set out in the Climate Action Plan 2021, which has a target of a 62-81% emission reduction in the Electricity Sector and 29-41% emission reductions in Industry/Enterprise by 2030. The proposed development would improve energy efficiency at the plant and result in estimated carbon savings of 5,800 t/y.
- 4.90 Once the proposed development is constructed, it is envisaged that there will be direct and indirect employment associated with the operational phase of the proposed development. Opportunities for mechanical-electrical contractors, craftspeople, and delivery drivers to become involved with the operation and maintenance of the project, including those involved in the Biomass supply chain, which will provide an indirect benefit to the Study Area and an indirect benefit to the economy of Clonmel, Tipperary and Waterford Counties.
- 4.91 Rates and development contributions paid by the developer will contribute significant funds to Tipperary County Council which will be used to improve the services available to the people of the County. The Tipperary County Council Development Contribution Scheme (2020) indicates a charge of €15,000 per Megawatt (MW) capacity. Business rates will also contribute significantly.

⁸ This is for illustrative purposes, not all of those working within the existing facility will reside within the Study Area.

- 4.92 General council services will benefit from rates and development contributions including road upkeep, fire services, environmental protection, street lighting, footpath works etc., along with other local community initiatives and supports. The payment of rates and development contributions is likely to have a significant benefitting impact on service provision in the County Tipperary Area.
- 4.93 In addition, the proposed development will support and enhance the knowledge base in relation to relatively new bioenergy technology and will help develop a local supply base, which can be nurtured to enable the region, and country, to secure a greater share of the economic benefits of bioenergy technology growth.
- 4.94 Overall, the contribution of the Proposed Development to the overall economic value and employment situation is regarded as having potential for positive, and long-term effects of moderate significance during the operational phase.

Potential Impacts – Decommissioning

- 4.95 The potential impacts associated with the decommissioning phase in relation to socioeconomics, employment and economic activity will be similar to those associated with the construction phase but of a reduced magnitude.
- 4.96 A future planning application will likely be required to replace the infrastructure where necessary. The decommissioning of the project is expected to be less intensive than the construction phase, whether it is through dismantling or replacing the infrastructure provided through this planning application. It is likely that less construction workers will be required for this phase. During the decommissioning phase employment opportunities will be available in the Study Area. The influx of construction workers to the Study Area will have an indirect impact on local businesses and services contributing to the local economy, similar to that of the construction phase but of lesser magnitude.
- 4.97 There will be a positive medium impact to socioeconomics, employment and economic activity in the study area associated with the employment of construction workers within the vicinity of the development during the decommissioning phase, which could have a slight significant effect on the local economy.

Mitigation Measures

- 4.98 Given that the potential impacts of the proposed development at construction, operation and decommissioning phases are predominantly positive in respect of socioeconomics, employment and economic activity, no other mitigation measures are considered necessary.

Residual Impacts

- 4.99 The residual impact of the development with respect to socioeconomics, employment and economic activity is considered to be a ‘Moderate’ positive impact, i.e., an effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. This is as a result of the employment opportunities associated with the operation and maintenance of the development, contribution of the development to the transition to a green economy, as well as employment generated in the wider biomass supply chain within the region. There will also be a positive economic impact from income spent by construction and operations workers in the local area.
- 4.100 Rates payments and development contributions have potential to improve service provision throughout County Tipperary which would be permanent.

LAND USE

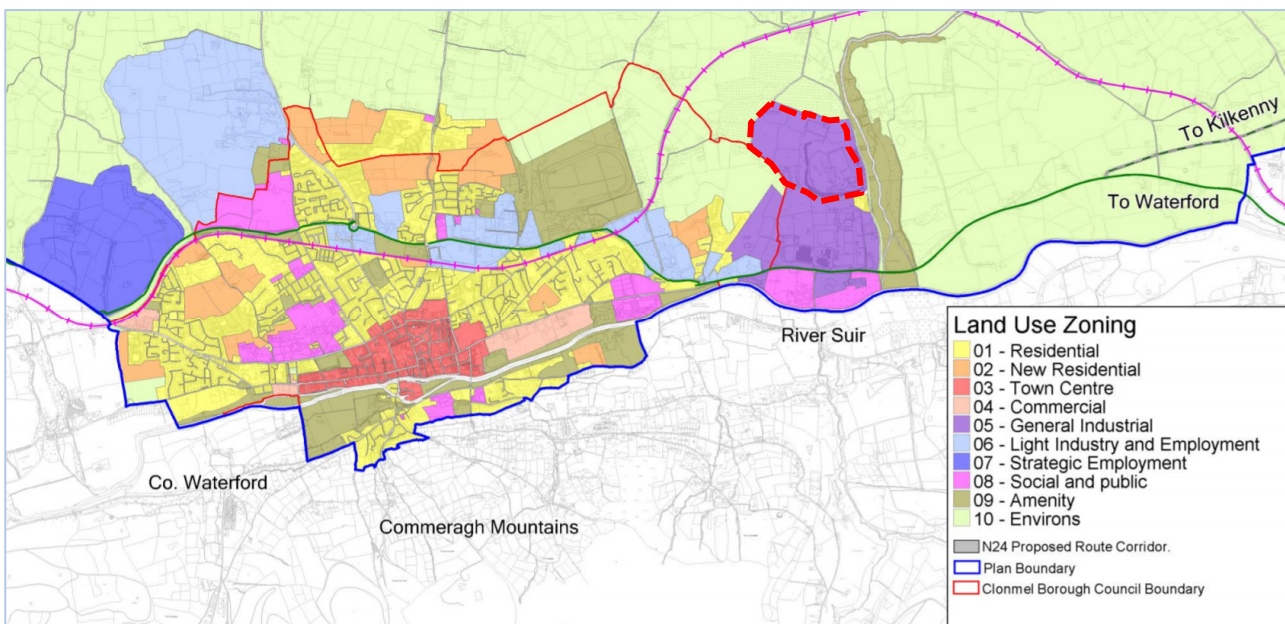
4.101 This section assesses the compatibility of the proposed use with the current land use at the proposed development site. The determination of the potential effects on the existing land use is assessed for the construction, operation, and decommissioning phases of the proposed development.

Existing Environment

4.102 The application site boundary has an area of 29.0 Hectares which is part of the overall Medite landholding of 68.3 ha.

4.103 In review of the Clonmel Environs Development Plan 2013 and the DRAFT Clonmel & Environs Development Plan 2024-2030, the Medite Europe DAC site is zoned for General Industry (GI) with the objective to “provide for heavy industry and related uses” (DRAFT CEDP 2024: “Provide for heavy/specialised industrial development”). An extract from the zoning map from the CEDP 2013 is provided in **Figure 4 - 6** below which highlights the lands of the Medite Europe DAC site in a red dash line.

Figure 4-6
Extract from the Clonmel and Environs Zoning Map 2013 Highlighting the Medite Europe DAC Site in a Red Dash Line (Source: Clonmel and Environs Development Plan 2013)



4.104 **Table 4.9** provides an outline of permitted, open for consideration and uses that are not permitted for lands zoned GI.

Table 4-9
Land Use Zoning Matrix

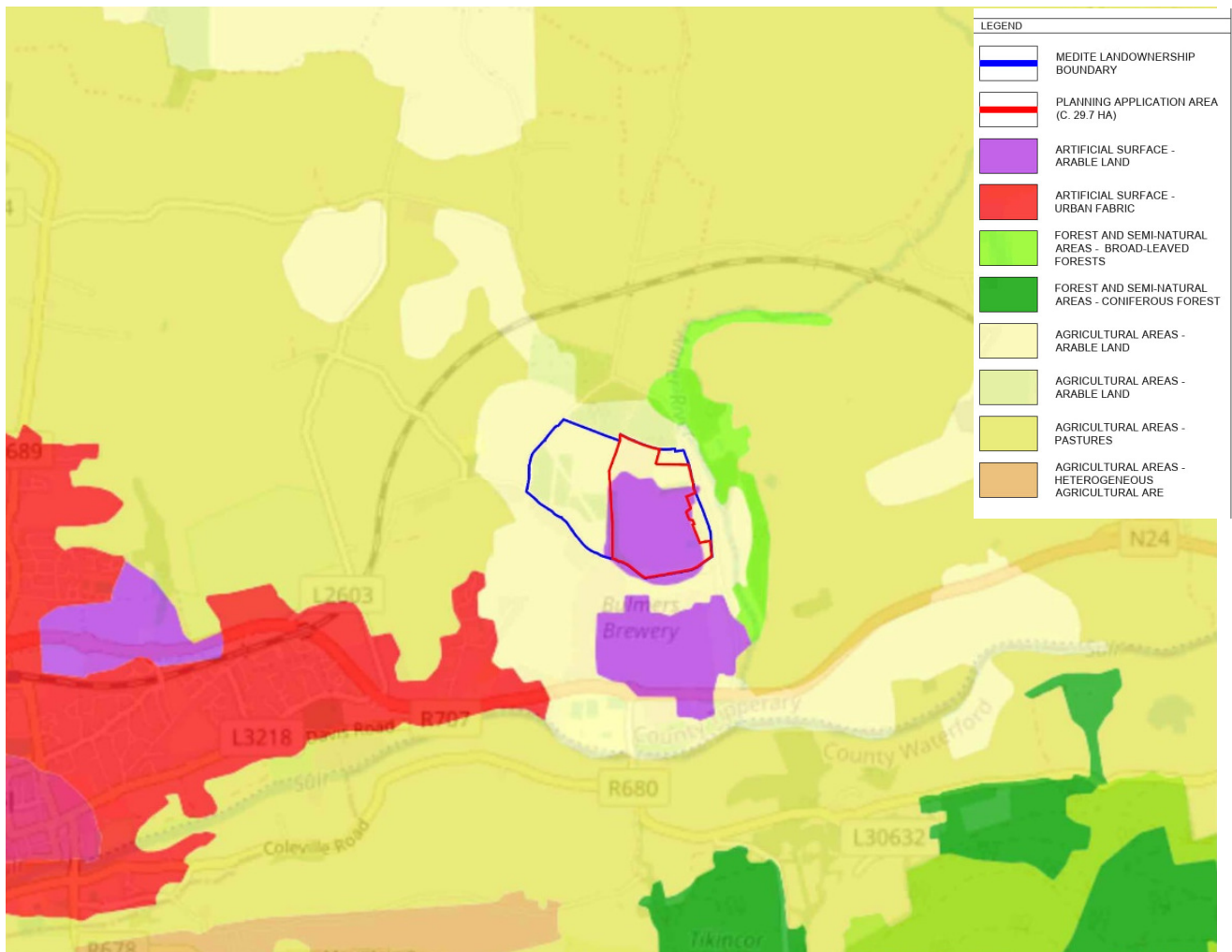
Zoning Objective: General Industry (GI) to provide for heavy industry and related uses	
Permitted in Principle	Car Park, Enterprise / Employment Centre, Haulage/Bus/Truck/Park/Transport depot, Household Fuel Depot, Industrial - General
Open for Consideration	Industrial – light, Motor Sales Outlet, Offices, Petrol Station, Recycling Facility
Not Permitted	Agricultural Buildings, Bed and Breakfast, Betting Office, Caravan Park/Camping, Cash and Carry Wholesale, Community Facility, Crèche/Nursery School, Educational, Funeral Home, Garden Centre, Garden Centre, Public House

4.105 In addition, it is stated in the CEDP 2013 that it is *“a priority of the Plan to encourage and make provision for increased employment activity in the manufacturing and industry sectors”, and that “this will be achieved through ensuring sufficient land is zoned at optimum locations, that critical mass is created which supports competitiveness”*.

4.106 With regard to ‘Light and General Industry’ uses specifically, it is further stated within the CEDP 2013 that it is *“important to retain existing traditional industry-based development and also to expand this where appropriate”*. The industrial zonings established and as exhibited in **Figure 4-6** *“allow for industrial and a range of related uses such as logistics development, manufacturing and warehousing”*.

4.107 According to Corine Landcover data (2018), the lands of the subject site are classified as 121 (Industrial or commercial units). The surrounding land use has been primarily classified as 211 (non-irrigated arable land). There is also an area of broadleaf forest to the east of the site, 311 broad-leaved forest and the area of Clonmel Town and its wider environs are classified as 111 continuous urban fabric. The Anner River flows through the forested area and is located in close proximity to the eastern boundary of the application site. A large industrial development, Bulmers Ltd., is located to the south and Irish Rail tracks are located to the north. The CORINE land cover data for the proposed development site is illustrated in **Figure 4-7** below.

Figure 4-7
Corine Land Cover (Source: Geohive 2018)



Potential Impacts – Construction

4.108 The existing land-uses in proximity to the proposed development, will remain unchanged during the construction phase of the project. Therefore the potential effect is expected to be imperceptible.

Potential Impacts – Operational

4.109 Given that the footprint of the proposed development is located on appropriately zoned industrial lands and is contained within the confines of the existing Medite Europe DAC site, it is anticipated that there will not be any impact on existing land uses arising from the operational phase.

4.110 The operational phase of the proposed development is not expected to adversely impact on agricultural practices on lands adjacent to the site. Existing surrounding land-use, such as grazing livestock, crop production and equine activities can continue on the site as normal. The relevant technical chapters of the EIA provide details on the potential pathways for pollutants/nuisances and that based on the proposed mitigation measures, there is no predicted significant residual effect on these from the proposals. The operational impact on land use is considered to be of imperceptible significance.

Potential Impacts – Decommissioning

4.111 For the purposes of this assessment, the decommissioning phase of the proposed development refers to the future replacement or dismantling of boilers and associated infrastructure from the site. The potential impacts associated with the decommissioning phase in relation to land use will be similar to those associated with construction phase but of a reduced magnitude. The works will require a construction crew on-site however, it is considered that this will cause an imperceptible effect to surrounding land uses.

Mitigation Measures

4.112 Given that the potential impacts of the proposed development at construction, operation and decommissioning phases are not considered to have any significant effect on land use, this will result in no other mitigation measures are considered necessary.

Residual Impacts

4.113 The residual effect of the development with respect to land use is considered ‘Imperceptible’.

TOURISM, AMENITY AND SERVICES

Existing Environment

4.114 This section provides an overview of the tourism, amenity, and services relevant to the Study Area, County Tipperary and Waterford, and the State, in order to assess the likely effects arising from the proposed development. As 2020 and 2021 have experienced an unprecedented negative impact on international tourism due to the COVID-19 pandemic, this section focuses on statistics from 2018 and 2019 as a reasonable scenario for tourism in Counties Tipperary and Waterford. This section had regard to the Fáilte Ireland guidance on EIAR in tourism and related projects, as outlined earlier.

4.115 Of note from Fáilte Ireland’s Guidelines in respect of the assessment of potential effects arising from a proposed development on tourism, the following has been considered:

- Indicate the numbers of premises and visitors likely to be directly and indirectly affected by the proposed development.
- Identify and quantify, where possible, their potential receptors of impacts, noting in particular transient populations, such as drivers, walkers, seasonal and other non-resident groups.
- Describe any significant trends evident in the overall growth or decline of these numbers, or of any changes in the proportion of one type of activity relative to any other.
- Indicate any commercial tourism activity which is likely to be directly affected, with resultant environmental impacts.

4.116 Tourism is one of the major contributors to the national economy and is a significant source of full time and seasonal employment. During 2019, total tourism revenue generated in Ireland was approximately €9.5 billion, an increase on the €9.1 billion revenue recorded in 2018. Overseas

tourist visits to Ireland in 2019 grew by 0.7% to 9.7 million⁹. Ireland is divided into seven tourism regions. The Study Area is located within the Mid-West Region which comprises counties Clare, Limerick, and Tipperary. **Table 4-10** below provides total revenue and breakdown of visitor numbers for the region during 2019.

Table 4-10

Tourism Revenue and Numbers (Source: Key Tourism Facts 2019, Fáilte Ireland, 2021)

Mid-West		
Market	Numbers (000's)	Revenue (€m)
Britain	378	107
Mainland Europe	456	122
North America	522	212
Other Areas	75	31
All Overseas	1,432	472
Northern Ireland	23	8
Domestic	1,197	217

- 4.117 The Study Area is located proximate to Waterford County, which forms part of the Southeast Region, which also includes Carlow, Kilkenny, and Wexford. **Table 4.11** below provides total revenue and breakdown of visitor numbers for the region during 2019.

Table 4-11

Tourism Revenue and Numbers (Source: Key Tourism Facts 2019, Fáilte Ireland, 2021)

South-East		
Market	Numbers (000's)	Revenue (€m)
Britain	274	75
Mainland Europe	320	100
North America	272	66
Other Areas	79	20
All Overseas	945	261
Northern Ireland	53	21
Domestic	1,795	312

- 4.118 Domestic tourism is the predominant type prevalent within both regions encompassing the Study Area. The sections below cover the likely tourism generators in the area surrounding it.
- 4.119 Section 4.6 Tourism of the Clonmel and Environs Development Plan 2013 describes that Clonmel has an enviable location in the valley of the river Suir and with the Comeragh Mountains to the south and Slievenamon to the east. The following relevant policy is also provided in this regard:

⁹ Fáilte Ireland (March 2021), *Key Tourism Facts 2019*.

Policy ECON 5: Tourism Development

It is a policy of the Council to co-operate with appropriate agencies in promoting tourism and securing the sustainable development of tourist-based enterprise and facilities in the town and to encourage the development of a range of quality tourism accommodation, facilities, and attractions within the Town.

- 4.120 County Tipperary is home to a number of nationally renowned visitor attractions including the Rock of Cashel, Holycross Abbey; the county mountains and uplands, Lough Derg, and the river Suir. Fáilte Ireland has recognised Lough Derg and the Munster Vales (the Galtee, Knockmealdown and Comeragh Mountain Ranges) as unique and distinctive experiences. Tipperary is also included in 'Ireland's Ancient East'; part of a wider destination brand to promote tourism opportunities across the east coast and parts of the midlands and south coasts, based on ancient and cultural heritage features.
- 4.121 According to the 'Strategic Tourism Marketing, Experience and Destination Development Plan 2016 – 2021'¹⁰, Tipperary attracts over 300,000 visitors annually, with slightly more overseas visitors than domestic. Within the county itself, south Tipperary continues to attract considerably more tourists than the northern part of the county (134,000 overseas tourists in the south compared with 56,000 in the north in 2014) - due to the location of The Rock of Cashel within it.
- 4.122 The Tipperary County Development Plan 2022 – 2028 highlights that Tipperary is located within two Fáilte Ireland destination proposition brands, 'Ireland's Ancient East' and 'Ireland's Hidden Heartlands'. It is stated that Fáilte Ireland has already invested significantly in key towns such as Cashel and Clonmel, and in initiatives and amenities in the County such as the Cashel Town Plan, Tipperary Museum of Hidden History, and various Destination Development Plans (DEDPs). The tourism economy of the county is significantly supported by exciting and multi-faceted tourism destination propositions, including the 'Shannon Tourism Masterplan', 'Discover Lough Derg', and 'Munster Vales', and unique flagship products including the Suir Blueway Tipperary, the Beara Breifne Way, and the Butler Trail. It is further stated that the tourism experience that Tipperary offers is built on its natural, social, and cultural assets. It is a key function of the Plan to protect, support and grow these assets in a plan-led manner in collaboration with stakeholders with incorporation of the principles of 'Responsible Tourism' as part of the county's overall strategy for tourism. A 'Destination Recovery Taskforce' has been established to co-ordinate the recovery of the sector within the area following the disruption of Covid-19.
- 4.123 With respect to the Tipperary Tourism Strategy the Plan references the 'Tipperary Transforming – Tourism Product Development Plan 2020 – 2030', a 10-year vision statement for tourism development which aims to support the 'Strategic Tourism Marketing, Experience and Destination Development Plan 2016 – 2021'. 19 concepts are listed in 'Tipperary Transforming'; these concepts are to be further developed, subject to feasibility, to transform Tipperary as a tourism destination.
- 4.124 The Equine industry has been identified as a unique selling point and economic speciality for Tipperary. Fáilte Ireland recently developed a 'Thoroughbred Country Destination Development Plan', which is supported by Tipperary and Kildare County Councils, and the racing industry. Plans are currently in development to develop a 'Thoroughbred Trail' of experiences across the county leveraging significant development planned at Tipperary Racecourse, Limerick Junction. Tipperary Racecourse, in conjunction with Horse Racing Ireland, has begun the process of developing the

¹⁰ Prepared for Tipperary County Council in 2016

racecourse at Limerick Junction into an equine centre of excellence, providing community amenities and developing the facility as a tourism resource.

4.125 The following relevant policies and objectives are provided with respect to Tourism:

9 - C

Support the implementation of the Tipperary 'Marketing, Experience & Destination Development Plan', 2016-2021 and 'Tipperary Transforming' (and any review thereof) and associated tourism strategies and plans set out therein. Support existing and emerging tourism programmes, including.

- *Lough Derg Visitor Destination Plan 2020,*
- *Shannon Tourism Master Plan 2021,*
- *Munster Vales programme,*
- *Cashel Destination Town Plan,*
- *Butler Trail,*
- *Suir Blueway*
- *Beara Breifne Way*
- *Thoroughbred Country Destination Development Plan.*

9 - D

Develop a 'Greenway and Trails Strategy', and to support and seek funding opportunities for the development of green and blue ways, incorporating walking, cycling and equine trails and supporting the tourism economy.

9 - F

To co-operate with Fáilte Ireland, Waterways Ireland and other relevant bodies and agencies, in promoting the county's waterways and Lough Derg Lakelands as part of an overall tourism development and marketing strategy.

9 - H

To support, encourage and promote sports tourism within the county.

4.126 Section 4.10 of the Waterford City and County Development Plan 2022 – 2028 describes that Sustainable Tourism is defined as 'tourism that takes full account of its current and future economic social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities'. Waterford is described as a destination that is rich in assets, with a historic city, picturesque towns and villages, beautiful mountains, tranquil countryside, stunning coastline, world class visitor attractions, a wide range of festivals, activities, and accommodation options, as well as a vibrant food tourism and entertainment industry.

4.127 The plan lists a range of tourist amenities and attractions, those relevant include:

- Comeragh Mountains.
- Countywide accredited recreational walking and cycling trails, woodlands, and parks; and
- Waterford and Suir Valley Railway.

4.128 The following relevant Tourism Policy Objectives are also provided:

ECON 22 Sustainable Tourism

We will cooperate with various stakeholders and tourism agencies to build on the strengths of Waterford City as the regional capital, Dungarvan as a Key Town, and County Waterford in their promotion as a tourism destination of choice. To this end, we will facilitate and encourage:

- Sustainable tourism 'products and activities/ attractors in appropriate locations which are based on and reflect the city and county's distinctive history, natural and/ or cultural heritage, agri-food, marine and horticultural sector, and outdoor pursuits and recreation.
- Sustainable modes of transport – public transport, active transport (cycling and walking) etc; and
- Encourage and support investment in digital technology in the tourism sector, with a particular focus on sectors such as visitor attractions and activities with low digital presence and/or integration.

ECON 23 Key Flagship Tourism Projects

The Council will seek to develop its key flagship tourism projects within the lifespan of the Plan including:

- Developing a Waterford to Tramore and a Waterford to Portlaoise/ Carrick-on-Suir Greenway.

ECON 26 Tourism Product and Infrastructure

In collaboration with landowners, local communities, relevant stakeholders, and social enterprise, we will promote, facilitate, encourage investment, and deliver improvements to our tourism product, infrastructure, and facilities, including improved car, bus and bicycle parking, walking and cycling trails, directional signage/information boards, and service/rest facilities. Proposals for development shall ensure no adverse impacts on ecological integrity including the Natura 2000 Network.

Tourism product developments and infrastructure/ facilities will be subject to normal planning and environmental criteria. The potential environmental effects of a likely increase in tourists/tourism-related traffic volumes in particular locations/along particular routes shall be considered and mitigated as appropriate. Such a consideration should include potential impacts on existing infrastructure (including drinking water, wastewater, waste, and transport) resulting from tourism proposals.

Any such works shall incorporate and integrate elements of green infrastructure, where appropriate, and be designed in accordance with the principles of universal design. In particular we will continue to advance initiatives such as the INTERREG 'Local Flavours' programme aimed at encouraging, strengthening, and delivering investment and improvement to rural economic development and tourism and heritage assets in the following principle (rural cluster) areas and tourism-related initiatives:

- Blackwater Valley
- Waterford Blueways.
- Coastal Walks.
- Comeragh Uplands.
- Waterford Greenway.
- Copper Coast Geopark; and
- Waterford Estuary.
- Gaeltacht na nDéise

Tourist Assets, Attractions and Amenities

4.129 The review of the Tipperary and Waterford County Development Plans identified key tourism amenities proximate to the proposed development site as follows:

- Slievenamon Mountains - approximately 7km away from the subject site.
- Comeragh Mountains – approximately 7.8km away from the subject site.
- Suir Blueway – approximately 1km away from the subject site.

- 4.130 The Tipperary and Waterford County Development Plans also provide information relating to scenic routes and views and these are assessed in further detail in **Chapter 13** of this EIAR. It has been concluded that the proposed development would not result in any effects on landscape receptors within the study area and that no significant visual effect on any views, including views from Scenic Routes and Views, or other vulnerable features were identified.
- 4.131 **Chapter 12** identifies the National Inventory of Architectural Heritage, buildings and features of tourism interest within or in close proximity to the Study Area and an assessment of the potential impacts to these as a result of the proposed development. There are no additional structures included in the NIAH situated within the application area. There are ten structures listed in the NIAH in the study area assessed. **Chapter 12** concluded that there will be no direct effects on any known items of archaeology, architecture or cultural heritage in the application area or the vicinity.

Other Tourism and Leisure Amenities

- 4.132 Sports and recreation amenities and facilities within the Study Area include:
- Ferry House Sports Complex (640m south);
 - Xtreme CSC Mega Gym (1.5km west).
 - Clonmel Racecourse (1.5km west).
 - Suir Blueway (850m south); and
 - Newtownanner stud farm (850m east).
- 4.133 The Xtreme CSC Mega Gym is not considered to be particularly vulnerable to the proposed development, given that it is a private membership indoor gym. The most potential for impacts is likely to arise from the general traffic movement potentially to be generated from the proposals. **Chapter 14** of this EIAR confirms that the addition of the operational trips generated as a result of the proposed development would not have a material impact on the capacity of the roads within the study area.
- 4.134 The Clonmel Racecourse and Newtownanner stud farm are considered in more detail in terms of potential impacts, given the sensitivity of the animals that are hosted within these facilities. Possible sources of disturbance to animals are though potential emissions through noise, air, and surface/ground water pathways. The Suir Blueway is an off-road 53km route that connect the towns of Carrick-on-Suir and Cahir, via Clonmel, for commuting and leisure.

Community Services and Facilities

- 4.135 **Figure 4-1** shows the community services and facilities within the study area. The commercial properties surrounding the application site are concentrated to the south/ southwest, towards Clonmel town centre. There are no public healthcare facilities within the Study Area. There are two churches, a primary school and a secondary school located within it. It is considered that the most potential for impacts is likely to be from the general traffic potentially generated from the proposals. The potential population increase that has been estimated above as a result of the proposed development is not of a scale that is anticipated to create undue burden on the existing services.

Potential Impacts – Construction

- 4.136 During the construction phase of the proposed development construction works have potential to

cause impacts on tourism, amenity, and services within the vicinity of the site. The most sensitive receptors are considered to be:

- Clonmel Racecourse (within Study Area).
- Newtownanner stud farm (within Study Area).
- Suir Blueway – approximately (within Study Area).
- Slievenamon Mountains - approximately 7km away from the application site.
- Comeragh Mountains – approximately 7.8km away from the application site.

4.137 Clonmel Racecourse and Newtownanner stud farm are within 1.5km west and 850m east, respectively of the proposed development. These receptors have been considered the most sensitive under the tourism, services and amenity heading because of the importance of the equine industry to the economy and to the local tourism sector. Given their distance from the application site and the lack of dependence on either of these receptor locations for any aspect of the proposals, the sensitivity is considered low¹¹. The proposed development consists of the replacement of energy infrastructure at an existing plant which if realised offer benefits in terms of reduced carbon emissions by reducing natural gas consumption and use of production residue as fuel, energy savings via improved thermal efficiency and reduced energy costs. The identified tourism, amenity and services receptors have been operating in tandem with the permitted and operational Medite Europe DAC manufacturing plant. It is therefore considered that there will be not significant construction stage impacts on tourism, amenity, and services. **Chapters 7, 8 and 10** of the EIAR provide more details on the potential pathways for nuisance and emissions in relation to the surrounding agricultural/equine resources. **Chapter 7** of this EIAR concludes that with mitigation measures in place, there are no significant residual impacts with respect to groundwater and surface water. **Chapter 8** concludes that, with the implementation of mitigation measures during construction activities the potential dust/PM₁₀ effects will not be significant and there has been no need for additional mitigation measures in relation to air quality impacts during the operational phase of the proposed development. **Chapter 10** concludes that noise levels predicted to arise as a result of the proposed development would not be exceeded noise threshold limits set out in guidance, and that with additional mitigation any potential noise emissions would be further reduced.

4.138 Due to the confined scale of the construction site, this phase of the proposed development is expected to have an imperceptible effect on tourism, amenity, and services.

Potential Impacts – Operational

4.139 The proposed development is situated proximate to what have been defined as natural and cultural assets, tourism receptors which support the local and regional economy. These are listed in the 'Tourist Assets, Attractions and Amenities' subsection above. Proximity to scenic routes and listed views are listed therein also. These natural and cultural features play a role in facilitating the visitor economy in Counties Tipperary and Waterford. The potential for impacts on these tourism assets in relation to landscape and visual impact and traffic receptors has been considered in **Chapter 13** and **Chapter 14** of this EIAR respectively. The assessments demonstrate that the potential for adverse effects on tourism assets is negligible. The proposed development consists of the replacement of energy infrastructure at an existing plant which if realised offer benefits in terms of reduced carbon emissions by reducing natural gas consumption and use of production residue as fuel, energy savings via improved thermal efficiency and reduced energy costs. The identified

¹¹ In accordance with DMRB (2020) LA112 'Population and Human Health' sensitivity tables

tourism receptors have been operating in tandem with the permitted and operational Medite Europe DAC manufacturing plant. It is therefore considered that there will be an imperceptible operational stage effect on tourism, amenity, and services.

- 4.140 Once the planning permission has been implemented, the potential pathways for emissions arising from the proposed development will be limited to the operation of the plant and infrastructure which has been considered within the assessments of the technical chapters of the EIAR along with the specific construction activities at that stage.
- 4.141 With the adoption of best practice techniques as identified within the respective technical chapters of the EIAR the operation of the proposed development will continue in tandem with surrounding land uses as it has done for numerous years with no discernible change, therefore the effect is predicted to be imperceptible.

Potential Impacts – Decommissioning

- 4.142 The potential impacts associated with the decommissioning phase in relation to recreation, amenity and services will be similar to those associated with the construction phase.
- 4.143 A construction crew will be required for the replacement or dismantling of the infrastructure as necessary.
- 4.144 As for the construction phase, given the confined scale of the construction site, this phase of the proposed development is expected to have an imperceptible effect on tourism, amenity, and services.

Mitigation Measures

- 4.145 Given that the potential impacts of the proposed development at construction, operation and decommissioning phases are not considered to have any significant effect on tourism, amenity and services, no mitigation measures are considered necessary in this regard.

Residual Impacts

- 4.146 It is considered that the residual effects on tourism, amenity and services receptors will overall be 'Imperceptible' (i.e., an effect capable of measurement but without significant consequences) in accordance with the terminology of the EPA 2022 EIAR Guidelines.

HUMAN HEALTH AND HEALTH AND SAFETY

- 4.147 This section provides an overview of the health profile of the Study Area and is compared to that of Clonmel (Urban), Counties Tipperary and Waterford and the State, in order to provide an assessment of potential impacts of the proposed development on human health. An assessment in relation to safety and unplanned events is also provided.
- 4.148 The Institute of Environmental Management and Assessment (IEMA) has recently issued two new guidance documents on the assessment of human health within EIA as follows:
- Effective Scoping of Human Health in EIA; and
 - Determining Significance for Human Health in EIA.
- 4.149 Section 1.11 of the IEMA Guidance on the Effective Scoping of Human Health in EIA recommends that if there is not potential for likely significant population effect, human health should be scoped out of the EIA. The guidance makes clear that the topics of population and human health are separate technical topics. The assessment of socio-economic conditions addressed through the topic of 'Population' provides baseline information on which an assessment of sensitivity of human health can be made, therefore it is considered appropriate that both topics are covered within this chapter.
- 4.150 **Table 4.12** of this chapter sets out an initial review of the wider determinants of health identified within the guidance on scoping of human health and how these have the potential to be impacted by the proposed development. The initial assessment within **Table 4.12** provides a framework in order to focus the assessment of human health impacts on areas of most relevance.
- 4.151 This Chapter of the EIAR presents baseline information on population (including employment, amenity, and community resources) and assesses likely impacts as a result of the proposed development. This facilitates an assessment of the potential impacts on human health where there is a potential for this to be impacted as identified within **Table 4.12**.

Table 4-12
Proposed Development and Wider Determinants of Health

Categories	Wider Determinants of Health	Commentary
Health related behaviours	Physical activity	No changes likely as a result of Proposed Development
	Risk taking behaviour	No changes likely as a result of Proposed Development
	Diet and nutrition	No changes likely as a result of Proposed Development
Social environment	Housing	No changes likely as a result of Proposed Development
	Relocation	Not relevant, no relocation proposed
	Open space, leisure, and play	No changes likely as a result of Proposed Development
	Transport modes, access, and connections	No changes likely as a result of Proposed Development, using existing accesses/routes
	Community Safety	No changes likely, boundaries of application site will continue to be kept secure

POPULATION AND HUMAN HEALTH 4

	Community identity, culture, resilience, and influence	No changes likely, proposed development is fundamentally related to existing activity
	Social participation, interaction, and support	Not relevant to application site/proposed development
Economic environment	Education and training	Not relevant to application site/proposed development
	Employment and income	Proposed development will facilitate sustainable continued employment within the local area. There is also potential for the development of relatively new bio-economy experience to contribute to the knowledge economy of the region
Bio-physical environment	Climate change mitigation and adaptation	Proposed development facilitates a move away from fossil fuels and potential to build wider economy as experience with new technology is gained
	Air quality	Potential for air quality impacts from importation of biomass to site by HGVs and from combustion activities on site
	Water quality or availability	Potential for contaminants in, run-off to, impact on surface water and/or groundwater
	Land quality	Not relevant to application site/proposed development
	Noise and vibration	Potential for impacts from site activities
	Radiation	Not relevant
Institutional and built environment	Health and social care services	No changes likely as a result of proposed development
	Built environment	Potential to aid wider energy transition agenda nationally/globally
	Wider societal infrastructure and resources	Potential to aid wider energy transition agenda nationally/globally

- 4.152 Consultation responses obtained in relation to human health issues are identified in Table 4-1.
- 4.153 Specific legislation relevant to human health protection is set out within the technical EIA chapters relevant to each pathway (noise, air, soil, water, etc). Other guidance and limits such as the World Health Organisation (WHO) human health protection standards, for example in relation to drinking water and air quality are also used as benchmarks in the quantification of environmental effects.
- 4.154 The recently published IEMA guidance on human health in EIA emphasises that assessment should consider complete physical, mental, and social well-being and not focus only on health in terms of the absence of disease.
- 4.155 It is important to note the wider government framework for health promotion within which opportunities should be sought to incorporate the proposed development (for example, through

the Community Benefit Scheme). The framework includes the following:

- Healthy Ireland Framework.
- Tipperary County Development Plan 2022-2028; and
- Tipperary Local Economic and Community Plan 2015-2020.

Existing Environment

4.156 This section provides an overview of the health profile of the Study Area and is compared to that of Clonmel (Urban), Counties Tipperary and Waterford and the State, in order to provide for the assessment of likely effects on human health that may arise as a result of the proposed development.

4.157 Human health in relation to this assessment refers to the nature and possibility of adverse health effects on humans. In the context of existing human health, the Department of Health has published a report titled Health in Ireland, Key Trends 2016¹², which provides statistics relating to human health in Ireland over the last 10 years. Generally speaking, Ireland has a high level of good/very good health as demonstrated in self-evaluation statistics included in Census data, which has been provided below in **Table 4.13**.

Table 4-13
Population by General Health – 2016 (Source: CSO)

Area	Very good	Good	Fair	Bad	Very bad	Not stated
State	59%	28%	8%	1%	0%	3%
Tipperary	58%	29%	9%	1%	0%	2%
Waterford	59%	28%	8%	1%	0%	3%
Clonmel Urban	47%	34%	13%	3%	1%	3%
Study Area	63%	27%	7%	1%	0%	2%

4.158 Approximately 90% of the responses recorded for the Study Area in 2016 indicated that they had very good or good health, which is above average when compared to the State, recorded at 87%; and greater than Tipperary and Waterford Counties and Clonmel (Urban)s' at 87%, 87%, and 81%, respectively. 1% of the Study Area, Tipperary and Waterford County and the State is reported to have 'bad' general health. The Census data indicates that the population of the Study Area is generally in good health.

4.159 The baseline information presented in the preceding sections has not identified any particular sensitivities in relation to human health. While deprivation indices in the area highlight the majority of the study area as marginally disadvantaged the self-reported health status is positive and in line with the national situation. The scale of community facilities and amenities available to local residents is considered to be in proportion with their rural location. The proposed development, itself, will not introduce new communities to the local area and is not expected to create any additional demand on services.

4.160 With respect to health and safety, the Health and Safety Authority of Ireland monitor fatal workplace injuries throughout Ireland. In relation to construction activities, in the past 10 years

¹²Department of Health (2016), *Health in Ireland, Key Trends 2016*.

(2010 to 2019) an average of 8.1 fatal workplace injuries have occurred per year throughout Ireland. It is likely that there is a reduction in reported incidents 2020 and 2021, largely due public health measures introduced as a result of the COVID-19 pandemic, therefore incidents pertinent to 2020 and 2021 were not considered. This is above average in relation to other economic sectors. The average number of fatal workplace injuries throughout all economic sectors over the same period in Ireland has been 4.5 fatal workplace injuries per year. This indicates the above average danger levels which workers are exposed to on construction sites.

- 4.161 With regard to the control of major accident hazards involving dangerous substances, on examination of upper and lower tier Seveso Establishments in the surrounding region of the proposed development, no Seveso Establishments were identified in proximity to the site.

Potential Impacts – Construction

- 4.162 A further review of **Table 4-12** in the context of the baseline population confirms that the main potential for the proposed development to cause adverse impacts to human health is through the potential for noise/vibration emissions and emissions to air, land and water. These issues have been addressed in detail in their respective chapters of the EIAR and conclusions in relation to their resulting impact to human health are set out below.
- 4.163 Continued employment and associated economic opportunities arising from the proposed development has potential for knock-on effects in terms of contributing to the overall wellbeing of the local and wider population. **Table 4-12** has identified areas where the proposed development, through potential community benefits gained through planning development contributions for example, may present opportunities to enhance recreational and other facilities to enhance physical and mental wellbeing of the local population.
- 4.164 At the time of preparation of this chapter, the COVID-19 virus represents a significant risk to human health. Similar to any construction site, potential for spread of the virus during the construction phase of the proposed development may occur due to potential transmission from worker to worker due to construction activities and potential for close quarter working conditions. Up to date HSE guidance will be consulted regularly in line with HSA recommendations and all reasonable on-site precautions will be taken if COVID-19 remains a significant health issue during the construction phase.
- 4.165 The construction phase of the proposed development has potential to create health and safety hazards for both construction workers and the general public. This is as a result of construction activities and the associated impacts including increased traffic, transport of heavy or bulky materials, noise emissions, dust emissions, construction on public roads, excavation, and general site-safety.
- 4.166 Aspects of the construction works that may present health and safety issues are similar to most construction projects and include the following:
- General construction site safety (e.g., slip/trip, moving vehicles etc.).
 - Lifting of heavy loads overhead using cranes.
 - Working with electricity.
 - Working at heights.
 - Working in confined spaces.
 - Road safety due to increased traffic numbers and transport of oversized loads to the site along delivery routes and proposed haul routes; and

- Pedestrian and recreation user safety.

4.167 The works as part of the Proposed Development will pose a risk to construction workers on-site. There is potential to cause significant effect on human health if proper construction and safety protocols are not followed.

The delivery of heavy/bulky goods and machinery on narrow roads may cause a slight temporary disturbance on local roads.

4.168 As outlined in **Chapters 6, 7, 8 and 10** of this EIAR, a number of mitigation measures are proposed and the residual effect of the proposed development in respect of land soils and geology is likely to be negligible, Slight/Non-significant residual effects are predicted in relation to water, residual dust effects will be insignificant, residual noise effects will be negligible and its effect on traffic and transport is not predicted to be significant.

4.169 In terms of human health, the sensitivity of the population is considered to be low, given the fact that the facility is already operational and has co-existed successfully with the local population for numerous years. Staff welfare facilities will continue to be provided at the application site. The technical assessments within the chapters above have concluded that the predicted changes in pollutants are well within statutory standards and WHO guidelines. The potential for non-threshold effects is noted and is considered to be of a very low level over a short-term basis, therefore the magnitude is predicted to be low. In accordance with the significance matrix proposed by the IEMA Guide to Determining Significance for Human Health in EIA, therefore, the potential for effects on human health is considered to be minor adverse (not significant). On this basis, it is considered that there would be no likely significant temporary or permanent effects on human health during the construction stage following mitigation.

4.170 Overall, if unmitigated, the construction phase of the proposed project has potential for significant effect on human health and safety for construction workers and members of the public in proximity to the site, if proper construction safety protocols and traffic management are not applied. Mitigation measures to prevent potential impact to human health and safety are set out later in this EIAR. Refer to **Appendix 2.1** Construction Environmental Management Plan (CEMP),

Potential Impacts – Operational

Health and Safety Standards and Procedures

4.171 Once the planning application has been implemented, the Proposed Development is designed to operate until the new biomass boilers need replacement or dismantling. During the operational period, there is potential for impacts to human health and safety if appropriate mitigation measures are not put in place.

4.172 As outlined in **Chapters 6, 7, 8 and 10** of this EIAR, mitigation measures are proposed to ensure that any emissions potentially arising from the Proposed Development are kept within acceptable limits. Based on the proposed mitigation measures, there are negligible predicted residual effects in respect of land, soils and geology, Slight/Non-significant residual effects are predicted in relation to water, dust effects will be insignificant, residual noise effects will be negligible, and its effect on traffic and transport is predicted to be insignificant. Staff welfare facilities will continue to be provided within the application site. On this basis, it is considered that there would be no likely significant effect on human health during the operational stage.

- 4.173 In terms of human health, the sensitivity of the population is considered to be low, given the fact that the facility is already operational and has co-existed successfully with the local population for numerous years. The technical assessments within the chapters above have concluded that the predicted changes in pollutants are well within statutory standards and WHO guidelines. The potential for non-threshold effects is noted and is considered to be of a very low level over a medium-term basis, therefore the magnitude is predicted to be low. In accordance with the significance matrix proposed by the IEMA Guide to Determining Significance for Human Health in EIA, therefore, the potential for effects on human health is considered to be minor adverse (not significant).
- 4.174 Appropriate site safety measures will be utilised during the operational phase by all permitted employees. High visibility clothing, hard hats and safety boots will be worn at all times to avoid potential injury.
- 4.175 Rigorous statutory and engineering safety checks imposed at the plant during design, construction, commissioning, and operation will ensure the risks posed to humans are negligible. Potential impacts to the safety of operation and maintenance staff are associated with working at heights, working at steep gradients or uneven ground, moving vehicles and machinery, and working with high-voltage electricity. Properly qualified staff will be employed at the development site and safety protocols will be followed at all times. In line with the Health Service Executive's Emergency Planning recommendations, any incident which may occur at the site which requires emergency services, incident information will be provided in the 'ETHANE' format.
- Exact location
 - Type of incident
 - Hazards
 - Access and egress
 - Number of casualties (if any) and condition
 - Emergency services present and require.

Vulnerability of the Project to Major Accidents and Natural Disasters

- 4.176 EU Directive 2014/52/EU which amends Directive 2011/92/EU states the following in relation to vulnerability of a project to natural disaster:
- "In order to ensure a high level of protection of the environment, precautionary actions need to be taken for certain projects which, because of their vulnerability to major accidents, and/or natural disasters (such as flooding, sea level rise, or earthquakes) are likely to have significant adverse effects on the environment. For such projects, it is important to consider their vulnerability (exposure and resilience) to major accidents and/or disasters, the risk of those accidents and/or disasters occurring and the implications for the likelihood of significant adverse effects on the environment."*
- 4.177 The following section considers the proposed project's vulnerability to major accidents and natural disasters, potential adverse impacts on human health and the environment, the magnitude of potential impacts, the likelihood of potential impacts and considers the preparedness of the project in case of accident, disaster, or emergency.
- 4.178 Should a major accident or natural disaster occur, the potential sources of pollution onsite during the construction and operational phases of the proposed development are limited. The primary sources with the potential to cause significant environmental pollution and associated adverse

impacts on human health and the environment include the bulk storage of hydrocarbons, chemicals, and wastes. In the case of the proposed development site, the storage of chemicals of this kind are very limited.

4.179 There is limited potential for significant natural disasters to occur at subject site as Ireland does not suffer from extreme temperatures like that of many countries at a similar latitude due to the dominant influence of the Gulf Stream. This provides Ireland with a mild temperate climate. Potential natural disasters that may occur are therefore limited to:

- Flooding.
- Fire.
- Major incidents involving dangerous substances; and
- Catastrophic events; and
- Landslides.

Flooding

4.180 In the event of extreme weather conditions there is potential for the proposed development to impact on human health in the surrounding environment due to increased surface water runoff as a result of additional impermeable surfaces. This has potential to add to flood risk which may impact on human safety (including traffic), water quality, biodiversity, soil stability, material assets and archaeological or architectural heritage. If unmitigated, the magnitude of these consequences has potential to be significant resulting in potential injury or fatality, property damage, infrastructure damage and damage to ecosystems.

4.181 Due to inclusion of mitigation by design, the increased surface water runoff produced by the proposed project is considered negligible and therefore in the event of extreme weather conditions, it is unlikely that the proposed development will result in increased flood risk and will not result in effects on human safety (including traffic), water quality, biodiversity, soil stability, material assets and archaeological or architectural heritage, as a result of increased flood risk.

4.182 The risk of flooding is addressed in **Chapter 7: Hydrology and Hydrogeology**, which concludes that the proposed development has a low probability of flooding according to the flood planning guidelines. In the event of extreme weather conditions, there are existing mitigation measures in place at the site to manage and treat storm surface water runoff and process water at the site.

Fire

4.183 In the event that plant equipment catches fire at the proposed development, and is confined to the proposed development, there is potential for impact on air quality due to additional CO₂ being released from the burning of material. This is likely to have an imperceptible impact on air quality, human health and biodiversity and will be offset by the carbon dioxide savings associated with the proposed development which will decrease by 1,645 tCO₂e per year.

4.184 Considering the inherently low risk of fire associated with the proposed development, and the quality and extent of the proposed facility, the potential risk posed to public safety and air emissions is considered negligible.

Major incidents involving dangerous substances.

4.185 Major industrial accidents involving dangerous substances pose a significant risk to human health and to the environment both on and off the site of the accident. The Health and Safety Authority

(HSA) of Ireland list all upper and lower tier SEVESO establishments throughout Ireland. The proposed development site is not close to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e., SEVESO site, that would fall within the consultation radius distance from a SEVESO site as per Development Plan policy.

- 4.186 The majority of hazardous waste that will be generated on site is waste oil, process resin / dyes and contaminated packaging. To minimise the risk of accidents all chemicals, oils (including waste oils) and lubricants are stored in drums situated on spill trays undercover inside the existing storage area.
- 4.187 All plant and machinery is regularly maintained and inspected daily for leaks of fuels, lubricating oil or other flammable liquids/liquors. A spill kit is kept on-site to stop the migration of any accidental spillages, should they occur.
- 4.188 The Medite facility has a number of emergency response procedures implemented as part of the environmental management systems at the Site which are accredited to ISO 14001 Standard. The Medite facility also has an Emergency Plan developed to provide an organised response to any incident that occurs at the facility. An emergency response team (ERT) is on site 24/7, who are trained in advanced techniques such as fire-fighting, spillage clean up, and search/rescue. In addition, there is an emergency response room located within the car park area of the Site which contains stocks of firefighting equipment, PPE, emergency first aid equipment and rescue equipment. Further detail is set out in **Appendix 2-1 Construction Environmental Management Plan (CEMP)**.

Catastrophic Events

- 4.189 All persons who have control to any extent over the manufacturing plant have duties to ensure, so far as reasonably practicable, that the proposed development does not pose a risk to those working there or to anyone not employed there but who may be affected by activities of the proposed development.
- 4.190 The primary mitigation against a catastrophic event that may endanger the health and safety of the public is implemented at design stage through adequate siting of infrastructure and appropriate set back distances from occupied buildings and other infrastructure to avoid the risk of impact of a catastrophic event or related hazard.

Potential Impacts – Decommissioning

- 4.191 The decommissioning phase of the proposed development would be the replacement or dismantling of the energy infrastructure from the site. The potential impacts associated with decommissioning phase in relation to human health will be similar to those associated with construction phase.
- 4.192 A construction crew will be required for replacing or dismantling the where necessary. As the decommissioning of the project is expected to be less intensive than the construction phase, it is likely that less construction workers will be required for this phase. Potential impacts to human health and safety on-site will be prevented through best practice methods and will include staff training and knowledge of the site-specific decommissioning plan. Once mitigation measures and best practice construction site methods are followed, the significance of effect on human health and safety is expected to be imperceptible.

Mitigation Measures

Health and Safety Mitigation Measures – Construction & Decommissioning

- 4.193 To maintain safety and avoid health impacts on construction workers and the general public, best practice site safety and environmental management will be maintained. The proposed development will be designed, constructed, operated, and decommissioned in accordance with the following:
- Safety, Health & Welfare at Work (Construction) Regulations 2013
 - Safety, Health & Welfare at Work Act 2005
 - Safety, Health & Welfare at Work (General Applications) Regulations 2007
- 4.194 All construction staff will be adequately trained in health and safety and will be informed and aware of potential hazards. Furthermore, a Construction and Environmental Management Plan is included in Appendix 2-1, will be circulated to all construction workers which will detail safety protocol and methodology. Site investigations have previously been completed at the site as detailed in **Chapter 6: Lands, Soils and Geology**. The information from these investigations has enabled an appropriate understanding in order for implementation of the appropriate infrastructure suited to ground conditions at the site.

Health and Safety Mitigation Measures - Operational

- 4.195 For operation and maintenance staff working at the Proposed Development, appropriate site safety measures will be utilised during the operational phase by all permitted employees. All personnel undertaking works will be fully trained and will use appropriate Personal Protective Equipment (PPE) to prevent injury.

Human Health Mitigation Measures - Operational

- 4.196 Rigorous statutory and engineering safety checks imposed on the manufacturing plant during design, construction, commissioning, and operation will ensure the risks posed to humans are negligible. All maintenance work will only be carried out by people with the appropriate training and qualifications for the task at hand. All maintenance and operations work will be carried out in accordance with the relevant health and safety legislation with the appropriate planning and preparation. Regular visual inspections and testing of the manufacturing plant to be incorporated into the project's operation and maintenance schedule.
- 4.197 In line with the Health Service Executive's Emergency Planning recommendations, any incident which may occur at the site which requires emergency services, incident information will be provided in the 'ETHANE' format.
- Exact location
 - Type of incident
 - Hazards
 - Access and egress
 - Number of casualties (if any) and condition
 - Emergency services present and required.

Residual Impacts

- 4.198 The Proposed Development will have limited emissions that will not pose a threat to human health and safety. The mitigation measures as set out throughout the EIAR will further prevent any potential impacts on human health.

- 4.199 Long-term positive residual impacts will occur due the reduction of CO₂ emissions from the plant. The proposed development will result in reduced carbon emissions by reducing natural gas consumption and use of production residue as fuel, energy savings via improved thermal efficiency, and reduced energy costs. The operation of the proposed development will result in the net reduction of 1,645 tCO₂e per year which would otherwise be emitted through the burning of fossil fuels. It is therefore considered that the residual effect on human health and safety is 'Slight' (an effect which causes noticeable changes in the character of the environment without affecting its sensitivities).

Do-Nothing Scenario

- 4.200 If planning permission is not approved for the upgrade works, the Medite Europe DAC site operations will continue until the existing boilers reach the end of their design life. Without replacement with substantially better technology the plant will not secure greater energy efficiency or reduce environmental emissions. Neither will the operation be capable of sustaining continued employment in the region.

CUMULATIVE IMPACTS

- 4.201 The assessment contained within this chapter has included all aspects of the Proposed Development, including specific infrastructure proposed, source of fuel and traffic implications, along with the existing Medite facility as a whole, hence all elements of the project have been cumulatively assessed.
- 4.202 **Chapter 1** of this EIAR sets out the methodology that was followed for the identification of other existing, permitted and proposed developments that, with the proposed development, may have the potential to cause additional impacts other than those predicted for these proposals alone. Appendix 1-5 contains the details of proposals within a 10km radius of the site which have been granted planning permission in the last five years.
- 4.203 The closest major projects to the application site with potential to cause in-combination effects with the proposed development include land infill proposals to the east/northeast, proposals for broadband infrastructure upgrades to the south/southeast, a wind farm to the north and solar farms to the northeast and northwest. To the wider east there is a planned new factory at an existing pharmaceutical complex. There is also a proposal in relation to large scale equine facilities to the north of the application site, which are currently under appeal to An Bord Pleanála. There are smaller scale proposals in relation to educational and agricultural projects to the southwest and east, respectively.
- 4.204 In terms of population and human health, the most likely potential for cumulative impacts from those projects identified in Appendix 1-5 is considered to be from combined traffic movements. **Chapter 14** of the EIAR considered the upcoming developments with most potential to have in-combination traffic impacts with the proposed development and concluded that traffic generated from these proposals are not expected to utilise any of the road links and junctions within the study area for the traffic assessment. The other proposed developments are considered to be sufficiently distant from the proposed development not to have other cumulative impacts such as from noise, air and water emissions and a review of the planning documentation associated with them confirms that they will incorporate a range of mitigation measures to ensure their emissions are also minimised.

- 4.205 The quantity of renewable energy projects in the pipeline in the surrounding area reinforces the potential of the county/region in developing the knowledge base in relation to relatively new bioenergy technology, which may secure wider economic investment in employment opportunities and infrastructure for the region.

CONCLUSION

- 4.206 The assessment of Population and Human Health has established the existing characteristics of the Study Area and compared this to Clonmel (Urban), Tipperary County, Waterford County, and the State to establish a baseline for the impact assessment. Likely significant effects were considered for the construction, operational and decommissioning phases of the proposed development as well as likely residual and cumulative impacts. Mitigation measures have been proposed where relevant.
- 4.207 In conclusion, once the minor mitigation measures set out throughout this EIAR are implemented, no significant adverse effects on population and human health are assessed as likely to occur. The Proposed Development will secure the continued employment of 170 staff at the existing Medite facility as well as providing short-term construction jobs and the indirect employment associated with it. The proposals also have the potential to contribute to wider economic investment and contribution to the growing bioenergy sector.
- 4.208 It is considered that the Proposed Development has a positive relationship with two of the key themes identified in Draft (emerging) Clonmel Local Area Plan 2024-2030 (i.e., the continued economic competitiveness of the town and climate change adaptation/resilience).

REFERENCES

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- Irish BioEnergy Association (2012) '*The Economic Benefits from the Development of BioEnergy in Ireland to meet 2020 Targets*'.
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- SEAI, *Sustainability Criteria Options and Impacts for Irish Bioenergy Resources*.