

ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE DEMOLITION OF AGRICULTURAL STRUCTURES AND THE DEVELOPMENT OF A MATERIALS RECOVERY FACILITY AT DERRYARKIN, RHODE, CO. OFFALY

VOLUME 2 – MAIN BODY OF THE EIAR CHAPTER 2 – NEED FOR THE PROPOSED DEVELOPMENT

Prepared for: Oxygen Environmental Unlimited Company



Date: September 2022

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TABLE OF CONTENTS

2. NEED FOR THE PROPOSED DEVELOPMENT.....	1
2.1 Introduction.....	1
2.2 Statement of Competency.....	1
2.3 The Proposed Development.....	1
2.4 Context of the Proposed Development.....	1
2.5 Need for the Development.....	2
2.5.1 Waste management policy promoting the need for the maximization of waste recovery and recycling	2
2.5.2 Increasing waste generation and demand for waste management capacity	3
2.5.3 Need for waste management infrastructure to facilitate achieving waste management targets	6
2.5.4 Specific need for MSW Pre-treatment Capacity	6
2.5.5 Commercial objectives of the Applicant to manage all the wastes it collects in a self-sufficient, efficient and cost-effective manner.....	7
2.6 Summary.....	7
2.7 References	8

Offaly County Council, Planning Dept. - Inspection Purposes Only

LIST OF TABLES

Page

Table 2-1: Regional Waste Management Plan Projections for Municipal Waste4

Offaly County Council, Planning Dept. - Inspection Purposes Only



2. NEED FOR THE PROPOSED DEVELOPMENT

2.1 Introduction

This chapter assess the need for the proposed development in the context of the existing and future waste management capacity requirements.

2.2 Statement of Competency



This chapter was prepared by Eoin O' Connor and Richard Deeney.

Eoin is a Project Environmental Scientist with Fehily Timoney & Company. He has over 7 years' experience in the environment section and holds a BSc. in Environmental Science and Health and an MSc. in Environmental Technology. Eoin has a substantial amount of experience completing planning application and EIAR chapters including Needs assessments. He has carried out such work for a variety of project types including materials recovery facilities, waste transfer stations, integrated waste management facilities and anaerobic digestion facilities.

Richard Deeney is a Senior Environmental Scientist with Fehily Timoney and Company. Richard has over 10 years' experience in environmental and planning consultancy. Richard has a B.Sc. in Environmental Management and an Advanced Diploma in Planning and Environmental Law with the Kings Inns. He has a vast amount of experience coordinating and completing EIAR's for a wide variety of development types including waste facilities, tourism development, quarries and manufacturing facilities. Richard has been involved in the completion of numerous EIA Need assessments for a wide range of proposed development types.

2.3 The Proposed Development

The proposed development is outlined in Chapter 1 – Introduction and a detailed description of the proposed development is set out in Chapter 4 - Existing and Proposed Development.

2.4 Context of the Proposed Development

The context in which the application for permission in respect of the proposed development is made reflects an Irish waste management sector which has undergone significant changes in the past number of years, and which continues to undergo change. The waste management sector has transitioned from being heavily 'landfill dependant', to one in which the role of landfill disposal as a waste management option is diminishing. This reflects the requirements and objectives of European and National legislation and policy, where waste management activities are focused on the higher tiers of the waste hierarchy (E.g. waste recovery, waste recycling). There has been a dramatic reduction in landfilling capacity in Ireland consequently. This reduced landfill capacity has not yet been fully offset by an increase in waste management capacity at waste recovery or recycling facilities. Consequently, there is a need for additional Materials Recovery Facilities to promote the separation, recovery and recycling of wastes, in support of Circular Economy related objectives.



The need for increased recovery and recycling of waste is further promoted within the recently enacted Circular Economy and Miscellaneous Provisions Act 2022. This Act underpins and promotes Ireland's move away from the 'take-make-waste' linear economy model toward a circular economic model which promotes recycling and reuse.

2.5 Need for the Development

The need for this facility is influenced by several factors, discussed in further detail in the following contexts.

- Waste management policy promoting the need for the maximization of waste recovery and recycling,
- Increasing waste generation and demand for waste management capacity,
- Need for waste management infrastructure to facilitate achieving waste management recovery targets,
- Specific need for MSW Pre-treatment Capacity,
- Commercial objectives of the Applicant to manage all the wastes it collects in a self-sufficient, efficient and cost-effective manner.

2.5.1 Waste management policy promoting the need for the maximization of waste recovery and recycling

Chapter 5 of Volume 2 of this EIA addresses the policy and legislative background of relevance to the proposed development, which supports the implementation of strategies to maximise recycling and recovery and to minimise landfill disposal of wastes and supports the objective of achieving a Circular Economy.

The proposed development specifically relates to increasing the national capacity for the:

- Construction and Demolition (C&D) waste sorting and processing to enhance recovery and recycling;
- Recovery and recycling of timber waste;
- Bulk loading and onward transfer of Dry Mixed Recyclables (DMR) to enhance recovery and recycling;
- Municipal Solid Waste (MSW) sorting ;
- MSW sorting and pre-treatment to facilitate material separation and onward recycling, and the production of Refuse Derived Fuel (RDF) for use in energy recovery facilities.

The proposed development supports the maximisation of recovery and recycling in keeping with national and regional policy and legislation.

The relevant waste management plans are the Eastern-Midlands Region Waste Management Plan 2015-2021, Southern Region Waste Management Plan 2015 – 2021 and Connacht-Ulster Region Waste Management Plan 2015 - 2021. Compliance of with the policy objectives of these Plans are examined in detailed in Chapter 5 of this EIA. The Plans clearly identify the need to maximize waste recovery and recycling, minimize disposal of waste to landfill, provide recovery and recycling waste management capacity regionally, promote the circular economy, and supply MSW pre-treatment capacity. The proposed development will clearly and substantively support meeting these various defined needs.



The Regional Waste Management Plans place a greater emphasis on self-sufficiency and proximity of waste management infrastructure on a national scale and requires Irish authorities to develop and maintain indigenous waste management infrastructure. The proposed development will ensure there is a greater level of waste management capacity in Ireland, thereby supporting the nation achieving the tenets of self-sufficiency and proximity as defined in Waste Management Legislation and Policy.

The proposed development will serve to promote waste sorting and separation and recovery, and onward recycling of segregated waste fractions, and will therefore support the principles and policies underpinning the Circular Economy and Miscellaneous Provisions Act 2022.

2.5.2 Increasing waste generation and demand for waste management capacity

Municipal Waste Management Demand (inclusive of Household, Commercial and Industrial Municipal Waste)

Each of the three regional waste management plans provides projections of regional waste generation which, when combined, present future national waste generation projections. Given that these projections form the basis on which the policy objectives within the regional plans are made, it is considered appropriate to utilise the projections made within these plans in this need assessment.

Table 2-1 summarises the future Municipal Waste projections provided with the three regional plans, which are presented in detail up until 2021.

Figures presented within the regional plans are presented for every two years (2013, 2015, 2017 etc.) and so Table 2-1 reflects the intervening years as being the midpoints between the tonnages identified. These projections within the plans reflect a year-on-year growth of 2-3% for both household and commercial wastes.

The regional waste plans also envisage a Municipal Waste generation total of approximately 3.9 million tonnes by 2030, which was determined by applying a 2.5% growth factor for the period for 2020 to 2030. While the tonnages for the intervening period between 2021 and 2030 are not presented within the plans, Table 2-1 applies the growth factors identified to the Municipal Waste generated to reach the figures presented for 2030.

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Table 2-1: Regional Waste Management Plan Projections for Municipal Waste

Year		2013,t	2014,t	2015,t	2016,t	2017,t	2018,t	2019,t	2020,t	2021,t	2022,t	2023,t	2024,t	2025,t	2026,t	2027,t	2028,t	2029,t	2030,t
Connacht/Ulster Region	<i>High Range</i>	428,177	439,119	450,061	462,537	475,012	489,044	503,076	516,525	529,973	543,222	556,803	570,723	584,991	599,616	614,606	629,971	645,721	661,864
	<i>Low Range</i>	432,333	443,399	454,465	461,993	469,521	477,244	484,967	492,498	500,029	512,530	525,343	538,477	551,938	565,737	579,880	594,377	609,237	624,468
Eastern/Midlands Region	<i>High Range</i>	1,229,965	1,306,313	1,382,661	1,426,717	1,470,772	1,519,317	1,567,862	1,612,747	1,657,632	1,699,073	1,741,550	1,785,088	1,829,716	1,875,458	1,922,345	1,970,404	2,019,664	2,070,155
	<i>Low Range</i>	1,332,303	1,373,816	1,415,328	1,445,384	1,475,440	1,506,250	1,537,059	1,565,549	1,594,038	1,633,889	1,674,736	1,716,605	1,759,520	1,803,508	1,848,595	1,894,810	1,942,181	1,990,735
Southern Region	<i>High Range</i>	884,171	908,179	932,187	958,238	984,289	1,013,284	1,042,278	1,070,181	1,098,083	1,125,535	1,153,673	1,182,515	1,212,078	1,242,380	1,273,440	1,305,276	1,337,908	1,371,355
	<i>Low Range</i>	892,643	917,366	942,089	958,957	975,824	992,875	1,009,926	1,026,803	1,043,680	1,069,772	1,096,516	1,123,929	1,152,027	1,180,828	1,210,349	1,240,608	1,271,623	1,303,413
Total Generated	<i>High Range</i>	2,542,313	2,653,611	2,764,909	2,847,491	2,930,073	3,021,645	3,113,216	3,199,452	3,285,688	3,367,830	3,452,026	3,538,327	3,626,785	3,717,454	3,810,391	3,905,651	4,003,292	4,103,374
	<i>Low Range</i>	2,657,279	2,734,581	2,811,882	2,866,334	2,920,785	2,976,369	3,031,952	3,084,850	3,137,747	3,216,191	3,296,595	3,379,010	3,463,486	3,550,073	3,638,825	3,729,795	3,823,040	3,918,616
	<i>Midpoint</i>	2,599,796	2,694,096	2,788,396	2,856,913	2,925,429	2,999,007	3,072,584	3,142,151	3,211,718	3,292,011	3,374,311	3,458,669	3,545,136	3,633,764	3,724,608	3,817,723	3,913,167	4,010,996

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The EPA's National Waste Statistics Report from 2019 identifies that 3.2 m tonnes of Municipal Waste was generated in 2019. This figure is slightly higher but closely similar to the previously predicted figure in Table 2-1.

40% of Municipal Waste was exported for final treatment that year, which highlights a deficiency in Municipal Waste processing capacity nationally.

A clear need for additional Municipal Waste management capacity exists given Municipal Waste generation predictions going forward and given current export rates of Municipal Waste. The proposed facility will serve to accept, process / pre-treat and bulk Municipal Waste generated in the Midlands region as well as surrounding regions, thereby contributing to meeting this current and future need on both a regional and a national scale.

Construction and Demolition (C&D) Waste

The published report, prepared on behalf of the three waste management regions, entitled 'Construction & Demolition Waste – Soil and Stone Recovery/Disposal Capacity' identifies a potential shortfall in capacity for C&D soil and stone in the range of c. 1.5 million tonnes in 2018 to just under 4 million tonnes in 2023. In the context of this proposed development, where potential to accept of this type of material at the proposed facility exists, this identified lack of capacity is a significant contextual issue.

Further to this, the EPA's National Waste Statistics Report for 2019 reports that 8.8 m tonnes of C&D was collected and managed in 2019, up from 6.2 m tonnes in 2018, and 4.7 million tonnes in 2017. The actual C&D waste figures in 2019 was far in excess of the forecasts for that year as defined in the 'Construction & Demolition Waste – Soil and Stone Recovery/Disposal Capacity' document (5.2 million). This ongoing and substantial increase in C&D waste generation corresponds with an increase in construction activity nationally.

A distinct need for C&D waste management capacity is therefore needed nationally. The proposed facility will serve to accept, separate and promote the recovery and recycling of a variety of C&D sourced wastes including timber.

According to the EPA's National Waste Statistics Report for 2019 only 7% of C&D waste was recycled, with most of it being sent for inert landfilling. The dominance of backfilling as a treatment operation reflects the large proportion of soil and stones in C&D waste. A need to improve C&D waste separation recovery and recycling practices still exist, however. This will ensure that recyclable C&D waste fractions will be sent for onward recycling, which is higher up on the Waste Hierarchy than recovery through inert landfilling. The proposed facility will serve to separate C&D waste fractions, thereby allowing certain C&D waste fractions to be sent for onward re-processing and recycling as feasible, rather than being sent for recovery through inert landfilling.

Population Growth Impacting on Waste Generation

The Central Statistics Office (CRO) 2022 census determined that Ireland current populations is 5.123 million. This represents a 7.6% increase in population since 2016.

The Economic and Social Research Institute (ESRI) in their research document entitled 'Regional Demographics and Structural Housing Demand at a County Level' (Dec, 2020) predicts that the population of Ireland will increase by around 926,000 people between 2016 and 2040 resulting in a total population of over 5.665 million people by the end of the period.



It is clear from census data and research predictions that Ireland's population is growing at a significant rate. This growth is expected to continue in the long-term and is expected to occur across multiple regions. For example, within its Regional Population Projections 2017 – 2036, the Central Statistics Office predicts that the 'Dublin Region' (inclusive of Dublin City, Dún Laoghaire–Rathdown, Fingal and South Dublin) will increase to 1,671,900 by 2036 (from a baseline of 1,335,900 in 2016).

An increasing population will lead to increasing waste generation. A clear need for additional waste management capacity nationally is needed given population growth predictions.

2.5.3 Need for waste management infrastructure to facilitate achieving waste management targets

2025, 60% in 2030 and 65% in 2035. With a 37% recycling rate reported for 2019 by the EPA significant change is needed to meet these targets including greater capacity for separation and recovery of recyclable materials.

The revised Landfill Directive includes a target to reduce the landfilling of municipal waste to 10% or less by 2035. The EPA have reported that 15% of municipal waste was landfilled in 2019.

While the rate of landfill/disposal has decreased significantly since 2012 (1,027,577 tonnes) to 2019 (471,594 tonnes) maximising diversion of waste from landfill has always been a key objective of waste policy and additional supporting waste management infrastructure will be needed to continue diverting a greater proportion of municipal waste from landfill i.e. through materials recovery and recycling.

The operation of the proposed facility will serve to promote material separation and recovery/onward recycling, the diversion of waste from landfill, and the pre-treatment of MSW waste for onward energy recovery. The facility will therefore contribute to the achievement of the targets defined in the Waste Framework Directive and Landfill Directive.

2.5.4 Specific need for MSW Pre-treatment Capacity

The EPA requires that all MSW sent for Energy Recovery or for disposal to landfill is pre-treated i.e. to ensure all recoverable/recyclable content of the waste is extracted prior to energy recovery/disposal. The proposed development is designed to support meeting these requirements and to help comply with the EPA's enforcement policy.

There has been and will continue to be a substantial increase in energy recovery capacity in Ireland recent years. The Carranstown Waste to Energy facility commenced operations in 2011. This facility recently gained approval from An Bord Pleanála to increase its waste management capacity from 235,000 tonnes per annum to 280,000 tonnes per annum. The Dublin Waste to Energy facility commenced operations in 2017. This facility recently gained approval from the EPA to increase its intake capacity from 600,000 tonnes per annum to 690,000 tonnes per annum. A Planning Application is currently being prepared for the development of the Ringaskiddy Waste to Energy Facility which will accept 240,000 tonnes of waste per annum for processing. Combined with thermal capacity provided at three cement kilns within the country, indigenous thermal recovery of energy from waste will be the primary means of management of residual municipal waste nationally going into the future.

Waste ultimately destined for these energy recovery facilities will need to be subject to pre-treatment operations prior to being sent to these facilities to ensure that recoverable waste fractions are separated from the waste in line with current waste management policy and EPA requirements, and to ensure that residual MSW is suitable for energy recovery based on its thermal characteristics.



During Phase 2 of the proposed development operations, the proposed facility will pre-treat MSW to produce Refuse Derived Fuel, which will be able to be utilized for energy recovery, thereby meeting this need.

As discussed in Section 2.5.2, Municipal Waste generation will increase in future years. Consequently, there will be need for additional MSW pre-treatment capacity going into the future. The proposed facility will therefore contribute to meeting the identified current and future MSW pre-treatment capacity needs on a national scale.

2.5.5 Commercial objectives of the Applicant to manage all the wastes it collects in a self-sufficient, efficient and cost-effective manner.

The proposed development will be the Applicants first waste management facility in the Midlands region (Offaly, Laois, Kildare, Westmeath) that will be authorised to accept MSW.

The applicant currently operates an existing waste facility located at Daingean, Co. Offaly which is limited to only accepting Construction and Demolition Waste skip waste.

The proposed development has been designed to meet the Applicant's capacity requirements within the Midlands area and surrounding regions, and to promote waste recovery and recycling, and the pre-treatment of MSW.

At present, the applicant relies substantially on more distant third-party waste management facilities to accept the MSW waste it collects in from its kerbside collections including Black Bin residual waste, Green Bin recycling waste and Brown Bin food waste. This waste is currently brought to third party waste management facilities which are a significant distance away from the Applicant's collection routes. The proposed development will facilitate the Applicant in managing the wastes it collects at its own waste management facilities. This will allow the Applicant to achieve self-sufficiency and cost effectiveness with respect to the waste management services it provides to its existing household and commercial customers.

2.6 Summary

The proposed development will improve waste management capacity nationally in accordance with the tenets of self-sufficiency and proximity as defined in Waste Management Legislation and Policy.

The proposed development will contribute to meeting waste management needs defined by Waste Management Policy and Legislation.

The proposed development will contribute toward meeting municipal waste and C&D waste management capacity needs.

The proposed development will support achieving Waste Management targets defined nationally under the Waste Framework Directive and Landfill Directive, including targets to increase MSW recycling and reduce landfilling of waste.

The proposed development will contribute to meeting MSW pre-treatment capacity needs on a national scale.





The proposed development will facilitate the applicant achieving its commercial objectives, namely by allowing the Applicant to accept and manage the wastes that it collects at waste management facilities under its control.

2.7 References

Eastern-Midlands Regional Waste Office, Eastern-Midlands Region Waste Management Plan 2015-2021

Southern Regional Waste Office, Southern Region Waste Management Plan 2015 – 2021

Connacht-Ulster Regional Waste Office Connacht-Ulster Region Waste Management Plan 2015 – 2021

Environmental Protection Agency (EPA) (2019). National Waste Statistics, Summary Report for 2019.

Environmental Protection Agency (EPA). National Waste Statistics. [Available at]: <https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/>

Regional Waste Management Planning Office (RWMP) (2018) Construction & Demolition Waste – Soil and Stone Recovery/Disposal Capacity.

EU Waste Framework Directive (2018), Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste

EU Landfill Directive (1999), Council Directive 1999/31/EC of 26 April 1999.

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