

1. Introduction

1.1 Project Overview

1.1.1 Introduction

Indaver proposes to develop a resource recovery centre (including waste-to-energy facility) in Ringaskiddy in County Cork.

The proposed development will consist principally of a waste-to-energy facility (waste incinerator) for the treatment of up to 240,000 tonnes per annum of residual, household, commercial and industrial non-hazardous and hazardous waste which is currently landfilled or exported. Of the 240,000 tonnes of waste, up to 24,000 tonnes per annum of suitable hazardous waste will be treated at the facility.

In line with European Union and national policy, this residual waste will be diverted away from landfill and exports, moving the management of waste up the waste hierarchy, allowing Ireland to become more self-sufficient in the treatment of waste and reducing the environmental impact of residual waste management. The proposed development will maximise the extraction and recovery of valuable material (in the form of ferrous and non-ferrous metals) and energy (in the form of 21 megawatts of electricity) resources from residual waste.

This chapter outlines the background to the project and summarises the required planning procedure. This chapter also describes the methodology used to prepare this Environmental Impact Statement (EIS) and the consultation process that has been carried out to date. For ease of reference, the Ringaskiddy Resource Recovery Centre (including waste-to-energy facility) is referred to as “proposed development” or “Ringaskiddy Resource Recovery Centre” in this chapter and throughout the EIS.

1.1.2 Project Location

The site for the Ringaskiddy Resource Recovery Centre is located approximately 15km to the south-east of Cork City, in the townland of Ringaskiddy on the Ringaskiddy Peninsula in the lower part of Cork Harbour. The site occupies an area of approximately 13.55 hectares and is located approximately 800m east of the village of Ringaskiddy.

The L2545, the main road from Ringaskiddy village to Haulbowline Island, forms the northern boundary of the site. The eastern boundary of the site extends to the foreshore of Cork Harbour along Gobby Beach. The site surrounds the Hammond Lane Metal Recycling Co Ltd facility. Refer to **Figure 1.1** which shows the site location.

1.1.3 Main Elements of the Proposed Development

The main element of the proposed Ringaskiddy Resource Recovery Centre project is a waste-to-energy facility (waste incinerator).

Other elements include an upgrade of a section of the L2545 road, coastal protection measures on Gobby beach, a connection to the national electrical grid, and raising the ground levels in part of the site. Refer to **Figure 1.3** for the overall site layout. A full description of the proposed development is provided in **Chapter 4 Description of the Proposed Development** of this EIS.

The design of the proposed development which was submitted as part of the planning application to ABP in 2016 has remained the same, with the exception of:

- Minor alterations to the design of the interface with the public road, to integrate the proposed development with the recently-completed public realm/ active travel improvements on the L2545 local road
- Minor alterations to the proposed design at the interface of the proposed development with the coastal zone, to reflect the passing of time and updated information in relation to coastal erosion
- An additional electrical grid connection option to the site

- The gas transmission main located within the site has been decommissioned and as such there is no requirement to divert this gas transmission main. However, due to the nature of the works, sections of the in-situ grouted gas main will require removal

The updated EIS has been updated to take account of these design changes and the following drawings have also been updated.

Table 1.1 Updated Drawings Included with 2025 Planning Documentation

Drawing List	Drawing Number
Cover Sheet	C-000-000
Record Place Map	1434-100
Site Location Map	1434-101
Existing Site Layout Plan	1434-102
Topographical Survey	1434-103
Proposed Site Layout Plan	1434-104
Proposed Site Layout Plan	1434-105
Proposed Site Layout Plan	1434-106
Site Entrance Details	1434-107
Overall Road Layout	C-000-001
Proposed Road Layout Sheet 1 of 2	C-000-002
Proposed Road Layout Sheet 2 of 2	C-000-003
Raised Section of L2545 Road Plan & Longitudinal Profile	C-000-004
Proposed Sections Sheet 1 of 2	C-000-005
Proposed Sections Sheet 2 of 2	C-000-006
Proposed L2545 Road Raising Typical Sections	C-000-007
Overall Surface Water Drainage Layout	C-000-010
Proposed Surface Water Drainage Layout Sheet 1 of 2	C-000-011
Proposed Surface Water Drainage Layout Sheet 2 of 2	C-000-012
Proposed Surface Water Road Drainage Layout Sheet 1 of 2	C-000-013
Proposed Surface Water Road Drainage Layout Sheet 2 of 2	C-000-014
Surface Water Drainage Catchments	C-000-015
Overall Foul Drainage Layout	C-000-020
Proposed Foul Drainage Layout Sheet 1 of 2	C-000-021
Proposed Foul Drainage Layout Sheet 2 of 2	C-000-022
Overall Potable & Fire Main Layout	C-000-030
Potable & Fire Main Layout	C-000-031

Drawing List	Drawing Number
Overall Proposed External Lighting Layout	C-000-040
Proposed External Lighting Layout	C-000-041
Overall Proposed Fencing Layout	C-000-050
Proposed Fencing Layout Sheet 1 of 2	C-000-051
Proposed Fencing Layout Sheet 2 of 2	C-000-052
Estimated Cliff retreat lines	C-000-060
Beach Nourishment Solution Plan	C-000-061
Beach Nourishment Solution Sections	C-000-062
Cliff Evolution Plan	C-000-063
Cliff Evolution Sections	C-000-064
Existing Services Layout	C-000-070
Diversion of Existing Services	C-000-071
Typical Drainage Details Sheet 1 of 2	C-000-080
Typical Drainage Details Sheet 2 of 2	C-000-081
Typical Water & Ducting Details	C-000-082
Overall Landscape Masterplan	300
Landscape Masterplan Eastern Site	301
Landscape Cross Sections	302
Landscape Sections	303

The overall conclusions of the 2016 EIS and the 2016 Natura impact statement (NIS) have not changed, and the same conclusions are documented in this updated EIS and the updated NIS.

1.2 Background

1.2.1 The Positive Effects of Ireland's First Large Scale Waste-to-Energy Facility

Indaver has successfully operated Ireland's first large scale waste-to-energy facility in Duleek, Co Meath, since 2011. The facility treats more than 200,000 tonnes per annum of household, commercial and industrial non-hazardous waste and, since 2015, hazardous waste. The facility in Meath has a similar capacity to the proposed development.

Since its commissioning in 2011, the Meath Waste-to-Energy facility has consistently diverted over 200,000 tonnes of municipal waste annually from landfill and export. The facility recovers valuable materials, including ferrous metals, and generates 18 MW of electricity each year. This amount of energy is sufficient to power approximately 42,000 homes¹, contributing significantly to Ireland's renewable energy goals and waste management infrastructure.

¹ Based off average household usage of 3.5MWh per family/year

Like any large-scale industrial facility, the facility in Meath is subject to an extremely rigorous environmental and compliance regime. Its highly-designed systems are tuned to monitor 14 different individual aspects of the Meath facility continuously. Since 2011, hundreds of thousands of measurements of its operations have been taken, evaluated and reported in accordance with its IE licence and permissions.

Not only is the Meath facility compliant and well-run, but it is also successfully integrated in the local area. In order to provide an effective and transparent means of communication and as part of a planning condition, Indaver and the local community in Meath set up a Community Liaison Committee in 2008, whose members include representatives from the Carranstown Residents Association, local Council members, Meath County Council, and Indaver. The Community Liaison Committee has proved invaluable. It ensures that any issues that arise are quickly identified and speedily resolved.

1.2.2 A Plan-Led Development

Indaver's proposed thermal treatment facility for residual non-hazardous and hazardous waste streams supports and reflects the recommendations and policies of the National Hazardous Waste Management Plan 2021-2027 and the National Waste Management Plan for a Circular Economy 2024-2030 (NWMP). Consistent with the Cork County Development Plan 2022-2028, the proposed development will be located in an industrial area that is also designated as a Strategic Employment Area. It will address a local need for treatment facilities while contributing to a diversity in renewable energy generation and reaffirming Ringaskiddy's strategic industrial role.

The principle of proximity underpins Indaver's choice of the site in Ringaskiddy. Cork is a hub for Ireland's pharmaceutical industry, the producers of the hazardous and non-hazardous industrial waste streams the proposed waste-to-energy facility would treat. Within the southern region, the largest population centre is Cork City, which means this is the area where the largest concentration of household and commercial residual waste is produced.

The NWMP supports the provision of 200,000 to 300,000 tonnes of additional dedicated thermal recovery capacity for the treatment of non-hazardous residual wastes nationally, to ensure there is adequate active thermal treatment capacity.

The Eastern-Midlands Region is currently the only waste region with thermal recovery capacity, indicating a regional imbalance. The proposed development, with its location in the southern region, will help to address this imbalance.

1.2.3 Project History and Current Proposal

The project design has changed since an application for permission was submitted to An Bord Pleanála in 2008, as Indaver responded to the concerns raised by both An Bord Pleanála and the local community. In the 2016 planning application (and accompanying EIS) to ABP (and repeated in this updated EIS), Indaver addressed concerns about overdevelopment, localised flooding of the road, preservation of the Martello Tower as an amenity, and coastal erosion.

The proposed development will include an upgrade of the local road (L2545) adjacent to the Indaver site to alleviate local flooding issues along the road. This upgrade will be a significant planning gain for the benefit of existing and future users of the immediate area. The proposed development will include landscaping along the southern boundary of the L2545, thus enhancing the aesthetics of the approach to Haulbowline and any future amenities there.

The ground levels of the Indaver site will be raised to alleviate localised flooding issues. It is worth noting that the Indaver site is classified as Flood Zone C² according to the OPW Planning Guidelines (2009) which means that the probability of flooding from rivers and the sea is low.

² Flood Zones are geographical areas within which the likelihood of flooding is in a particular range. There are three types of flood zones defined in the OPW Planning Guidelines (2009): A, B & C. The Indaver site is located in *Flood Zone C* which is defined as "Probability of flooding from rivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding)"

The facility has been angled on the site so as to keep a clear sightline (or inter-visibility) between the top of the nearby Martello Tower and Fort Mitchell on Spike Island.

An amenity walkway, incorporating a viewing platform is proposed as part of the proposed development. This walkway will commence at the existing car park at Gobby Beach and will be located close to the eastern and southern boundaries of the proposed development site. The walkway will provide a connection from Gobby Beach towards the Ringaskiddy Martello Tower. This walkway will be a significant planning gain for the benefit of existing and future users of the immediate area.

A full description of the proposed development is provided in **Chapter 4 Description of the Proposed Development** of this EIS.

Finally, issues in relation to coastal erosion were raised by An Bord Pleanála during the course of the 2008 planning application process. The coastline along the eastern boundary of the Indaver site consists of a glacial till face adjoining Gobby Beach. In response to the issues raised by the Board at that time, coastal studies were carried out by Arup in order to better understand the coastal processes in the vicinity of the site, the rate of erosion of the glacial till face and the specific coastal protection measures required. Coastal protection measures in the form of shingle above the foreshore on Gobby Beach are proposed along the eastern boundary of the Indaver site.

Further details on these mitigation measures are provided in **Chapter 13 Soils, Geology, Hydrogeology, Hydrology and Coastal Recession** of this EIS.

1.3 Structure of Environmental Impact Statement

This EIS has been prepared to provide information on the likely significant effects of the proposed development on the environment, as per Schedule 6 of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 218, S.I. No. 296 of 2018:

1. A description of the proposed development comprising information on the site, design, size and other relevant features of the proposed development
2. A description of the likely significant effects on the environment of the proposed development
3. A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment of the proposed development
4. A description of the reasonable alternatives studied by the person or persons who prepared the EIS, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment
5. A Non-technical summary of the information referred to in the above four points

The EIS has been prepared on behalf of Indaver by environmental specialists under the supervision of Arup.

The format used in the EIS is the grouped format, in which each topic is addressed in a separate section. This is designed to allow readers to access the issues of interest to them as easily as possible. However, there is overlap of some topics. For example, effects on human beings are addressed in a number of chapters including Landscape and Visual Assessment, Air Quality, Climate, Noise and Vibration, as well as Population. Issues not directly addressed in individual chapters and interactions between environmental issues are described in **Chapter 16 Cumulative Impacts, Other Impacts and Interactions**.

The EIS comprises four volumes of which this is the second. The four are as follows:

- Volume 1 – Non-Technical Summary
- Volume 2 – Environmental Impact Statement (Main Text)
- Volume 3 – Figures
- Volume 4 – Appendices

In addition, a updated Natura Impact Statement has been prepared and will be submitted in response to the request for further information issued by An Bord Pleanála in June 2024, in response to the High Court decision. This updated NIS will enable An Bord Pleanála (now An Coimisiún Pleanála) to carry out the Stage One and Stage Two assessments required pursuant to Article (3) if the Habitats Directive and Part XAB of the Planning and Development Act 2000, as amended.

1.4 Duration of Planning Permission

The construction of the proposed development including site development works will take approximately 31 months. However, in view of the complexity of the proposed development, licensing requirements and the need for the advance agreement of all conditions, Indaver is applying for a 10-year planning permission to commence and complete the construction phase.

In addition, permission is sought to operate the proposed development for an initial period of 30 years after commissioning.

1.5 Planning Procedure for the Proposed Development

The provisions of section 37A of the Planning and Development Act, as amended (“the 2000 Act”), require that an application for permission in respect of the proposed Ringaskiddy Resource Recovery Centre to be made directly to An Bord Pleanála (ABP) under section 37E, in circumstances where ABP has determined that the proposed development is of a class specified in the Seventh Schedule to the Act and that the condition set out in section 37A (2) of the 2000 Act was satisfied.

At the time (of the 2016 application) ABP notified Indaver and Cork County Council that the proposed development is of a class specified in the Seventh Schedule to the 2000 Act and falls within one of the paragraphs of section 37A (2). Accordingly, the application for planning permission was made to ABP and not to the local planning authority (Cork County Council). Refer to **Appendix 1.1** for a copy of the letter from ABP.

The 2000 Act details that pre-application consultations with ABP shall form part of the process leading to ABP’s determination that an application for permission should be made directly to ABP. In compliance with this, and in preparation for submitting the planning application and EIS in 2016, Indaver engaged in six pre-application consultation meetings, between the 12th November 2012 and the 23rd November 2015.

1.5.1 Overview of Planning Process between 2016-2025

- An application for permission under section 37E of the 2000 Act, as amended, was submitted by Indaver to ABP in January 2016. An EIS and NIS accompanied the planning application to ABP. (For reference, the EIS and NIS are referred to as “2016 EIS” and “2016 NIS”)
- ABP held an oral hearing in April and May of 2016
- ABP requested further information from Indaver on 20th March 2017. Indaver provided the information as requested by ABP on 15th May 2017. Submissions on the further information documentation were made by observers to ABP up until July 2017. Indaver also made a submission to ABP on 2nd October 2017 in response to these submissions and observations received by ABP
- Permission was granted by ABP for the proposed development under section 37G of the 2000 Act, as amended, in May 2018. A 10-year planning permission and a 30-year operational life from the completion of the construction of the proposed development was granted. This decision was subsequently the subject of a legal case
- Following the grant of planning permission in 2018, Indaver applied to the EPA for an Industrial Emissions Licence (IE Licence) in 2019. This remains a live application
- By order of the High Court in June 2022, the permission was quashed and remitted back to ABP to determine the planning application concerned in accordance with the Court Judgement. In June 2024 ABP, in accordance with section 37(F)(1) of the Planning and Development Act 2000, as amended, required Indaver to “*furnish the following further information in relation to the effects on the environment of the proposed development –*

1. Due to the passage of time since the initial submission of the application, please submit any updated or further information of relevance on the application.
2. An updated Environmental Impact Statement.
3. An updated Natura Impact Statement.”

1.6 Environmental Impact Statement Methodology

1.6.1 Statutory Requirements for the Contents of an EIS

The 2016 EIS accompanied the 2016 planning application to ABP. The 2016 EIS was prepared in compliance with the requirements of the EIA Directive 2011/92/EU and Planning and Development Regulations 2001, as amended at that time. Although the requirements of Directive 2014/52/EU had not yet been transposed in 2016, the 2016 EIS had regard to the provisions of Directive 2014/52/EU. However, ABP were required to carry out the environmental impact assessment in accordance with the legal requirements of the EIA Directive 2011/92/EU and Planning and Development Regulations 2001, as amended at that time.

Directive 2011/92/EU has now been amended in 2014 by Directive 2014/52/EU. The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018) transpose the requirements of the 2014 EIA Directive into existing planning consent procedures.

The definition of EIA provides for a clear distinction between the process of environmental impact assessment to be carried out by the competent authority and the preparation by the developer of an EIA report (EIAR). The environmental impact assessment must identify, describe and assess the direct and indirect significant effects of the project on specified environmental factors.

These factors include changes from the 2011 Directive, the most notable being the replacement of ‘Human Beings’ by ‘Population and Human Health’, the addition of ‘Land’ and the replacement of ‘Flora and Fauna’ by ‘Biodiversity’ with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC (the Habitats and Birds Directives). The significant effects on these environmental factors must include the expected significant effects arising from the vulnerability of the project to the risks of major accidents and/or disasters which are relevant to the project.

Key amendments introduced by the 2014 Directive relating to the preparation of an EIAR include the following:

- The refinement of environmental factors to be considered in the assessment process – resource efficiency, climate change, population and human health, biodiversity and disaster risk prevention and management
- Strengthening of the procedures for screening, particularly through the introduction of new information requirements to be provided by the developer (Annex IIA) and revised selection criteria to be used by the competent authority in making a determination (Annex III of Directive)
- Expansion of the information to be included in the EIAR (formerly known in Ireland as EIS) (Annex III of Directive)
- Requirement that the EIAR must be prepared by competent experts and for the competent authority to have, or have access to, sufficient expertise to examine the EIAR

The 2016 EIS which accompanied the 2016 planning application has now been updated to reflect the above changes in the EIA legislation. Noting that ABP requested an ‘*updated Environmental Impact Statement*’, this report is referred to as an EIS but is in compliance with the amended EIA Directive, the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 and up to date EIA guidance.

The overall conclusions of the 2016 EIS have not changed, and the same conclusions are documented in this EIS.

1.6.2 Changes to Environmental Baseline

Due to the passage of time since the compilation of the 2016 EIS and the potential for changes in the baseline environment, Indaver commissioned several new environmental baseline studies for this updated EIS, building on the additional baseline information obtained during the preparation of the 2019 IE Licence Application EIAR. The rationale was based on the areas with the greatest potential for change since the previous baseline data was gathered, and the updated data is outlined in the relevant topic chapters of the EIS.

1.7 Project Team and Details of Competent Experts

This EIS has been prepared by a multi-disciplinary consultancy team of competent experts, led by Arup.

Arup has been awarded an EIA Quality Mark by the Institute of Environmental Management and Assessment in recognition of its excellence in EIA activities.

Further, all technical leads are deemed to be qualified and competent experts in their fields in accordance with Article 5(3) of the EIA Directive, given their academic qualifications, professional affiliations, and professional experience on other EISs for similar projects. Refer to **Table 1.2** for details on the competent experts that have prepared this EIS.

Table 1.2 Competence and Experience of EIS Authors

Role and EIS Chapter	Responsible	Company	No. years of experience	Professional Qualifications and Relevant Experience	Professional Affiliations
<p>EIS Manager</p> <p>Chapter 1 Introduction</p> <p>Chapter 3 Alternatives</p> <p>Chapter 4 Description of the Proposed Development</p> <p>Chapter 5 Construction Activities</p> <p>Chapter 6 Population and Human Health</p> <p>Chapter 15 Material Assets</p> <p>Chapter 16 Cumulative Impacts and Other Impacts and Interactions</p> <p>Chapter 17 Summary of Impacts and Mitigation Measures</p>	Dan Garvey	Arup	20+ years	<p>MSc Environmental Protection, Institute of Technology Sligo, 2008.</p> <p>BA (Hons) Geography and Public Policy Studies, University College Cork, 1999.</p> <p>Diploma in Construction Studies (Architectural Technology), Cork Institute of Technology, 1994.</p> <p>Dan has over 20 years' experience in environmental impact assessment, industrial licensing, waste and GMM licensing, and planning. He has prepared more than 35 environmental impact statements / assessment reports.</p>	<p>Chartered Member of the Institution of Environmental Sciences</p> <p>Chartered Geographer, Fellow of the Royal Geographical Society</p> <p>Member of Earth Science Ireland</p>
<p>EIS Coordinator</p> <p>Chapter 1 Introduction</p> <p>Chapter 3 Alternatives</p> <p>Chapter 4 Description of the Proposed Development</p> <p>Chapter 5 Construction Activities</p> <p>Chapter 6 Population and Human Health</p> <p>Chapter 15 Material Assets</p> <p>Chapter 16 Cumulative Impacts and Other Impacts and Interactions</p>	Debbie Flynn	Arup	8 years	<p>BSc Environmental Science</p> <p>Debbie has over eight years' experience as an Environmental Consultant, based in the Arup Cork Office. She holds a BSc in Environmental Science from the University of Limerick. Debbie primarily works on the preparation of Environmental Impact Assessment Reports (EIAR), EIA Screening Reports, Reports for Screening for Appropriate Assessment and technical due diligence reports. Debbie has coordinated and contributed to the preparation of a number of large-scale EIA developments including NISA Offshore Wind Farm, Wilton Town Centre, Horgan's Quay, Arklow Wastewater Treatment Plant, Custom House Quay Development and Greenlink Interconnector.</p>	

Role and EIS Chapter	Responsible	Company	No. years of experience	Professional Qualifications and Relevant Experience	Professional Affiliations
Chapter 17 Summary of Impacts and Mitigation Measures					
Chapter 2 Policy and Planning Framework and Need for the Scheme	Aiden O'Neill	Coakley O'Neill Town Planning Ltd.	29 years	BSc(Hons) Environmental Planning, Queen's University Belfast, 1993 Postgraduate Diploma Town and County Planning, Queen's University Belfast, 1994 Aiden is a Director of Coakley O'Neill Town Planning Ltd, established in Cork in February 2010, and has over 29 years' experience in the public and private sectors in UK and Ireland. Aiden has advised on a number of complex commercial, infrastructural, industrial and urban development projects, including metal recycling developments in Cork and Dublin, as well as the Ringaskiddy Resource Recovery Centre.	
	Conor Jones	Indaver	26 years	BE (Chem), UCD, 1996 Chartered Director, Institute of Directors, IoD Conor is the Regional Engineering Manager of Indaver and has worked on most of Indaver's EIA projects from both a planning and industrial licensing perspective starting with the initial EIA for the Ringaskiddy project in 2001. Conor has been an employee of Indaver since January 1999 and was Plant Manager at Indaver's Duleek Waste to Energy plant from 2014 to 2016.	
	Louise Connolly	Indaver	25 years	BSc (Hons) Environmental Biology, UCD, 1997 MSc Water Science and Technology, TCD, 1998 Louise recently joined Indaver in the role of Policy and Planning Manager which includes oversight of Chapter 2 of this EIS. Prior to this she worked for RPS Consulting Engineers for 16 years initially as Materials Manager on the first national circular economy programme called rx3, and as project manager and technical specialist responsible for the delivery of a range of different public and private sector projects in the areas of sustainable urban development, waste management, resource efficiency and circular economy. Her final role was lead of the Sustainability Team working with clients to deliver on their net zero ambitions. Louise has further industry experience from her time as the Recoverable Resources Co-ordinator in Greenstar and wastewater engineer in Biocycle.	Chartered Waste Manager MCIWM - Chartered Institution of Wastes Management (CIWM)
Chapter 3 Alternatives	Conor Jones	As above			

Role and EIS Chapter	Responsible	Company	No. years of experience	Professional Qualifications and Relevant Experience	Professional Affiliations
	John Ahern	Indaver	30 years	BE (Chem) UCD, 1980 Chartered Director, Institute of Directors, IoD Chartered Engineer, Institute of Engineers Ireland, IEI John has been a regional Director of Indaver Ireland UK for 24 years and has led all of Indaver's waste developments in Ireland and the UK for that time. Prior to joining Indaver John worked for Flogas for 15 years and developed a number of its LPG plants in Ireland and the UK.	
	Steven McAllister	Fichtner	10 years	MEng (Hons) Mechanical Engineering Chartered Engineer (CEng) Two years at Fichtner working on a wide range of energy projects such as energy from waste plants, anaerobic digestion, green hydrogen plants, biofuels plants, gas turbines and wastewater treatment plants. Scope of work includes feasibility studies, planning applications, due diligences, and providing technical advice for improvement projects and engineering support. Prior to working at Fichtner, Steven worked in the gas industry as the Engineering team lead for capital projects. He has also managed an upper tier COMAH site.	Member of Institute of Mechanical Engineers (MIMechE)
	Aiden O'Neill	As Above			
Chapter 4 Description of the Proposed Development	Conor Jones	As above			
Chapter 5 Construction Strategy	Conor Jones	As above			
Chapter 6 Population and Human Health	Martin Hogan	Corporate Health Ireland	38 years	MB BAO BCh 1987 UCC MICGP 1991 MRCGP 1991 FFOM RCPI 2000	Accredited Specialist Irish Medical Council 1997

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				<p>FRCPI 2010</p> <p>Martin is a Consultant Occupational & Environmental Physicial for over 30 years. He is Managing Director of CHI (Cork) and has been involved in Environmental Impact Assessments for over 25 years.</p>	
	Tom Leonard	Byrne O' Cleirigh	29 years	<p>BE (Chem) UCD 1992 MEngSc UCD 1995 Chartered Engineer Thomas (Tom) Leonard is a Partner at Byrne Ó' Cléirigh with 23 years' experience of assisting industries in the area of risk assessment and environmental protection. He has a long track record of providing consultancy support and conducting risk assessments for companies across a wide range of sectors including oil & gas, pharmaceutical, waste management, food & drink and logistics companies</p>	<p>Chartered Engineer</p> <p>Member of Engineers Ireland (MIEI)</p> <p>Member of the Fire & Safety Committee at Engineers Ireland.</p>
	Fergal Callaghan	AWN Consulting Ltd	34 years	<p>Dr Fergal Callaghan is Director with responsibility for Environmental Risk Assessment, with AWN Consulting. He undertakes consultancy in environmental risk assessment and management. He also undertakes assessments with respect to water quality input to EIS and EIA and has extensive experience of the impact of water risk assessment and EPA licence compliance. He has a B.Sc. (Industrial Chemistry) and Ph.D. Chemical Engineering (Waste and Wastewater Treatment). He has 34 years engineering and consultancy experience in the Irish, UK and European environmental industry.</p>	<p>Member of the Royal Society of Chemistry</p> <p>Associate Member of The Institution of Chemical Engineers (AMIChemE)</p> <p>Member of the Environmental Protection Subject Group, IChemE and IChemE Water Group</p>
Chapter 7 Roads and Traffic	Simon Van Jaarsveld	Arup	29 years	<p>BSc Town and Regional Planning</p> <p>BSc Transportation Planning</p> <p>Simon is a transport planner who has almost 30 years experience as a consultant. For the majority of this time Simon was employed at Arup. Simon lead and delivered a wide range of transport planning and traffic engineering projects for both the public and the private sector. He has built up a thorough knowledge on transport master planning, traffic impact assessment, traffic design and engineering, pedestrian and cycle design, mobility management planning, transportation modelling, public engagement and preparing EIAR traffic chapters. Simon has vast experience working with design teams on projects to bring integrated solutions to the fore which adds real value to the preferred solution selected.</p>	<p>Chartered Institute of Logistics and Transport</p> <p>Chartered Institution of Highways & Transportation</p>

Role and EIS Chapter	Responsible	Company	No. years of experience	Professional Qualifications and Relevant Experience	Professional Affiliations
	Shane McCarthy	Arup	5 years	BA (2018), MA (2020) Shane is a Project Engineer as part of the Arup Transport Planning team with 5 years' experience. He has a background in Urban, Spatial and Transport Planning having completed a Master's in Planning and Sustainable Development at University College Cork (2020). Shane has gathered diverse experience of transport projects in the planning and design stages for both public and private Clients since joining Arup in 2020. Shane has developed knowledge in transport engineering projects through experience with traffic impact assessments, traffic modelling, mobility management planning, public engagement and various other transportation projects.	Royal Town Planning Institute Licentiate Member
Chapter 8 Air Quality	Ed Porter	AWN	28 years	Dr. Edward Porter is a Director with responsibility for Air Quality & Climate within AWN. He holds a BSc(Hons) from the University of Sussex (Department of Chemistry), has completed a PhD in Environmental Chemistry (Air Quality) in UCD and is a Full Member of the Royal Society of Chemistry (C Chem MRSC). He specialises in the fields of air quality, EIA and air dispersion modelling.	C Chem MRSC MIAQM
Chapter 9 Climate	Ed Porter	AWN	28 years	As above	As above
Chapter 10 Noise and Vibration	Jennifer Harmon	AWN	22 years	BSc (Hons) Environmental Science, Ulster University, 1999 Diploma Acoustics and Noise Control, Institute of Acoustics, 2002 Jennifer is a Director (Acoustics) with AWN Consulting. She has extensive experience in the preparation of noise and vibration impact assessments for a wide range of infrastructural, industrial, commercial and residential developments across Ireland and has provided expert witness at over 20 planning hearings relating to noise impact assessment.	MIOA
Chapter 11 Landscape and Visual	David Bosonett	Brady Shipman Martin	29 years	Bachelor of Agricultural Science (Landscape Horticulture) Diploma Information Systems David has over 29 years' experience in preparing landscape and visual assessments and has prepared over 150no. LVIA reports for inclusion in EIA documents for a wide range of project types, including wind energy. David has extensive experience in landscape design/mitigation and implementation. He is co-author of TII's 'Standards and Technical Guidance for Landscape Character Assessment and Landscape and Visual Assessment of Transport Infrastructure'.	Member of Irish Landscape Institute – MILI Chartered Member of the Landscape Institute (UK) – CMLI

Role and EIS Chapter	Responsible	Company	No. years of experience	Professional Qualifications and Relevant Experience	Professional Affiliations
Chapter 12 Biodiversity	Carl Dixon	DixonBrosnan Environmental Consultants	20+ years	<p>BSc Applied Ecology, University College Cork</p> <p>MSc Ecology, University College Cork.</p> <p>Carl Dixon MSc (Ecology) is a senior ecologist who has over 25 years' experience in ecological and water quality assessments. Carl Dixon holds an Honours Degree (BSc) in Ecology and a Masters (MSc) in Ecological Monitoring from UCC. He is a senior ecologist who has over 25 years' experience in ecological assessment. Prior to setting up DixonBrosnan Environmental Consultants in 2000, Carl set up and ran Core Environmental Services which included Rural Environmental Protection Scheme (REPS) planning for landowners and ecological assessments. Carl has particular experience in freshwater ecology including electrofishing fish stock assessments and water quality assessments. He also has considerable experience in habitat mapping and mammal ecology including survey work and reporting in relation to Badgers and bats. Other competencies include surveys for invasive species and bird surveys. Carl has extensive experience with regards to EIAR and NIS mitigation and impact assessment. He has particular experience in large-scale industrial developments with extensive experience in complex assessments as part of multi-disciplinary teams. Such projects include gas pipelines, incinerators, electrical cable routes, oil refineries and quarries.</p>	
	Sorcha Sheehy	DixonBrosnan Environmental Consultants	15 years	<p>BSc University College Cork (UCC)</p> <p>PhD (Ecology/Ornithology)</p> <p>Dr. Sorcha Sheehy PhD (ecology/ornithology) is an experienced ecological consultant specialising in bird behaviour. Sorcha received a BSc in Applied Ecology from UCC and subsequently went on to receive a PhD in behavioural ornithology at UCC.</p> <p>During her PhD research, Sorcha studied bird-aircraft collision with a particular focus on bird behaviour, included field-based behavioural observations at airports, bird cadaver examination and collision classification and the use of radar tracking to model collision risk. Sorcha has worked for over 12 years in a professional ecology role and specialises in the coordination of ecology projects and assessments. She has coordinated and contributed to Habitats Directive Assessments (AA screenings and NIS) and Environmental Impact Assessment Reports (EIAR) for a range of small and large-scale projects with particular expertise in assessing impacts on birds. Notable projects include Arklow Bank Wind Park, Shannon Technology and Energy Park and Waste to Energy Facility Ringaskiddy.</p>	

Role and EIS Chapter	Responsible	Company	No. years of experience	Professional Qualifications and Relevant Experience	Professional Affiliations
Chapter 13 Soils, Geology, Hydrogeology, Hydrology and Coastal Recession	Maeve McElligott	Arup	20 years	Maeve McElligott is a chartered Engineering Geologist who has twenty years' experience working with Arup' geotechnical team in Cork, Dublin, Ireland and the UK. Her experience includes geotechnical desk studies, geological mapping and analysis, geomorphology, geophysics, site investigation supervision and interpretation, slope stability in soil and rock, retaining wall and pile foundation design. Resident engineer roles include earthworks, piling works and slope remediation supervision. Maeve is the Lands & Soils lead on large linear infrastructure projects providing expert advice on the environmental constraints and opportunities for these projects associated with soils, geology. This coincides with strong team management skills and experience in commercial and project management. She has prepared geotechnical interpretative reports and Lands and Soils chapters for EIAR's. Maeve currently sits on the board of the Institute of Geologists of Ireland (IGI).	EurGeol (Chartered European Geologist) FGS (Fellow of the Geological Society) PGeo (Professional Geologist)
	Les Brown	Arup	27 years	BSc (Hons) Geology (1994) MSc Engineering Geology (1995) PhD Karst Hydrogeology (2004) Dr Les Brown is a chartered geologist who has over 27 years' hydrogeology experience in Ireland, the United Kingdom, the Middle East and Australia He is a specialist in aquifer management, recharge assessments and hydrogeological aspects of infrastructure design.	EurGeol (Chartered European Geologist) PGeo (Professional Geologist)
	Brian Sexton	Arup	21 years	Brian Sexton is an Associate Director in Arup. He is also a Chartered Engineer specialising in flooding, hydrology, and flood mitigation design, and has over 21 years of international experience. He has dual chartership and membership with both Engineers Ireland and Engineers Australia. He has broad experience working in flood related design across a range of sectors.	Member of Engineers Ireland (EI) Chartered Engineer (EI) Member of Engineers Australia (EA) Chartered Engineer (EA)
	Susana Lizondo	Arup	16 years	Ingeniero de Caminos , Canales y Puertos (Eq. to MEng, Civil Engineering) (2009) Polytechnic University of Valencia. Postgraduate Diploma in Law (2018) Law Society of Ireland Susana Lizondo is a Chartered Engineer working as a Senior Coastal Engineer with the Climate Change and Sustainability Group in Spain. Susana is experienced in the management, consenting and design of international projects	MIEI (Member of Institution of Engineers Ireland) CEng SpICE (Chartered Engineer Spanish ICE)

Role and EIS Chapter	Responsible	Company	No. years of experience	Professional Qualifications and Relevant Experience	Professional Affiliations
				<p>dealing with coastal evolution and morphodynamics, coastal erosion, coastal protection, flooding, resilience and climate change adaptation, numerical wave modelling and MetOcean studies.</p> <p>Susana worked in the Arup's maritime team in Dublin from 2012 to 2021 where she led a large number of Irish coastal projects involving coastal recession.</p> <p>Susana is a coauthor of PIANC guidance on climate change adaptation for maritime and inland port and navigation infrastructure.</p>	<p>CEEQUAL Version 6 Projects Assessor (BREEAM Infrastructure)</p> <p>Member of PIANC working group on Port Resilience</p>
	Louise Lodenkemper	Arup	12 years	<p>MSc Water Science (2015); BSc Honours Environmental Science (2011); BSc (Zoology and Ecology, Environment and Conservation Sciences) (2007)</p> <p>Louise has over two years' experience working as a water resource scientist assessing the risk to freshwater ecosystems for environmental impact and water framework directive assessments for small to large scale infrastructure projects in Ireland, Serbia and Armenia, . She has more than 12 years' experience managing and providing input to complex, multi-disciplinary large-scale water resource protection, catchment management and basin planning projects in South Africa, Kenya, Rwanda, Uganda, Malawi, Madagascar, Namibia and South Sudan.</p>	
	Clon Ulrick	Arup (as a consultant)	40 years	<p>BSc Engineering (Civil)</p> <p>Clon Ulrick is a chartered engineer with over 40 years' of experience in maritime and civil engineering.</p> <p>Clon has been Arup's maritime team leader in London and global maritime skills leader for 6 years. He has had various roles as engineer in over 20 coastal engineering projects in 6 countries, including Ireland.</p> <p>Clon was Expert Witness at the Oral Hearing for the Greystones Harbour development, for which coastal recession was a major consideration.</p>	<p>Chartered Engineer</p> <p>Member, Institution of Civil Engineers (UK)</p> <p>Member, Institution of Structural Engineers (UK)</p> <p>Member, The World Association for Waterborne Transport Infrastructure (PIANC)</p>
Chapter 14 Archaeological, Architectural and Cultural Heritage	Avril Purcell	Lane Purcell Archaeology	30 years	<p>MA Archaeology, NUI Cork, 1994</p> <p>BA Archaeology and History, NUI Cork, 1992.</p> <p>Licence eligible by National Monuments Service since 1997</p> <p>Avril Purcell is the director of LPA and is a licensed archaeologist with 30 years' experience in research, consultancy, surveying and excavation. Avril has been involved in a large number of diverse EIAR projects throughout the country. In some cases, her involvement has been from the initial constraint study stage</p>	

Role and EIS Chapter	Responsible	Company	No. years of experience	Professional Qualifications and Relevant Experience	Professional Affiliations
				through pre-development investigations, resolution and construction. Avril has presented expert witness evidence at An Bord Pleanála oral hearings.	
	Musetta O'Leary	Lane Purcell Archaeology	20 years	<p>MA Archaeology, NUI Cork, 2000</p> <p>BA Archaeology and Geography, NUI Cork, 1998</p> <p>Musetta O'Leary has experience in all aspects of archaeological consultancy. She specialises in managing the archaeological and cultural heritage components of developments at the pre-planning stage. She has coordinated and authored the Cultural Heritage chapters of EIAR projects for a broad range of development types, including residential, infrastructure (roads and utilities), industrial, energy, and extractive industries. Musetta has presented expert witness evidence at An Bord Pleanála oral hearings.</p>	

1.8 Guidance and Legislation

This EIS has been prepared with due regard to the guidelines on the preparation of environmental impact assessment reports including:

- European Commission (2017) Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report
- Government of Ireland (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)
- Department of Housing, Planning, Community and Local Government (2017) Key Issues Consultation Paper on the Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems
- Department of Housing, Planning, Community and Local Government (2017) Circular PL 1/2017 - Implementation of Directive 2014/52/EU on the effects of certain public and private projects on the environment (EIA Directive): Advice on the Administrative Provisions in Advance of Transposition
- Department of Housing, Planning and Local Government (2018) Circular PL 05/2018 -Transposition into Planning Law of Directive 2014/52/EU amending Directive 2011/92/EU on the effects of certain public and private projects on the environment (the EIA Directive) And Revised Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment
- Environmental Protection Agency (2022) Guidelines on the Information to be contained in Environmental Impact Assessment Reports
- European Union (2013) Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment
- European Commission (2012) Interpretation suggested by the Commission as regards the application of the EIA Directive to ancillary/associated works
- European Commission (1999) Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions

1.9 Consultation Undertaken

Indaver has engaged in statutory pre-application consultations with An Bord Pleanála and has also consulted with the planning authority, statutory bodies, interested parties, and the local community regarding its plans for the proposed development. For a representative list of these stakeholders, please see **Appendix 1.2 Consultation**.

1.9.1 Community Stakeholder Engagement

In addition to the consultations referred to above, Indaver has consulted the public and interested parties regarding its plans for the proposed development.

Following initial discussions with representatives of the community and other individuals, Indaver proceeded to hold public engagement days in the area for all interested members of the local community.

The first information day was held between 10am and 2pm and between 4pm and 8pm on the 31st of July 2015 at the Carrigaline Court Hotel. The second information day was held in the Ringaskiddy Community Centre on the 8th of September between 4pm and 8pm. The third information day was held at Shanbally National School on the 15th of September between 6pm and 9pm.

Indaver advertised each information day in advance on the Indaver website and in a number of local papers such as The Carrigdhoun, The Southern Star, The Evening Echo and The Examiner. The Ringaskiddy Community Centre and Shanbally National School information days were also advertised on each venue's noticeboards. Indaver sent letters advertising the information days to members of the local community in July and in September. Over 300 letters were sent out on each occasion to individuals who had previously expressed interest in the project, and whose details Indaver had recorded in a communications register.

A letter was sent to the same group of people in November 2015 to inform them of the closing stages of the planning preparation and possible submission in January 2016.

Members of the project team, including the project manager, the managing director, and the manager of Indaver's Meath facility attended each day.

The project team used a series of posters and other visual aids to give an overview of the project, the planning history, and the legislative and policy context; to demonstrate how the project is complementary to other industry in the area; and to show how it is compatible with plans for the harbour more widely.

Anyone who attended the information days was invited to come to the Meath facility in order to see the day-to-day operation of a facility similar to the one proposed in Ringaskiddy. The project team also used a video of the waste treatment process in the Meath facility. The video of the waste treatment process in the Meath facility is on the Indaver website www.indaver.ie.

In addition to inviting people to the information days, Indaver has also been in contact with over 140 groups and individuals to discuss the project. These stakeholders consist mostly of business and community groups. Contact was through briefing letters and emails, over the phone, and through meetings.

Indaver engaged with community stakeholders for over six months, in 2015. Indaver created a stand-alone website: www.ringaskiddyrrc.ie which includes all of the planning application documentation including this EIS, the Natura Impact Statement (NIS), and planning drawings etc.

Copies of an advertisement, letters to the local community, and an information leaflet giving an overview of the project are provided in **Appendix 1.2**.

1.10 Difficulties Encountered During the Assessment

No difficulties were encountered during the preparation of this Environmental Impact Statement.