PORT of CORK

DEEPWATER MULTI-MODAL PORT

Port Climate Action Roadmap 2023

REVISION 1 – SEPTEMBER 2023

Revision History:

DATE	REVISION	AUTHOR	SIGN OFF
1st February 2023	0	Toddy Cuthbert, Environmental Support Manager	Tim Murphy, Head of Port Engineering
1st September 2023	1	Toddy Cuthbert. Environmental Support Manager	Tim Murphy, Head of Port Engineering

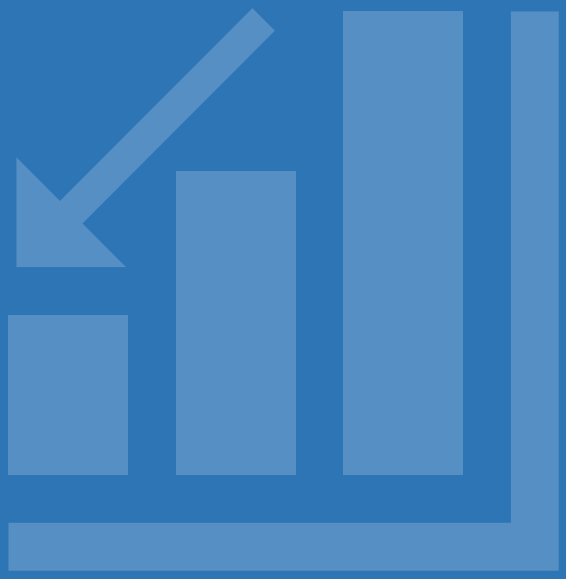
Contents

1 Introduction 5
1.1 Objective of this report 5
1.2 Key sections of this report 7
1.3 Key policies & legislation 7
1.3.1 United Nations Sustainable Development Goals 7
1.3.2 European Green Deal & Fit for 55 7
1.3.3 Climate Action Plan 8
1.3.4 NewEra Framework for the CSS sector to address climate action objectives 8
1.3.5 Climate Action and Low Carbon Development Act 2021 8
1.3.6 Statutory instruments related to climate action and decarbonisation 8
1.4 GHG emissions categories 9
1.5 Risks associated with climate change 9
1.6 Reporting on GHG emissions & energy performance 9
2 Emissions reduction & energy efficiency improvement 11
2.1 Current energy profile (2021) 11
2.2 Significant emissions sources 11
2.3 Progress to-date 11
2.4 Decarbonisation & energy efficiency improvement targets 12
2.4.1 Decarbonisation target 12
2.4.2 Energy efficiency improvement target 17
3 Leadership & governance 19
3.1 Leadership & governance for climate action 19
3.1.1 Governance structure 19
3.1.2 Energy performance officer & climate and sustainability champion 20
3.1.3 Port climate action roadmap team (green energy team) 20
3.2 Engaging with & training Staff 20
3.2.1 Training Staff 20
3.2.2 Engaging Staff & promoting energy awareness 21
4 Way of Working 23
4.1 Energy & Environmental management systems 23
4.1.1 Energy management systems – ISO50001 23
4.1.2 Environmental management systems – ISO14001 23
4.1.3 Green procurement 23
4.1.4 Resource use 24
4.1.5 Improving our buildings & vehicles 24
4.1.6 Project initiatives 24

5 Conclusion 26
Appendix 1 Embedding the UN Sustainable Development Goals in Climate Action 28
Appendix 2 Port Action Alignment with the NewEra Framework Commitments and Actions 30
Appendix 3 Port Action Alignment with the Climate Action Plan 34

01

Introduction



1 Introduction

The Port of Cork is the key seaport in the south of Ireland and is one of the only two Irish ports that accommodates all six shipping modes i.e., Lift-on Lift-off (LoLo), Roll-on Roll-off (RoRo), Liquid Bulks, Dry Bulks, Project Cargoes and Cruise. The Port of Cork Company (the Port) is the second largest port in the Republic of Ireland in terms of turnover. Currently, there are six main port facilities situated at City Docks, Tivoli Docks, Ringaskiddy (East and West), Cobh, Marino Point and Bantry.

The Port is committed to reducing its carbon footprint and improving energy efficiency across the organisation. The Port Climate Action Roadmap (the Roadmap) will review historical energy and carbon data and aims to identify key opportunities to reduce energy consumption, costs and achieve CO_2 emission savings in line with the organisation's sustainability targets and the wider targets outlined in Ireland's Climate Action Plan 2021 (CAP21). CAP21 was recently updated with the Climate Action Plan 2023 (CAP23), which is the second annual update of Climate Action Plan 2019. CAP23 has not amended the 2030 targets that relate to the Port.

This Roadmap sets out the Port's plan to reduce greenhouse gas (GHG) emissions and outlines several key actions which will contribute toward achieving the climate targets set out in this report. This Roadmap has been prepared in line with the Sustainable Energy Authority of Ireland (SEAI) guidance document, along with the Irish Government's CAP23 under which public sector organisations will demonstrate leadership in delivering on Ireland's decarbonisation targets.

The Port is of one of twenty-two commercial semi-state (CSS) companies, and although not mandatory, the Port has developed this Roadmap in line with public sector obligations on climate action. This Roadmap is focussed on meeting relevant requirements set out in the CAP23 and the New Economy and Recovery Authority (NewERA) Framework for the commercial semi state sector to address climate action objectives ("the Framework") which was issued in July 2022. While CSS companies are not obliged to produce a roadmap, it is considered best practice. This Roadmap communicates how the Port aims to meet its 2030 carbon and energy efficiency targets. The Port has utilised the Public Sector Bodies Climate Action Roadmaps Guidance (SEAI/EPA, 2022) and the Climate Action Mandate (Department of the Environment, Climate, and Communications, 2022) in the preparation of this Roadmap.

1.1 Objective of this report

This report complies with the requirements set out in CAP23 and the Climate Action Mandate. This Roadmap will outline the steps necessary to meet the decarbonisation and energy efficiency improvement targets for 2030. It adopts the same targets as public sector bodies who must reduce their total emissions by 51% and achieve a 50% improvement in energy efficiency by 2030.

This objective aligns with Action 55 of the CAP21 and the Framework for CSS bodies, reflecting the exemplar role they are to play in decarbonisation, while also recognising the need for commercial independence in their respective operating environments.

The Draft Corporate Strategy 2023-2027 sets the Port a target of achieving net zero by 2050. There are specific strategic goals and objectives detailed in Table 1 which support the Port's decarbonisation journey.

Figure 1: Port Draft Strategic Goals 2023 to 2027

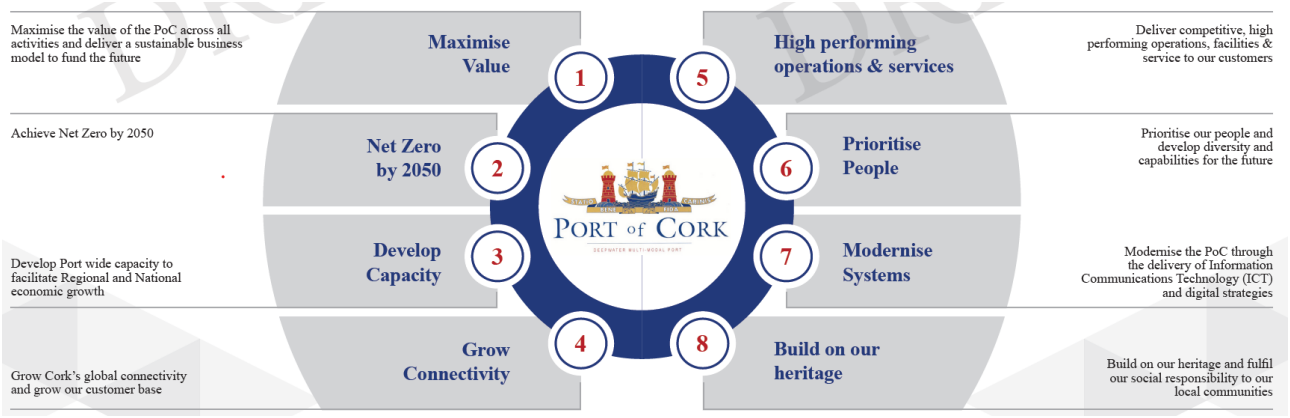


Table 1: Relevant Goals & Objectives – Draft Strategic Plan 2023 to 2027

GOALS	OBJECTIVES
G2	**Achieve Net Zero by 2050**
	1. Cost solutions to shore power and liquified natural gas as a marine fuel
	2. Implement a climate action plan
	3. Achieve European grant aid/funding for renewable energy projects (i.e ORE, onshore-wind, solar, hydrogen)
	4. Partner with Renewable Energy / transition fuel customers to ensure energy security
	5. Deliver 2.5MW of renewable energy on Port lands
	6. Explore the full possibilities of green energy transition (e.g ORE, LNG FRSU etc.)
	7. Invest in proven environmentally best in class cargo handling equipment
G4	**Grow Cork's Global connectivity and grow our customer base**
	7. Increase our energy related business activities
G5	**Deliver competitive, high performing operations, facilities & service to our customers**
	5. Maintain accreditation of our management systems (ISO, ISPS, ISPO and IPSEM)
G8	**Build on our heritage and fulfil our social responsibility to our local communities**
	5. Explore & develop onshore power
	6. Improve our environmental impact on our local communities

The Roadmap outlines the Port's ambition to tackle climate change and the Port's drive for sustainability. In particular, this will be achieved through projects that will generate renewable energy on Port lands, reduce emissions through the use of alternative fuels such as HVO and seek energy efficiency where possible.

1.2 Key sections of this report

There are five key sections of this report which are outlined below:

1. **Introduction**: This section provides an overview of the Roadmap, including the relevant targets established in CAP23 and the relevant policies which will influence this Roadmap.

2. **Emissions reduction & energy efficiency improvement:** This section will set out the 2030 targets established under CAP23 and will include a list of planned activities which the Port has identified to meet these targets.

3. **Leadership & governance:** Outlines how the organisation engages with Staff and the governance structure of the organisation that facilitates making meaningful progress towards the climate action targets.

4. **Way of working**: Summarises the Port approach to using energy management systems within the organisation, along with how green procurement and resource use are addressed in line with the Climate Action Mandate.

5. **Conclusion**: Summarises the Port overall strategy and approach to climate action which will achieve the 2030 targets set out under CAP23.

1.3 Key policies & legislation

There are several policy documents which will drive and influence this Roadmap:

1.3.1 United Nations Sustainable Development Goals

The 2030 Agenda for Sustainable Development (Sustainable Development Goals or SDGs) was adopted by all United Nations (UN) Member States in 2015. These goals are a recognition that ending poverty goes together with tackling climate change to spur sustainable economic growth. At the national level, Ireland has developed the "National Implementation Plan for the Sustainable Development Goals 2022-2024" to align Ireland's commitments to the SDGs. The Port is embedding these goals in their Roadmap. This alignment is outlined in Appendix 1.

1.3.2 European Green Deal & Fit for 55

The European Green Deal (EGD) sets out Europe's approach to resolving the climate crisis and ensuring the impacts of climate change are mitigated as much as possible. The EGD established the ambitious target of achieving net-zero climate neutral status within the European Union by 2050. This document also set the target to reduce net GHG emissions by at least 55% by 2030 compared to 1990 levels, with the goal of limiting global warming to 1.5°C above pre-industrial levels in accordance with the Paris Agreement. On foot of the EGD, the EU Commission has proposed new regulations and directives to help deliver the change and the 2030 GHG emissions reduction target. These legislative proposals, which issued in July 2021, are known as the Fit for 55 Package. The legislative proposals take in a wide range of policy areas including climate, energy, transport and taxation.

1.3.3 Climate Action Plan

The Climate Action Plan was first released by the Irish Government in 2019 which set out the pathway to reducing greenhouse gas emissions in Ireland across all sectors. This plan was amended in 2021 and 2023. CAP23 sets out the objective to reduce Ireland's overall CO_2 emissions by 51% by 2030.

1.3.4 NewEra Framework for the CSS sector to address climate action objectives

Developed in line with Action 55 of the Climate Action Plan 2021, this Framework is a series of five commitments applicable to CSS companies in relation to their climate action objectives. These five commitments include; Governance of Climate Action Objections, Emissions Measurement and Reductions Target, Measuring and Evaluating Emissions in Investment Appraisals, Circular Economy and Green Procurement and Climate-Related Disclosures in Financial Reporting. The details on how the Port has aligned with organisational actions with this Framework can be found in Appendix 2. The Framework required CSS companies to adopt the same targets as public sector bodies who must reduce their total emissions by 51% and achieve a 50% improvement in energy efficiency by 2030.

1.3.5 Climate Action and Low Carbon Development Act 2021

This Act commits the Irish Government to moving towards a climate-resilient and climate-neutral economy by the end of 2050. Section 15 of the Climate Action and Low Carbon Development Acts 2015 to 2021 places an obligation on public bodies, including organisations in the CSS sector, to, in so far as practicable, perform their functions in a manner consistent with:

- The most recent approved Climate Action Plan.
- The most recent approved national Long Term Climate Action Strategy.
- The most recent approved National Adaptation Framework and approved sectoral adaptation plans.
- The furtherance of the national climate objective; and
- The objective of mitigating GHG emissions and adapting to the effects of climate change in the State.

1.3.6 Statutory instruments related to climate action and decarbonisation

Examples of statutory instruments that Port must comply with are:

- SI393/2021 Energy Performance of Buildings, which requires installation of building automation and control by 2025, for buildings with HVAC rated output over 290kW; requires installation of electric vehicle charging points in carparks for new or refurbished buildings with more than 10 car parking spaces.
- SI381/2021 Clean Vehicles Directive, which sets targets for the procurement of clean light and heavy-duty vehicles, with the first target falling in 2025 and the second in 2030.
- SI4/2017 Energy Performance of Buildings, which requires all new public sector buildings built since 2018 to be "nearly zero emissions".
- SI646/2016 European Union (Energy Efficiency) (Amendment) Regulations, which requires that public bodies procure only energy using products and vehicles that are on the Triple E register.
- SI426/2014 European Union (Energy Efficiency) Regulations, which requires the public sector to demonstrate exemplary energy management and requires public bodies to undertake energy audits every four years.

1.4 GHG emissions categories

GHG emissions are divided into three scopes depending on the source of the emissions. These scopes are described below:

Scope 1 emissions: These emissions relate to carbon released into the atmosphere directly from activities directly carried out on-site (i.e., fuel combustion in boilers, company vehicles).

Scope 2 emissions: These are indirect emissions related to the use of electricity purchased from the national grid. This grid electricity does not directly generate carbon at the on-site, but the generation of that electricity at power stations utilise fossil fuels such as natural gas.

Scope 3 emissions: This relates to all other indirect emissions outside Scope 1 and Scope 2 that are associated with the business operations. These include business travel not owned or controlled by your organisation, commuting, use of 'grey fleet', the emissions associated with the purchase of goods or services by the organisation and all upstream/downstream emissions associated with the organisations supply chain.

1.5 Risks associated with climate change

There are several significant risks associated with climate change such as extreme weather events, increased global temperatures outside of traditional levels and rising sea levels which threaten severe flooding events. The Port aims to minimise its impact on climate change by reducing its CO_2 emissions in line with the established targets in CAP23 and has been actively working towards improving its energy efficiency for several years.

1.6 Reporting on GHG emissions & energy performance

All public sector organisations in Ireland are required to report on their energy use and GHG emissions through the SEAI '*Public Sector Monitoring and Reporting*' (PSMR) system. Public sector bodies must upload a list of all electricity and natural gas meters and input any other energy data such as thermal and transport fuels. This system allows for progress to be monitored and compared across organisations and details of planned projects are uploaded.

This data is used to analyse the organisations progress towards its targets using the SEAI '*Gap-to-Target*' tool, which can be downloaded by the user and used to model different scenarios to determine the optimal approach to achieving the 2030 and beyond targets.

The Port reports to NewEra on a bi-annual basis, updating them on actions relating to the Framework.

In addition the Port will report to the Board on activities that relate to this Roadmap and progress towards achieving the commitments set out in this report.

02

Emissions Reduction & Energy Efficiency Improvement

2 Emissions reduction & energy efficiency improvement

This section outlines the existing energy breakdown across the Port and the progress achieved to-date, along with setting out the decarbonisation targets set out under CAP23 and the energy efficiency improvement targets which were extended under SEAI's PSMR programme. The Gap to Target tool, provided by the SEAI, allows the Port to model the approach to achieving the required targets. The tool estimates carbon emissions up to 2030 based on the energy data available for the baseline period of 2016-2018.

2.1 Current energy profile (2021)

Table 2 outlines the overall energy consumption and carbon emissions for the Port in the latest full calendar year (2021) and has been broken down into the four main energy categories.

Table 2: Annual emissions (2022)

Fuel Type	Primary Energy Consumption	Emissions
UoM	**kWh**	**tCO_2**
Thermal	216,876	38
Transport	15,950,981	3826
Electricity	14,221,648	2457
Total	**30,389,505**	**6321**

Please Note: *All energy consumption figures shown relate to Total Primary Energy consumption.*

2.2 Significant emissions sources

The largest source of emissions across the organisation is in transport which accounts for 61% of the total CO_2 emissions in 2022. This is related to diesel use and includes the land-based container handling equipment (straddle carriers, LHMs, etc) and marine vessels (pilots, tug, etc.).

39% GHG emissions is attributed to the electricity using activities, the majority of which is used to supply temporary power to the reefer containers while they are waiting to be collected. The balance of the electrical load includes high mast lighting, ship to shore cranes, IT equipment, etc.

Thermal fuels (natural gas) used for space heating and supplying hot water account for less than 1% of the total emissions.

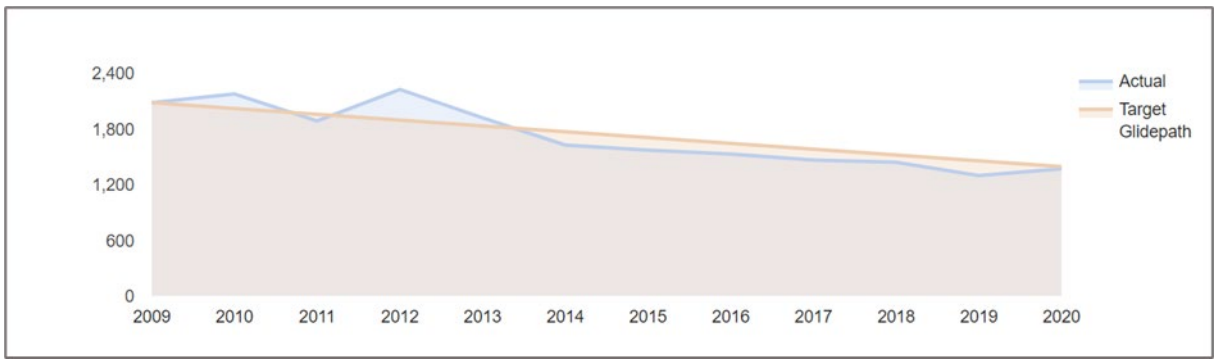
2.3 Progress to-date

The Port has been steadily improving its approach to energy management for several years, supported by a strong top-level management commitment. Since 2009, the Port has been working towards improving its Energy Efficiency by 33% in accordance with its EU mandated 2020 targets under Irelands 'National Energy Efficiency Action Plan' (NEEAP). The NEEAP was a national target mandated by the EU, which aimed to improve energy efficiency by 20% by 2020. To demonstrate exemplary leadership, the Irish Government increased the energy efficiency improvement target to 33% for public-sector bodies.

Using the SEAI PSMR system, and the 'number of reefers per annum' as the metric to quantify the level of activity undertaken regarding energy efficiency, the Port achieved its 2020 targets of 33% in accordance with the NEEAP. The graph below illustrates the glidepath from 2009 to 2020 and the actual energy performance

over this period equated to an improvement of 34.2% which in fact, exceeded the 33% energy efficiency target. Energy efficiency and decarbonisation go hand in hand and hence, Port have made advances in decarbonising their organisation through their actions and demonstrated successes in energy efficiency to 2020. As the Port develops and expands consideration may need to be given to using a composite metric which would also include energy consumption not related to reefer numbers.

Figure 2: Current Glidepath of Energy Performance Indicators at the Port (SEAI M&R, 2022)



In 2018, the Port set an ambitious target of achieving the ISO 50001 standard for energy management. The Port's Energy Management System (EnMS) was formally certified to ISO50001:2018 in 2019 and was recertified in 2022. ISO 50001 certification demonstrates an organisation's commitment to continual improvement in energy management, allowing the Port to lead by example within the industry. As part of this standard, the Port formed a dedicated ISO 50001 team with the goal of implementing this structured EnMS across the organisation.

The Energy Performance Officer (EPO) at the Port has led by example and affects change within the organisation. The Port utilised a cross functional approach where influential staff were appointed to develop an EnMS. The team comprised key influencers in strategic areas across multi-functional departments to drive its implementation and monitor its effectiveness. The Port has realised the importance of raising awareness of energy management, energy efficiency and sustainability within the organisation. This initiative has delivered a significant momentum which has driven energy awareness and change across all levels of the organisation.

2.4 Decarbonisation & energy efficiency improvement targets

As previously described in the introduction, all public sector organisations must comply with GHG emissions reduction and energy efficiency improvement targets as set out under CAP23, and CCS's are encouraged to lead by example by demonstrating compliance with the same targets.

2.4.1 Decarbonisation target

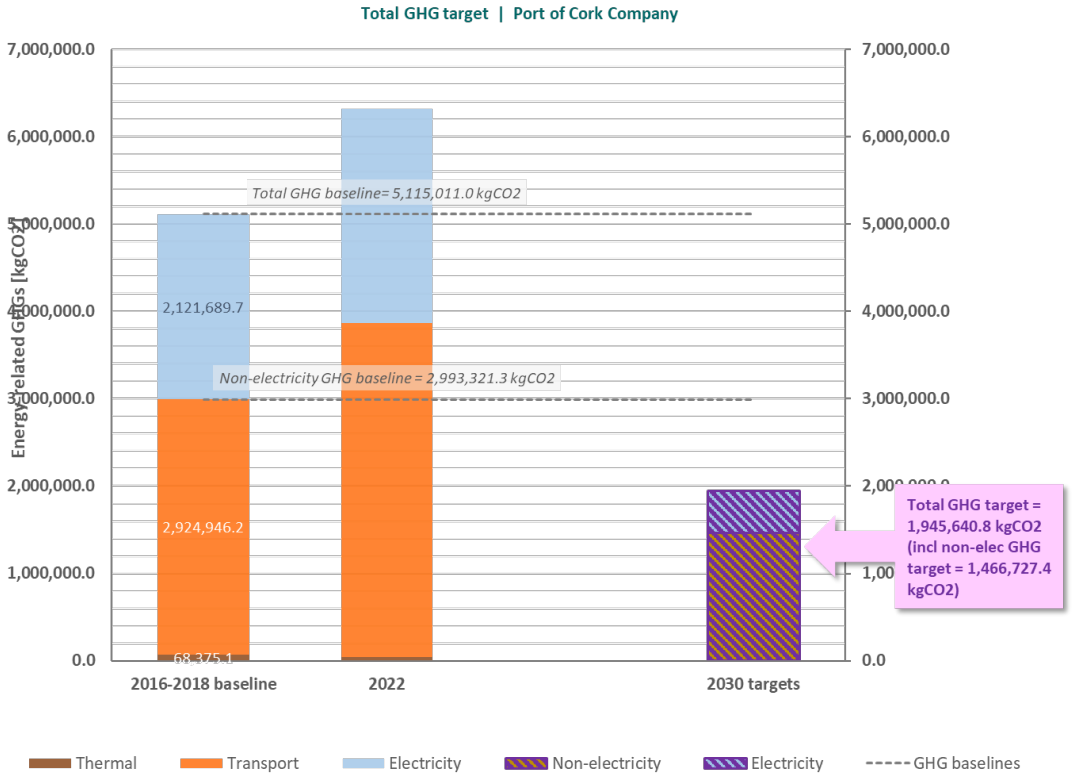
The public sector, and hence CCS companies should aim to achieve an absolute GHG emissions reduction of 51% by the end of 2030 compared to the average annual emissions over the three-year period 2016 to 2018. SEAI calculates the decarbonisation target using the data submitted through the PSMR programme. As shown in Table 3, the average emissions across the Port organisation over the three-year baseline period were 5,112 tCO_2. To meet the public sector emissions reduction target set by SEAI, the Port must reduce their CO_2 emissions to **1,946 tCO_2** by the end of 2030.

Table 3: Average Baseline GHG emissions (2016 - 2018) & 2030 Target

Thermal emissions (direct) tCO_2	Transport emissions (direct) tCO_2	Electricity emissions (indirect) tCO_2	Total CO_2 Emissions - Baseline emissions (2016-2018 average tCO_2	2030 GHG Emissions Target tCO_2
68	2,856	2,122	5,115	1946

The total organisational emissions in the Port in 2022 was 6,322 tCO_2 – an increase of 23.5% versus the baseline emissions, as a result of increased business activity at the Port. Further growth and activity is anticipated in the Port up to 2030. These increases in activity levels at the Port will increase the challenge that the Port has to reduce emissions to the 2030 target and hence, the actions planned will have to exceed a 51% reduction to meet the targets, i.e. based on 2022 emission data, the Port needs to reduce its emissions by 65% to reach the 2030 targets as defined by the baseline. This challenge is represented in Figure 3.

Figure 3: Emissions reduction glidepath to 2030



2.4.1.1 Gap-to-target analysis

A gap-to-target analysis was conducted using the tool provided by SEAI on their PSMR system which forecasts the progress towards the targets outlined in Section 2.4.1. This tool allows the decarbonisation target to be analysed and is updated annually to include the latest data which is submitted to SEAI through the PSMR programme. The analysis showed in the following sections is based on the latest version of the gap-to-target tool (version 3.10). This model reflects the latest projects and initiatives to determine their impact on the progress towards the decarbonisation target.

2.4.1.2 Increased electricity grid renewables contribution

Ireland is in the process of increasing its share of grid electricity and natural gas sourced from renewable sources. In 2020, 40% of the electricity supplied through the national grid was sourced from renewable technologies. Under the '*National Development Plan 2021-2030*' published in October 2021, this is set to increase to 80% by 2030 by phasing out fossil fuel power stations in favour of renewable technologies including 9GW from onshore wind energy and at least 5GW from offshore wind installations across the country. This increased grid renewables contribution will aid the Port towards achieving its decarbonisation targets by 2030 due to lower emissions from the electricity grid due to this increased production of renewable energy.

2.4.1.3 Projected 2030 GHG emissions – business as usual

The business-as-usual scenario models the organisation if the energy profile were to remain static, no activity or growth is experienced to 2030 and if no decarbonisation projects were carried out. In this scenario, the only emissions savings incurred are due to supply-side reductions from the increased electricity grid renewables and increased biofuel blending. The Port has modelled the required GHG emission reductions required in the business as usual scenario. Section 2.4.1.5 details the anticipated growth within the Port and models how it is intended to reach the relevant targets.

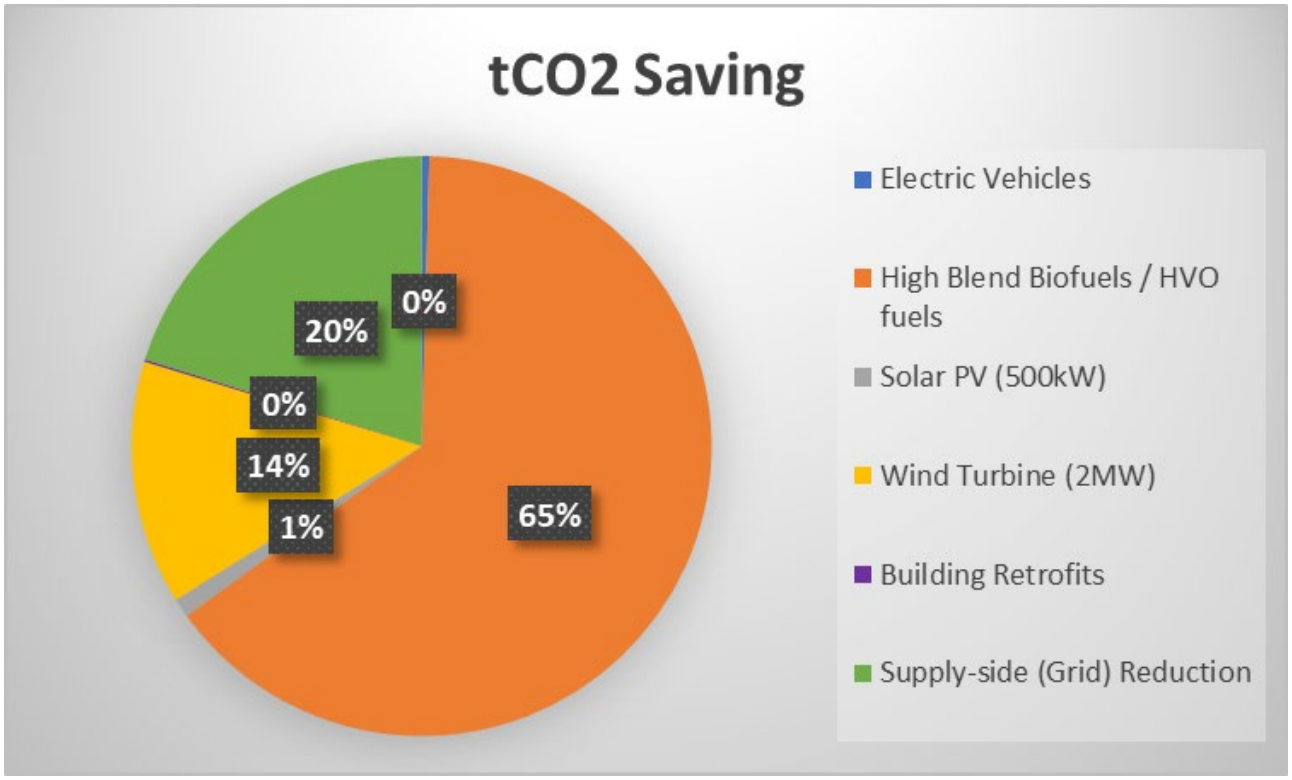
2.4.1.4 Planned decarbonisation activities

A project pipeline has been modelled using the SEAI gap-to-target tool to set out the pathway to ensure that the Port meets its GHG decarbonisation targets. This project pipeline is a combination of electric vehicles, high blend biofuel/ HVO (Hydrotreated Vegetable Oil), solar PV on Port lands, wind turbine(s) on Port lands, building energy efficiency and other decarbonisation measures. This represents a proposed pathway to achieving the 2030 targets but will require updating and reviewing on a regular basis. It will be influenced by funding availability, resources, and key stakeholder engagement. Table 4 below sets out the potential projects that could be undertaken along with the expected savings in '*Emissions Savings*', and the expected implementation year(s) for each project. Several of these projects could occur on a phased basis over several years.

Table 4: Planned Projects

Planned Projects	Implementation Year	Emissions Savings (t CO2)	Project Readiness
Electric Vehicles	2023 - 2030	23	Commenced
High Blend Biofuels / HVO fuels	2023 - 2030	3,541	Commenced
Solar PV (500kW)	2023 - 2026	58	Tender issued
Wind Turbine (2MW)	2024 - 2026	745	Concept
Building Retrofits	2024 - 2030	7	Concept

Figure 4: % Contribution toward CO2 reduction (Planned Projects & Supply Side Reduction)

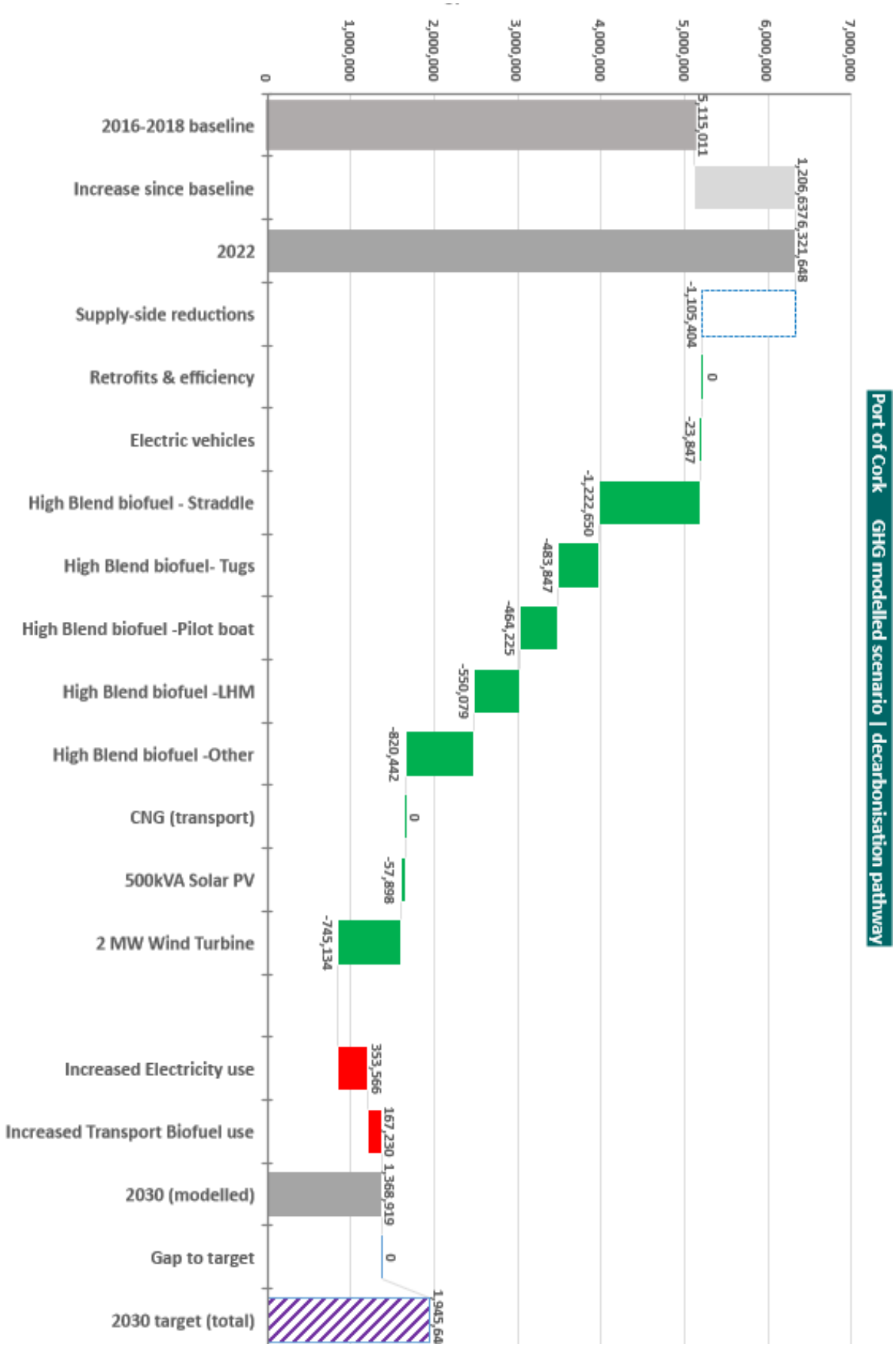


If all the projects set out in Table 4 were undertaken and completed, the Port could reduce the total organisational GHG emissions by 4,368 tCO2 with a further reduction of 1,105 tCO2 forecast due to the increased share of renewables on the electricity grid. Therefore, this results in a total modelled emissions reduction of 5,474 tCO_2 by 2030 (to 1369 tCO_2), surpassing the target set out by CAP23 (1946 tCO_2).

2.4.1.5 Projected 2030 GHG emissions – including projects & business expansion

The gap-to-target scenario (Figure 5) models the progress towards the GHG emissions reduction target that would occur if the planned decarbonisation activities outlined in Section 2.4.1.4 were implemented. In this scenario, the total GHG emissions across the Port organisation are modelled to be 1,369 tCO_2 by the end of 2030, which surpasses the emissions reduction target. The model also introduces a forecast of increased electricity demand and increased transport biofuel usage due to the likely expansion in business activity.

Figure 5: GHG Modelled Scenario Including Projects and Business Expansion Forecasts



This analysis highlights the importance of implementing these planned decarbonisation activities if the Port are to meet the 2030 targets set out by SEAI. The Port strives to be a leader within the CSS sector in promoting climate action and leading the way in terms of taking action to minimise the organisation's GHG emissions. The projects outlined will require significant financial resources if this scenario is to be achieved, and the Port will look to maximise the potential of implementing all these projects by allocating funds and participating in eligible grant support schemes. A budget table will be prepared towards informing CAPEX which will be reviewed annually.

2.4.2 Energy efficiency improvement target

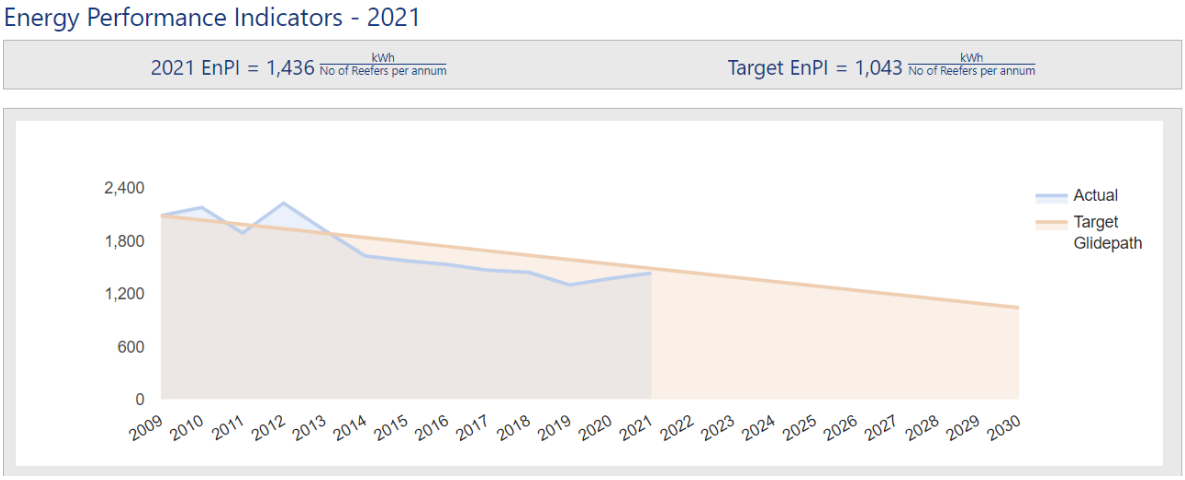
In addition to the GHG emissions reduction target, there is another target which requires the Port to achieve an energy efficiency improvement of 50% by the year 2030 versus a baseline year of 2009. This target has been established under the SEAI PSMR scheme, which requires all public bodies to report on their annual energy usage. The programme initially set the target to achieve an energy efficiency improvement of 33.0% by the year 2020, with the Port achieving 34.2% improvement. The target was extended beyond the initial deadline of 2020 to require public sector organisations to improve their energy efficiency by 50% versus the 2009 baseline year.

This target is different from the emissions baseline as it is calculated using an activity metric, while the emissions target relates to an absolute emissions reduction. As outlined previously, the Port use the 'number of reefers per annum' as the performance indicator, i.e. business activity being a significant factor of influence on energy consumption in Port.

2.4.2.1 Gap-to-target (energy efficiency)

The baseline year for the energy efficiency target for the Port is 2009. The Energy Performance Indicator (EnPI) used by the Port to monitor energy performance is 'Number of Refers per Annum'. As the Port develops and expands consideration may need to be given to using a composite metric which would also include energy consumption not related to reefer numbers. A further 27% improvement in energy efficiency will be required to meet the 2030 targets. Projects such as the solar PV and the wind turbine as well as building energy efficiency will support this target being realised. Ongoing monitoring and progress against this glidepath will be carried out annually using the SEAI PSMR tool.

Figure 6: Energy Performance Indicator Glidepath for the Port (SEAI, 2023)



03

Leadership & Governance

3 Leadership & governance

The Port has been a leader in demonstrating continual improvement in energy efficient operation among CSS organisations for several years and aims to be among the leaders helping to achieve the Government's climate action goals. To meet these targets requires a structured, systematic approach driven by dedicated leaders who share the ambitions of reducing the organisations GHG emissions and will ensure that commitment to meeting these targets is embedded across the whole organisation.

This section sets out the steps taken by the Port to ensure that sufficient resources have been allocated to support the drive towards the 2030 targets and will outline the plans to continue to engage with staff to promote climate action.

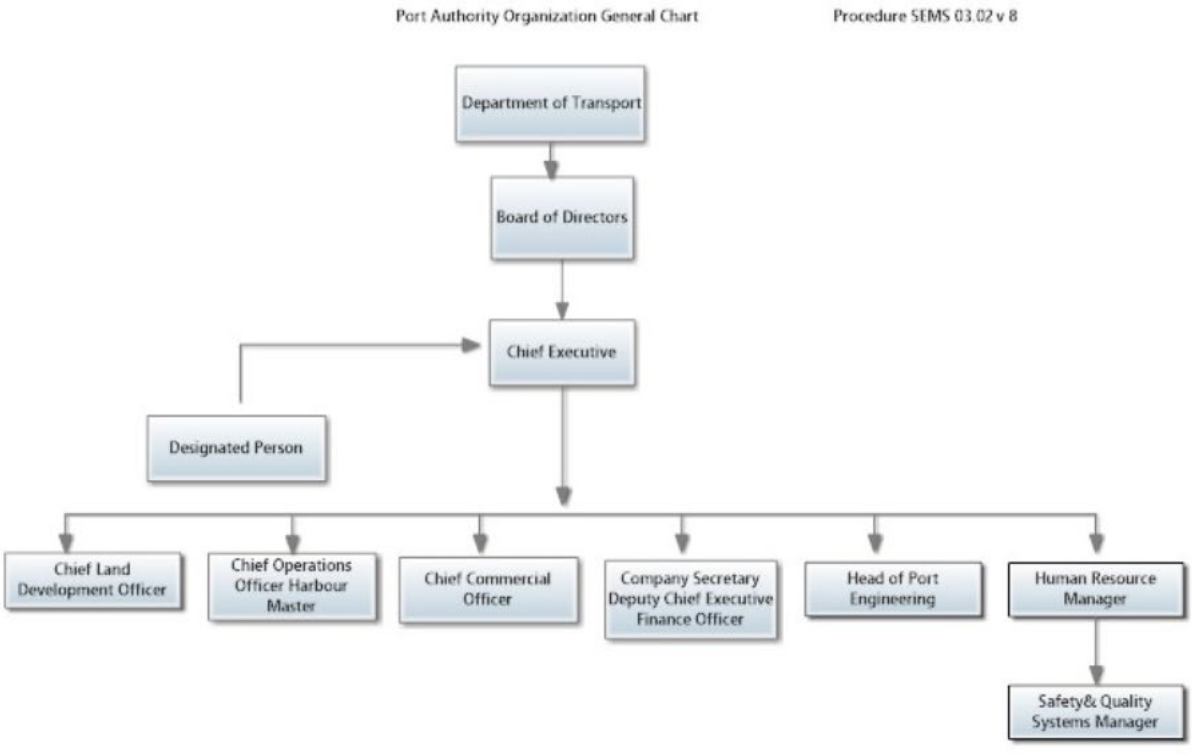
3.1 Leadership & governance for climate action

The Port is highly regarded within the CSS industry with respect to the exemplary role for energy efficiency, one of the first ports in Ireland to achieve ISO 50001 certification and the first port in Ireland to achieve EXEED certification for its re-development of Cork Container Terminal. A key driver behind this is due to the ongoing direction from senior management and the Board, demonstrating leadership by supporting the organisation's efforts to become more climate resilient.

3.1.1 Governance structure

The governance structure for the Port is set out in Figure below. The Port designates the Energy Performance Officer (EPO) who liaises with top management to allocate the necessary resources to meet the organisation's climate action goals.

Figure 7: Governance Structure of the Port



The Port has set key goals and specific objectives in the Draft Corporate Strategy 2023-2028 that will drive the company towards achieving net zero.

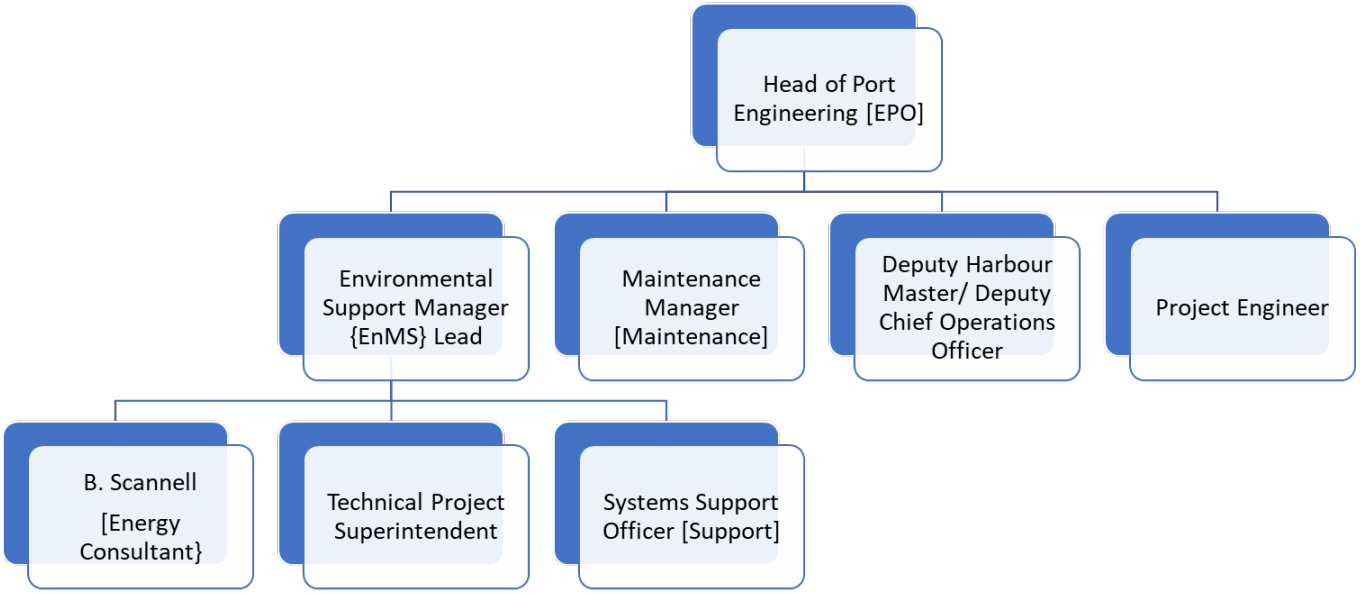
3.1.2 Energy performance officer & climate and sustainability champion

The Port has appointed the Head of Port Engineering as the EPO for the organisation. As set out in the Climate Action Roadmap Guidelines, an appropriately ranked EPO can serve as the Climate and Sustainability Champion (CSC) for the organisation. The Head of Port Engineering has been delegated the role of CSC with responsibility for implementing and reporting on the Roadmap.

3.1.3 Port climate action roadmap team (green energy team)

The role of the Port green energy team, under the guidance of the Head of Port Engineering/ CSC, is to lead by example and affect change within the organisation. The Port utilised a cross functional approach with the formation of their green energy team where influential staff are appointed to drive energy sustainability. The green energy team comprises key influencers in strategic areas across multi-functional departments to drive its implementation and monitor its effectiveness. Figure 8 illustrates the titles of the members of the green energy team.

Figure 8: Green Energy Team at Port



3.2 Engaging with & training Staff

Delivering on the GHG emissions reductions targets set by SEAI requires both strong leadership and a competent, well-trained workforce working towards the same goal. The Port understands that all Port Staff working across the organisation will play a key role in delivering upon these targets and will contribute towards reducing emissions.

3.2.1 Training Staff

As part of the ISO50001 programme, the Port continually engages with staff to identify additional training needs and requirements to ensure all personnel are competent and have received suitable training. This approach includes appropriate training with specific reference to improving energy efficiency and reducing

energy-related emissions. The Port has provided several training workshops focused around improving energy efficiency and reducing GHG emissions.

The Port is committed to continually improving its operations across the organisation, and a keen component of that requires ongoing training for staff with regards to climate action and decarbonisation. The EPO and the Green Energy Team will conduct annual reviews of the necessary training required to ensure staff are well informed and have the required knowledge to minimise the organisations GHG emissions. They will incorporate appropriate climate action and sustainability training into learning and development strategies for all Staff.

3.2.2 Engaging Staff & promoting energy awareness

The Port engages with staff on a regular basis to communicate the organisations progress towards its energy and climate targets (such as the recent Reduce Your Use campaign). The Port understands that effective communication with staff at all levels throughout the organisation is key to embedding sustainable practices and uses several methods to engage with staff on these issues. The Port will organise Staff workshops (at least annually) to engage on climate issues, including a focus on decreasing the organisation's carbon footprint. The Port will continue to identify additional methods of engaging with staff to promote methods of reducing energy-related emissions and further integrate sustainable business practices into the organisation's operations.

04

Way of Working

4 Way of Working

The Port is constantly striving to find new ways to reduce its carbon footprint both directly and indirectly. The Port aims to engage with key stakeholders such as employees and partners, as well as suppliers of other supply-chain bodies who influence the GHG emissions of the organisation. This section sets out the Port's influence on the wider emissions associated with its operation and the planned actions to mitigate and reduce the associated climate impact.

4.1 Energy & Environmental management systems

Under CAP23 and the 'Climate Action and Low Carbon Development (Amendment) Act 2021', all large public sector bodies are required to achieve certification to a formal environmental and/or energy management system. All public sector organisations should at minimum have some form of energy management system in place, even without formal accreditation.

4.1.1 Energy management systems – ISO50001

ISO50001 is the best practice standard for energy management and uses a systematic approach driven by senior management to deliver real and verifiable energy savings. Since 2019, the Port has used the ISO50001 energy management system approach for exemplar energy management to deliver continual improvement and energy savings. In 2022, the Port was successfully audited and recertified ISO50001 compliant. ISO 50001 certification demonstrates an organisation's commitment to continual improvement in energy management, allowing the Port to lead by example within our industry.

4.1.2 Environmental management systems – ISO14001

ISO14001 is the most widely recognised environmental management system standard in the world. It demonstrates commitment to controlling the impact of the Port's activities on the environment. The standard provides a best practice approach to improving environmental performance and ensuring that the Port remains legally compliant. ISO14001 provides a map for improving environmental performance by adopting sound environmental management principles. The Port has been certified to ISO14001 since 2009. A transition audit was carried out to the new standard ISO14001:2015 in September 2018. Most recently, the Port was re-certified until 2024.

4.1.3 Green procurement

Green procurement is a process where public authorities seek to source goods, services or works with a reduced environmental impact. The EPA has published Green Public Procurement (GPP) guidance with accompanying criteria sets that support the inclusion of sustainable and green practices into public sector procurement procedures. The Port operates in line with a green procurement policy which is in place and is aligned with the EPA guidelines. The following sectors have been identified for Green Procurement Policy implementation:

1. Road transport vehicles and services
2. Energy
3. Construction
4. Food and catering services
5. Cleaning products and services
6. Textiles and uniforms
7. Office IT equipment
8. Paper

The Port will review its Policy annually to ensure relevant GPP / environmental considerations are included.

4.1.4 Resource use

The Port operates an Operational Waste Management Plan (OWMP) to ensure that waste arisings during operational activities at the Port's various sites will be managed, reused, recovered, or disposed of in line with the waste hierarchy. The OWMP ensures the provisions of the Waste Management Acts 1996 as amended, associated Regulations and the Southern Region Waste Management Plan are complied with. It also ensures that optimum levels of prevention, waste reduction, re-use and recycling are achieved. In addition, the Port will review any paper-based processes and evaluate the possibilities for digitisation, so it becomes the default approach.

4.1.5 Improving our buildings & vehicles

The Port will adhere to actions below to improve the energy performance of our buildings and vehicles by displaying an up-to-date display energy certificate (DEC) in every building that is open to the public to clearly show energy use; creating bicycle friendly facilities for employees and visitors; purchasing only zero-emission vehicles where available and operationally feasible and by not installing heating systems that use fossil fuels after 2023, unless at least one of the following exceptions applies:

- The fossil-fuel use is only using electricity from the grid.
- There is no technically viable non-fossil alternative.
- The installation of a renewable space heating system would increase final CO_2 emissions.
- The fossil-fuel use is provided for backup, peaking, or operational purposes.
- The direct replacement of existing fossil fuel heating is required for an emergency maintenance purpose.

4.1.6 Project initiatives

The Port has set a new strategic goal which is to "Achieve Net Zero by 2050". The Port must progress the decarbonisation projects in order to accelerate this journey. These initiatives include:

- The introduction of renewables on Port lands (solar PV and wind turbines) to power Port equipment such as our cranes and reefers.
- The planning for electrification of future Port equipment and the supply of electricity to vessels berthed at Port facilities – onshore power supply (OPS).
- Pilot the use of HVO with a view to utilising the fuel as we transition towards net zero.
- Continue to purchase efficient equipment as per the recent investment in diesel-battery-hybrid straddle carriers.
- Progress the construction of the Port's new headquarters with sustainability at the fore – efficient design, use of renewable energy (solar PV), bicycle friendly, etc.

05

Conclusion

5 Conclusion

This Roadmap sets out the Port's plans to reduce GHG emissions and meet the targets set out under CAP23. Through the planned decarbonisation activities and the increased share of renewable energy on the national electricity grid, the Port expects to achieve its GHG emissions reduction target and energy efficiency improvement by 2030. The achievement of these targets relies on the effective delivery of the projects outlined in this report using the SEAI gap-to-target modelling tool. There are several factors which are required to deliver on these projects, including:

- **Funding support:** Implementing the projects outlined in this report will benefit from receiving additional funding through participation in grant support schemes and government support.

- **Staff engagement:** Ensuring that all Staff are committed towards the same goal of reducing emissions is important. The Port will continue to provide opportunity for Staff to get involved with the organisations decarbonisation activities by promoting climate action awareness and providing the opportunity for staff to submit innovative suggestions to achieve emissions reductions.

- **Ongoing training & awareness:** The Port will continue to educate Staff about the need for immediate climate action and will promote energy efficiency practices through its communication channels. Key staff with the ability to influence energy across the organisation (including members of the Green Energy Team) will be provided the necessary training and upskilling where required to allow for informed decisions to be made with the latest up-to-date best practices.

- **Increased electricity grid renewables contribution:** If Ireland is to meet its 2030 targets, the Government must deliver on the 2030 renewable energy commitments it has made under the 'National Development Plan 2021-2030' to provide the national electricity grid with energy generated from renewable sources. With the increasing shift towards the electrification of heating systems across the country, ensuring that the electricity supplied is green is a key factor that will affect the public sector's ability to meet its target as set out by SEAI.

- **Measurement, verification, and evaluation:** Submitting high quality data through the SEAI's monitoring and reporting scheme is necessary to allow for informed decision making and accurately benchmarking the progress towards the established targets.

The Port understand that the decarbonisation roadmap set out in this document requires a significant change in the standard operating procedures in both the buildings and transport divisions. This transformative change is necessary if the CSS sector is to deliver on the ambitious targets set out in CAP23.

Table 5: Summary of Port KPI's

Action	Target	Measured
GHG Emission Reduction	Reduce total emissions by 51% by 2030	Actual Reduction in tonnes of CO_2 (6322 to 1369)
Improve Energy Efficiency	Achieve a 50% improvement in energy efficiency by 2030.	Currently measured as reefer energy efficiency but Port may review, utilising a composite metric

The Port will continue to implement best practices across the organisation by transitioning towards low-emissions technologies and collaborating with its supply-chain partners and stakeholders to deliver material change which will positively affect the climate.

A table indicating the various actions committed by the Port that aligns with the CAP23 is provided in Appendix 3.

Appendix 1 Embedding the UN Sustainable Development Goals in Climate Action

The Port has embedded several UN Sustainable Development Goals into its climate action ambitions. This is illustrated below:

SDG 3: Ensure healthy lives and promote well-being for all at all ages

The Port is certified to ISO14001 and ISO50001, which will ensure the Port complies with the relevant environmental standards in relations to air quality, climate change, energy efficiency, noise, community relations, ship waste, water quality, port waste and dredging. The Port is also certified to ISO45001. The health and safety of workers will be further ensured under the Port "Safety, Health, Environment, Energy & Quality" (SHEEQ) Management System.

SDG 5: Achieve gender equality and empower all women and girls

The Port sees the modernisation and automation of port operations as an opportunity to engage more women in the maritime sector through the provision of highly skilled jobs.

SDG 7: Ensure access to affordable, reliable, sustainable, and modern energy for all

The Port plans to continue its role as an energy hub looking towards a greener future. This will be done by facilitating the growth of offshore renewable energy (ORE) in the region and focusing future business on greener cargoes, transition fuels and other renewable energy sources.

SDG 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all

The Port is mandated with leading the response to meet Ireland's future port capacity requirements and supporting economic growth. The port is already a key economic driver in the region and will continue in this role as its shifts towards more sustainable business opportunities

SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

The Port intends the construction of new infrastructure to take account of energy efficiency, embodied carbon, and circular building principles. Port operations will be made more efficient and the Port will seek to use more carbon neutral energy solutions

SDG 13: Take urgent action to combat climate change and its impacts

The Port recognises the urgency in responding to climate action and intends to respond as quickly as possible to support the green economy through ORE, greener cargoes and carbon neutral port operations.

Appendix 2 Port Action Alignment with the NewEra Framework Commitments and Actions

This appendix sets out the Port's alignment with the actions presented in the NewEra Framework for Climate Action published in July 2022 for Commercial Semi State Bodies.

COMMITMENT	TARGET	Port Target
Commitment 1: Governance of Climate Action Objectives - Oversight at Board level and integration of climate action objectives in the company's strategic business planning	1.1 Climate action objectives are approved at Board level and reviewed periodically by the Board.	Formal approval of NewERA Framework by the Board Q1 2023
	1.2 Climate action objectives are embedded within the company's corporate plan (preparation of an annual rolling 5 year business and financial plan is a requirement of the Code of Practice for the Governance of State Bodies). Corporate plan outlines the company's investment strategy with respect to climate action objectives.	NewERA commitments will be embedded in the corporate strategy
	1.3 Progress towards achievement of objectives is measured regularly and reported on to the Board.	NewERA objectives are measured and annual updates to the Board will be included in the annual audit and risk committee meeting
	1.4 Progress measurements are published alongside the company's reporting of its overall performance, for example in annual reports.	Compliance with this requirement will be further developed in line with NewEra guidance.
	1.5 Climate-related processes and risks are incorporated in the company's overall risk management framework and included in risk reporting to the Board.	Compliance with this requirement will be further developed in line with NewEra guidance.

COMMITMENT	TARGET	Action
Commitment 2: Emissions Measurement & Reduction Target - Formal adoption, on an ongoing basis, of Government emission reduction targets for the public sector and the SEAI measurement methodology	2.1 Gather emissions data required to meet prevailing SEAI M&R 2030 reporting requirements.	The Port will continue to report data to SEAI in line with M&R requirements
	2.2 Adopt Government's 2030 emission reduction and energy efficiency targets for the public sector, as per evolving DECC/ SEAI methodology.	Formal approval of Government's 2030 emission reduction energy efficiency targets will be confirmed in Q1 2023
	2.3 Model an emissions pathway to 2030 targets.	This Roadmap provides the Port's emissions pathway to 2030
	Progress towards targets to be measured in line with SEAI methodology and reported to SEAI.	The Port will continue to report data to SEAI in line with PSMR requirements
COMMITMENT	TARGET	Action
Commitment 3: Measuring and Valuing Emissions in Investment Appraisals - Incorporate the value of emissions in investment decision making	3.1 Measure annual net GHG emissions associated with investment options, differentiating between ETS and non-ETS emissions, in accordance with the Public Spending Code.	Compliance with this requirement will be further developed in line with NewEra guidance.
	3.2 Monetise the annual change in GHG emissions using the shadow price of carbon as set out in the Public Spending Code (as updated from time to time).	Compliance with this requirement will be further developed in line with NewEra guidance.
	3.3 Incorporate the value of emissions in investment decision-making, e.g., in choosing between investment options.	Compliance with this requirement will be further developed in line with NewEra guidance.

COMMITMENT	TARGET	Action
Commitment 4: Circular Economy and Green Procurement - Promote circular economy measures and green procurement	4.1 Demonstrate leadership by example in Ireland's transition to a circular economy, having regard to the proposals and initiatives of DECC, the OGP and the EPA; the Whole of Government Circular Economy Strategy; the targets relating to waste reduction set out in the CAP 2021; and the statutory requirements set out in the Circular Economy and Miscellaneous Provisions Act 2022.	In addition to this roadmap, a Port wide Waste Management Plan is in place and is reviewed annually
	4.2 Engage with the OGP and other Central Purchasing bodies to use procurement frameworks which include relevant environmental considerations; include in annual reports the corporate policy around GPP, measures taken to give effect to GPP and the data around measuring and monitoring this activity. Consider introducing a plan for the incremental growth of GPP. Incorporate circular economy principles in GPP.	The Port operates in line with its Green Procurement Policy (GPP). The Port reviews its policy annually to ensure relevant GPP/ environmental considerations are included.
COMMITMENT	TARGET	Action
Commitment 5: Climate-Related Disclosures in Financial Reporting - Compliance with a relevant and appropriate climate-related disclosures framework within a defined timeframe	5.1 Having regard to developments relating to any applicable mandatory reporting requirements (including those envisaged under the European Commission's proposed CSRD), identify a climate-related financial disclosures framework whose requirements are relevant and appropriate to the company's activities and sector(s). The framework identified should be such that compliance with it would allow the company to demonstrate best practice in its approach to such disclosures.	Compliance with this requirement will be further developed in line with NewEra guidance.

	5.2 Announce a target date between now and 2024 by which the company will achieve full compliance with its chosen framework.	Compliance with this requirement will be further developed in line with NewEra guidance.

Appendix 3 Port Action Alignment with the Climate Action Plan

ACTIONS	TIMELINE
Prepare and implement this Roadmap.	Q1 2023
The Roadmap shall be approved by the Board, signed by the CEO, submitted to the Department of Transport (DoT) and submitted to SEAI.	Q1 2023
Formal approval of NewERA Framework by the Port's Board.	Q1 2023
Nominate a member of the Management Team as the Climate and Sustainability Champion with responsibility for implementing and reporting on the Roadmap.	Q1 2023
Establish and resource a Green Energy Team, reporting to senior management.	Q1 2023
Purchase zero-emission vehicles only where available and operationally feasible.	Q1 2023
Display an up-to-date Display Energy Certificate in every public building that is open to the public.	Q1 2023
Plan for bicycle friendly facilities – put bicycle parking in place at suitable Port locations.	Q4 2023
The Port will not install heating systems that use fossil fuels after 2023 (except in specific circumstances set out in the mandate).	Q4 2023
Review its Green Procurement Policy annually to ensure relevant GPP/ environmental considerations are included.	2023 – 2030
Incorporate sustainability training into learning strategies for staff and organise staff workshops (at least annually) to engage on climate issues, including a focus on decreasing the organisation's carbon footprint.	Q4 2023
Review any paper-based processes and evaluate the possibilities for digitisation so it becomes the default approach.	Q4 2023
Commence assessment of potential for retrofitting building.	Q4 2023
Prepare for CSRD - Corporate Sustainability Reporting Directive.	2023 – 2025
Deliver 2.5MW of renewable energy on Port lands.	2023 – 2026
Explore the full possibilities of green energy transition energy.	2023 – 2030
Improve our environmental impact on our local communities.	2023 – 2030
Continue to report data to SEAI in line with PSMR requirements, in addition to reporting on sustainability activities in the annual report.	2023 – 2030
Reduce GHG emissions by 51% in 2030 in line with CAP23 commitments.	2023 – 2030
Increase the improvement in energy efficiency to 50% by 2030 in line with CAP23 commitments.	2023 – 2030
Maintain our environmental accreditation, such as ISO 50001 (Energy Management Standard) and ISO 14001 (Environmental Management System).	2023 – 2030
Prepare for the provision of onshore power supply OPS and LNG as a marine fuel.	2023 – 2030
Invest in proven environmentally best in class cargo handling equipment.	2023 – 2030