

Port of Cork Masterplan 2050

Executive Summary

May 2023

PONT-AVEN

GHT LINE





Foreword

We, at the Port of Cork Company (PoCC), are embarking on a historic change. We are on a **"River to Sea Port"** journey to move our port operations from Cork City Docks and Tivoli Docks in the upper harbour downstream to modern and environmentally sustainable facilities in the lower harbour.

This once-in-a-generation move is essential for us to facilitate increasing global vessel sizes; provide consolidated, efficient, and sustainable operations for our customers; and ensure the global connectivity of the southern region.

Project Ireland 2040 has identified that the population of Ireland is expected to grow by one million people over the next 20 years. Our port will play a critical role in facilitating the economic growth of Cork, the southern region, and the island of Ireland. Cork Harbour is one of the largest natural harbours in the world. It has been a working port for centuries, and it is one of only two ports in Ireland capable of handling all six modes of port traffic.

It is the second largest Lift-on Lift-off (LoLo) port, handling over 20% of all LoLo trade in Ireland. Some 10 million tonnes of trade passed through the Port of Cork in 2022, reflecting Ireland's strong economic growth. The Port of Cork is home to Ireland's only dedicated cruise terminal with 113 cruise ships scheduled to visit in 2023.

Cork Harbour is also one of the most important industrial areas in Ireland. Several traditional industries such as shipbuilding at Verolme Dockyards, steelmaking on Haulbowline Island, and fertiliser manufacturing at IFI have ceased. They have been replaced with newer industries, and the harbour is now of considerable importance for the pharmaceutical industry, which is a large employer in the region.

Historically, the Port of Cork has been an energy hub for the region, facilitating the import of fuels such as coal, oil, timber, and land-based wind turbines. Ireland's only oil refinery is located on the south-eastern shore, together with the adjacent Whitegate and Aghada Combined Cycle Gas Turbine (CCGT) power stations. Whiddy Island Oil Terminal in Bantry Bay continues to play a critical role in European energy storage, as it has done over the past 50 years. As the country, and the world, move away from fossil fuel consumption to tackle the effects of climate change, the Port of Cork will continue to play a key role in facilitating the future energy needs of the country as a hub for renewable fuels, transition fuels, and offshore energy streams.

We will also play our part in tackling the climate crisis. In accordance with the Government's Climate Action Plan 2023, our ambition is to achieve at least a 51% reduction in overall greenhouse-gas emissions by 2030 and to set ourselves on a path to reach netzero emissions by 2050.

The Port of Cork is a commercial port, and – to ensure its ongoing competitiveness – we must adapt to the rapidly changing customer expectations which are pressuring the shipping industry to deliver goods in a faster, more flexible, and sustainable manner at low delivery cost. To do this, we must provide our customers with reliable, safe, high-performing facilities and services, and we must also be an efficient link in the logistics chain. "While there are many challenges that we must overcome to deliver this ambitious plan, we believe there is a great opportunity to deliver a truly worldclass port for the benefit of our country, communities, customers, and people."

Alongside this commercial ambition, we are extremely aware of our heritage and the role we play in our local community.

As we endeavour to meet changing demands, the well-being of the people of Cork and its environment will continue to be embedded in our values, and it will be reflected in every decision we make.

This Port of Cork Masterplan 2050 presents a vision of how the Port of Cork can adapt and grow from now through to 2050 to deliver on our economic, environmental, and social responsibilities for the region.

Eoin McGettigan Chief Executive Officer

May 2023

"This Masterplan maps the PoCC journey from 'River to Sea Port', aiming to consolidate activities in the lower harbour by 2050."



Executive Summary



Executive Summary

Overview

The Port of Cork is designated as a "Core Port" in the Trans-European Transport Network (TEN-T) and a Port of National Significance (Tier 1) under the Irish Government's National Ports Policy 2013. The Port of Cork Company (PoCC) is mandated by the Government to lead the response to Ireland's future port capacity demands and infrastructure requirements and to be a driver for economic growth in the region.

Purpose

Under the National Ports Policy, Irish ports are advised to produce port masterplans in line with international best practice. The purpose of the Port of Cork Masterplan 2050 ("Masterplan") is to provide a vision of how the PoCC can continue to adapt and grow. This Masterplan builds upon the previous Strategic Development Plan (SDP) adopted by the PoCC in 2010. It provides an integrated framework to strategically plan for the short, medium, and long term; to coordinate port planning: to assist local authorities in the preparation of their own local and regional plans; to evaluate future development proposals; and to facilitate the green energy sector. The Masterplan maps the PoCC journey from "River to Sea Port", aiming to consolidate activities in the lower harbour by 2050. This journey has largely been driven by everincreasing vessel sizes, which will become unviable to accommodate at City Docks and Tivoli Docks. Furthermore, the Masterplan responds to an increasing demand from global industry to provide reliable, safe, highperforming facilities and services, in deeper water, near the main shipping routes, and it will ensure the Port of Cork remains an efficient link in the global logistics chain.

Cork Harbour is one of the largest natural harbours in the world. It has been a working port for centuries and is one of Ireland's major employment hubs. This Masterplan will help to continue and grow that tradition. The €89 million Cork Container Terminal (CCT) has recently been opened at Ringaskiddy in response to industry growth. Commercial cargo projections, highlighted in this Masterplan, indicate a need to provide for future expansion in the short, medium, and long term.



Nomenclature

For the purpose of this Masterplan, the term "Port of Cork Company (PoCC)" is used to refer to the Port's organisation and the term "Port of Cork" is used to describe its physical location.

Port Profile

Recent Port Activities

The most recent annual report indicates that the PoCC's container traffic amounted to a record 282,781 TEUs (20-foot equivalent units), a slight increase of 965 TEUs on 2021. The turnover for 2022 amounted to \leq 48.4 million (2021: \leq 39.8m).

In September 2022, the PoCC opened the new Cork Container Terminal in Ringaskiddy. The PoCC Masterplan shows that the CCT will reach capacity in 2024–25, and so container operations in Tivoli Docks will continue until the M28 is complete.

Existing Port Infrastructure

The Port of Cork is the key seaport in the south of Ireland, and it is one of only two Irish ports that accommodates all six shipping modes: Lift-on Lift-off (LoLo), Roll-on Roll-off (RoRo), Liquid Bulks, Dry Bulks, Project Cargoes, and Cruise. The Port of Cork is also the second largest port in the Republic of Ireland in terms of turnover, and it operates 363 days a year. Currently, there are six main port facilities situated at:

- 1. City Docks
- 2. Tivoli Docks
- 3. Ringaskiddy (East and West)
- 4. Cobh
- 5. Marino Point
- 6. Bantry



Figure 1 : The Port of Cork's Six Main Port Facilities



Development Timeline

Over the course of the Masterplan's timeline, it is envisaged that operations in City Docks and Tivoli Docks will migrate towards the lower harbour. This proposed relocation of Port of Cork activities will enable the development of Cork City Docks and Tivoli Docks for urban regeneration. The Cork City Development Plan 2022 – 2028 envisages that new sustainable, people-centred city neighbourhoods will be developed in these locations. Functional replacement of the port activities within the city is a key component of the proposed Masterplan; nonetheless, new port facilities in the lower harbour will need to be operational before the city site can be vacated.



Figure 2 : River to Sea Port - Development Timeline

Figure 3: Port of Cork Masterplan 2050

This map shows an overview of what port operations will look like in 2050. It is based on the agreed projections which formed the Basis of Design for this Masterplan, as well as an analysis of sustainability factors such as decarbonisation, resilience, and future green energy vectors.

Marino Point



Ringaskiddy West



Ringaskiddy East

Cobh









Dognose



Bantry





Strategic Goals

The strategic goals in this Masterplan are structured in line with those identified in the recent PoCC Corporate Strategy 2023, and they are also aligned with the sustainable development goals (SDGs) the port has prioritised. The thinking under each section has been expanded to account for the life cycle of the Masterplan.

Figure 4: Port of Cork Strategic Goals



Influencing Factors

The following influencing factors were identified as central to the comprehensive analysis and design of the Masterplan.

1. Policy and Guidance

2. Global Trends

- Global and Macro-Economics
- GDP
- Population Increase
- Consumer Awareness

3. Shipping Industry Trends

- Changes to Trade Routes
- Vessel Sizes and Industrialisation

4. Net-Zero Port

- Environmental Management
- Decarbonisation
- The Port as an Energy Hub
- 5. Natural Environment and the Community
- 6. Stakeholder Engagement and Consultation
- 7. Hinterland Transport and Connections

1. Policy and Guidance

This Masterplan is a non-statutory document; nonetheless it has been framed within the context of the EU, national, regional, and local agreements, policies, and plans listed in the body of the document. Within this regulatory framework, the key policy influencing the Port of Cork is the National Ports Policy 2013, which designates it as a Tier 1 port. Under its terms, the PoCC is mandated to lead the response to Ireland's future port capacity demands and infrastructure requirements and to act as a driver of economic growth for the country.

Another policy central to this Masterplan is the National Climate Action Plan 2023, which is the driver for the PoCC's climate ambitions. Under this plan, the PoCC will aim to achieve a 51% reduction in its overall greenhouse-gas (GHG) emissions by 2030, with a view to reaching net-zero emissions by 2050.

2. Global Trends

Despite recent disruptions to the market, analysis suggests certain global trends will remain valid in the long term.

Global and Macro-Economics

Changes to global and macro-economic trends have potential impacts on trade volumes handled at ports. The traditional methodology for calculating potential market growth is to develop macroeconomic projections using GDP multipliers.

GDP

The impact of the COVID-19 pandemic has meant that projected rates of GDP growth are highly volatile. However, as the Masterplan horizon extends to 2050, it is anticipated that, in the long run, growth rates will be restored. Nonetheless, disruptions of economic growth are almost certain to occur over such an extended period, and therefore projections should be prudent. Global GDP has been reviewed as part of this analysis and is expected to continue to grow at a rate between 2% and 3%.

Population Increase

Central Statistics Office (CSO) Population and Labour Force Projections 2017 – 2051 suggest that population numbers in Ireland will increase to reach between 5.6 million and 6.7 million. The current population of Cork City is over 210,000.¹ This is anticipated to increase by between 105,000 and 125,000 people (50 – 60%) by 2040.² This population increase is expected to lead to a rise in goods transiting through the Port of Cork.

Consumer Awareness

Consumers are increasingly making more informed and sustainable decisions around products, services, and essential items, like food. Many people are rejecting the culture and practices that made built-in obsolescence acceptable, and they are either searching for durable items that can be repaired or are engaging more with the sharing economy. Similarly, there is a drive to source food locally, reducing its carbon footprint. All of these trends will contribute to drops in the volume of products and requirements for associated transport.

The more granular global trends affecting consumer behaviour are considered in Section Four of the main body of this document.

3. Shipping Industry Trends

Changes to Trade Routes

Trade is changing from off-shoring to nearshoring or on-shoring, which means that longer trade routes will be replaced by shorter, more localised, or coastal routes. This is due to the relocation of manufacturing to locations that are closer to the point of consumption. The COVID-19 pandemic has helped to drive this change, which has also been accelerated by growing labour costs. The Balkan regions and Turkey are likely to be the main beneficiaries of these shifts within the European market. Meanwhile, the conflict in Ukraine has resulted in companies relocating out of Russia, and this is helping to embed these trade route amendments. Localised 3D printing of products may also contribute over time to decreased use of longer trade routes.

Vessel Sizes and Industrialisation

Global vessel sizes have been continually increasing in recent years as the industry has pursued efficiencies in container shipping based on economies of scale. This trend has prompted the industry to shift towards ports that are closer to main shipping lanes with deeper drafts, wider navigation channels, and spacious terminals. The model relies on very brief times in port and minimal port calls.

To support the Offshore Renewable Energy (ORE) sector, ports will require greater industrialisation of infrastructure and landside facilities, including, for example:

- On-dock landside facilities, which will be required to provide laydown and assembly areas for turbines.
- Heavy-duty quay structures, needed to cater for large wind turbine installations and support vessels.

This industrialisation will put added strain on port land availability, drafts, and port-city traffic interfaces, making hinterland transport modes even more critical.

The Port of Cork's **"River to Sea Port"** journey is a direct response to this global trend and will ensure the port remains an efficient link in the global logistics chain.

¹ Cork City Development Plan 2022 – 2028: https://www.corkcity.ie/en/cork-city-development-plan/

² Project Ireland 2040: https://assets.gov.ie/8349/2cfac8570b61460e8ed5a0c5f4b2822d.pdf

4. Net-Zero Port

The PoCC's climate ambition is to achieve at least a 51% reduction in overall greenhouse-gas emissions by 2030, with a view to reaching netzero emissions by 2050 in accordance with the targets of the National Climate Action Plan 2023.

Environmental Management

The PoCC is certified to ISO 14001 and ISO 50001, which will ensure it complies with the relevant environmental standards in relation to air quality, climate change, energy efficiency, noise, community relations, ship waste, water quality, port waste, and dredging. The PoCC is also certified to the EcoPorts Port Environmental Review System (PERS) standard, which is the main environmental initiative of the European port sector and has been fully integrated into the European Sea Ports Organisation (ESPO) since 2011.

Decarbonisation

The PoCC will also develop a plan to facilitate their customers' transition from fossil-based fuels to greener solutions, contributing to a reduction in carbon usage in the shipping industry.

The Port as an Energy Hub

Ireland's only oil refinery is located on Cork Harbour's south-eastern shore, adjacent to Whitegate and Aghada CCGT power stations. Historically, the Port of Cork has been an energy hub for the region, facilitating the import of fuels such as coal and oil, with land-based wind turbines also being commissioned in the vicinity.

As import volumes of fossil fuels decline, in line with the targets set in the National Climate Action Plan 2023, the PoCC will continue to play a key role in the energy sector. The PoCC will ensure support to their existing customers while also facilitating the future energy security of the country through its support for transition fuels, the ORE sector, and a variety of green energy cargoes.

Offshore Renewable Energy (ORE)

While developing the Masterplan, the PoCC has engaged with several private sector and semi- state companies that are spearheading the delivery of renewable energy in Ireland, and particularly Offshore Renewable Energy (ORE), to understand how best to facilitate their ambitions.

The PoCC can be a key enabler of the green energy sector in Ireland by taking advantage of its deepwater channels and berths; building out new infrastructure that has approved planning permission in place; reclaiming land to accommodate large project cargoes for offshore wind Marshalling and Assembly (M&A) activities; upgrading infrastructure; facilitating use of port lands and/or near shore storage; and providing access to berths and quays for Operation & Maintenance (O&M) activities.

Future Cargoes

Liquid Bulks

There are several liquid bulk fuels emerging as part of either the new energy sector or the energy transition.

- Green hydrogen
- E-Methanol
- Green ammonia
- Liquified Natural Gas (LNG)
- Hydrotreated Vegetable Oil (HVO)
- Biofuels e.g. Biodiesel, Sustainable Aviation Fuel (SAF)

The PoCC can become a key enabler of these energy vectors and other future cargoes, by providing port lands to energy providers for infrastructure and storage.

Dry Bulks

Dry bulks, in the form of solid biomass fuels, are seen as important to reducing dependency on electricity and increasing the resilience of energy systems through diversification. These biomass fuels require substantial amounts of dry storage due to the hydrophilic nature of many of the products. Solid biomass fuels can potentially be enabled through Ringaskiddy West Deepwater Berth (DWB) simply by modifying the existing dry bulk business.

Figure 5: The Port of Cork Energy Hub

Future Cargoes Solid Biomass Fuels

Solid Biomass Fuels are seen as important to reducing dependency on electricity and increasing the resilience of energy systems through diversification. These biomass fuels require substantial amounts of dry storage due to the hydrophilic nature of many of the products.

Dry Bulks, in the form of Solid Biomass Fuel, have potential to be enabled through Ringaskiddy West Deepwater Berth with simple modification of the existing dry bulk business.

Offshore Renewable Energy

The PoCC can become an enabler of the green energy sector in Ireland by taking advantage of its deepwater channels and berths; reclaiming land to accommodate large project cargoes for offshore wind Marshalling and Assembly (M&A) activities; upgrading infrastructure; leasing landside and/or near-shore storage; and providing access to berth and quays for Operation and Maintenance (O&M) activities. Future Cargoes Liquid Bulks

Several liquid bulk fuels are emerging as part of the new energy sector or the transition to it:

- Green hydrogen
 E-Methanol
- Green ammonia

Liquified Natural Gas (LNG)

- Hydrotreated Vegetable Oil (HVO)
- Biofuels e.g. Biodiesel, Sustainable Aviation Fuel (SAF)

To enable these energy vectors, the PoCC could lease port lands to energy providers for infrastructure and storage. Similarly, the PoCC can provide access to quays and jetties to enable distribution, import, and export.

Limit of Port of Cork

Table 1: Port of Cork Strategies for Enabling a Greener Future

Liquid Bulks	Project Cargoes Offshore Renewable Energy (ORE)	Dry Bulks
Green hydrogen	Marshalling and Assembly (M&A)	Solid Biomass Fuel
E-Methanol	Operations and Maintenance (O&M)	
Green ammonia		
Floating Storage Regasification Unit (FSRU)		
Hydrotreated Vegetable Oil (HVO)		



5. Natural Environment and the Community

Cork Harbour is a natural harbour and river estuary at the mouth of the River Lee in County Cork. It is one of several harbours that lay claim to being the "second largest natural harbour in the world" by navigational area, after Sydney Harbour in Australia.

Cork Harbour has helped to shape world history and, today, it is a thriving port and emerging tourism hub. It has served as a working port and a strategic defensive harbour for centuries and as one of Ireland's major employment hubs since the early 1900s.

The harbour is a diverse environment that comprises natural and built elements. Its amalgam of settlements has developed over time to include military installations, port infrastructure, heavy industry, energy production and transmission facilities, and pharmaceutical plants. Port-related activities, tourism, and land- and water-based amenities, have all shaped life around the harbour too, and each addition has contributed to Cork Harbour's evolving character.

The harbour's complex character – along with its diversity, constraints, and opportunities – has been carefully considered as part of this Masterplan.

6. Stakeholder Engagement and Consultation

The initial draft of the Masterplan was developed through cargo projection analysis and in conversation with the PoCC, its existing customers, and key commercial stakeholders.

The Masterplan draft then underwent extensive review by key local and national stakeholders, statutory bodies, government agencies, public representatives, and local business networks. Furthermore, a Public Consultation was held over three days across the Port of Cork Ferry Terminal, Páirc Uí Chaoimh and Cobh's Sirius Arts Centre from the 5th to the 7th October 2022.

Feedback from these consultations has been incorporated into the final iteration of this Masterplan. At a technical level, it is reflected in the ambition to support the emerging energy sector and the continued ambition to facilitate economic growth across the region. The PoCC acknowledges that this is a time of transition for many businesses, including port operations. The PoCC will endeavour to collaborate continuously with local communities, customers, and all key stakeholders to help them through this change.



7 Hinterland Transport and Connections

An important factor in ensuring the success of this Masterplan will be increased hinterland access. High-quality road access to the port is required to fulfil Ireland's obligations as a Tier 1 port. Under Article 9 of Decision 661/2010/ EU,³ Tier 1 ports are required to be connected to the primary national road network as part of the European TEN-T core network. The Cork Metropolitan Area Transport Strategy 2040 (CMATS) aligns with these requirements.

Road Access Ringaskiddy

The CCT opened in September 2022; however, a planning condition limits throughput at the Ringaskiddy facility to 322,846 TEU until the M28 and Dunkettle road schemes are complete. The planning application for the M28 was approved by An Bord Pleanála in June 2018. The delivery of the M28 will enable further relocation of the PoCC's activities from Tivoli Docks to Ringaskiddy and unlock significant port capacity in the lower harbour.

Road Access Marino Point

Cork County Council is actively pursuing the planning and design for the upgrade of the R624, including the provision of an enhanced bridge crossing at Belvelly - however, no date has been released for its future upgrade.

Rail Access Marino Point

Upgrades to the rail system to provide fast, reliable services at national, suburban, and city levels are seen to be vital to reduce road traffic and increase public transport use. An additional station adjacent to Marino Point may facilitate rail freight options and complement the European Rail Traffic Management System (ERTMS)⁴ – a horizontal priority to the TEN-T.

Coastal Shipping

The EU's "Motorways of the Sea" concept is seen as another horizontal priority that can support the TEN-T networks in Europe. It proposes the development of new, intermodal maritime-based logistics chains in Europe in response to the identified lack of connections between sea, inland waterways, and rail. Future growth of this transport mode could be inexpensive, minimise damage to the environment, and reduce road congestion.

³ Decision No 661/2010/EU of the European Parliament and of the Council of 7 July 2010 on Union guidelines for the development of the trans-European transport network (recast): https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32010D0661

⁴ European Rail Traffic Management System (ERTMS): https://www.era.europa.eu/domains/infrastructure/european-rail-traffic-management-system-ertms_en



Constraints and Challenges

The delivery of the Port of Cork Masterplan 2050 is reliant on the successful resolution of key constraints and challenges:

- Delivery of the M28 by Cork County Council and Transport Infrastructure Ireland (TII) to unlock significant port capacity in the lower harbour.
- Planning permission and the necessary consents for future infrastructure development (e.g. foreshore licences and leases, and dredging permits) being secured.
- Funding being obtained for future infrastructure developments to meet projected trade growth and to facilitate the requirements of ORE and the green energy sector.
- Additional land holdings being secured to enable the port expansion outlined in the Masterplan.
- Delivery of the R624 link road from Marino Point to the N25 by Cork County Council.

Future Infrastructure Development

New infrastructure in the lower harbour is needed to fulfil the ambitions of the Masterplan. Cobh Cruise Terminal will continue its current operations, and Tivoli, Marino Point, and Ringaskiddy will see progressive development during the period of the Masterplan.

The Future Infrastructure Development strategy within this Masterplan provides a framework of options to enable the PoCC to strategically plan port capacity to accommodate future economic trade growth and to facilitate the green energy sector. The Masterplan will enable the PoCC to evaluate future proposals and coordinate planning applications and/or marine consents. Any individual projects that emerge in the course of implementing the Masterplan will be assessed at the time of design and construction. In relation to such projects, the PoCC will follow, and comply with, all the normative planning, marine, environmental, and consent requirements such as:

- Cork County Council Planning
 Permission
- Maritime Area Regulatory Authority (MARA) - Maritime Area Consents (MACs) Foreshore Co-ordination Unit - Foreshore Leasing, Licensing, and Permitting
- Environmental Protection Agency (EPA) Dredging Licensing and Permitting | Appropriate Assessments (AA) Screening | Report or Natura Impact Statements (NIS) | Environmental Impact Assessments Screening or Environmental Impact Assessment Reports (EIAR)

Projections

The projections which formed the Basis of Design were based on analysis completed by Port Centric Logistic Partners (PCLP) and ratified by the PoCC. They took account of the potential impacts of global and macro-economic trends on trade volumes, the national picture in Ireland; and the competitive position of the PoCC within this sector along with future expectations. All projections were based on unconstrained demand;⁵ historical data from the CSO and the Irish Maritime Development Office (IMDO), historical data from the PoCC management records, and historical GDP data from Ireland and the Eurozone. COVID-19 and Brexit are two contemporary factors that were also considered. These 2050 projections are based on the assumption that trade markets will stabilise in the long term, with the caveat that there may be unforeseen disruptions in the future. The Future Infrastructure Development strategy is a spatial, temporal, and operational response to this projection analysis.

Spatial requirements in this section are independent of the additional requirements for facilitating the ORE and Future Cargoes mentioned above.

Tivoli Docks

Cargo projections demonstrate the need for port operations to continue at Tivoli Docks until sufficient port capacity can be provided in the lower harbour. The timeline for this phased move is being driven by the projected growth in trade and shaped by a planning constraint that limits throughput at Ringaskiddy until the construction of the M28 motorway has been completed.

⁵ Unconstrained demand is demand that is not impacted by capacity limitations within the port infrastructure and operations.



Figure 7: Tivoli Docks 2030 – Vacated by 2040

Figure 8: Marino Point Masterplan Layout 2050



Some commodities and cargoes will be moved from City Docks to Tivoli Docks in the near future. Sufficient storage for relocated cargoes will be maintained while the container yard will be reduced. The Masterplan envisages that, by 2040, Tivoli Docks will have ceased operations, with all cargoes having moved to the lower harbour.

Marino Point

There are currently 46 hectares (ha) of land available for development at Marino Point. Some commodities and cargoes will be relocated to Marino Point following the vacation of City Docks. Upgrades to infrastructure and equipment will allow the facility to handle dry bulks and project cargoes.

Due to increasing volumes and storage space limits at Ringaskiddy West, some commodities may need to be relocated to Marino Point by 2040.

Ringaskiddy West

Ringaskiddy West has enough capacity to handle its current liquid bulks, dry bulks, and project cargoes. There is currently 9.6ha of landside storage available at this location.

By 2030, some commodities and cargoes will be moved from City Docks to Ringaskiddy West. The planned berth extension of 230m will be required to handle an additional 2 million tonnes of dry bulks and project cargoes per year. An additional 7.8ha of off-site landside storage will be needed to facilitate this operational capacity.

While additional infrastructure will not be constructed after the berth extension, port capacity and operations will continue to grow. Projections indicate that 25ha of off-site land storage will be needed by 2050 to sustain these operations.



Figure 9: Ringaskiddy West Masterplan Layout 2030

Ringaskiddy East CCT

The new Cork Container Terminal (CCT) was officially opened in September 2022. Large Panamax vessels can be accommodated along its 360m-long quay, where two Ship-to-Shore (STS) gantry cranes are installed.

Trade vehicles are discharged at the linkspan in Ringaskiddy East, which also houses the Ferry Terminal. Ferry services are provided by Brittany Ferries to Roscoff.

The current infrastructure gives the port sufficient operational capacity up to 2029. However, a planning condition limits throughput at the Ringaskiddy Port facility to 322,846 TEU until such time as the M28 and Dunkettle road schemes are complete. Consequently, the PoCC will need to operate dual container operations at both Tivoli and CCT in the interim. To cater for the projected increase in container trade, the CCT in Ringaskiddy East will undergo infrastructure and logistics upgrades to guarantee the required capacity and allow expanded operations once the M28 has been completed.

By 2027, the PoCC will need to provide a berth extension to enable increased unloading/ loading operations arising from the increased volume of container traffic.

It will also need to expand the CCT to the east by 2029 to provide extra storage capacity in the lower harbour.

It is envisaged that, by 2036, the terminal will need major infrastructure upgrades to accommodate future container-related demand. A land reclamation project is proposed, covering around 6.4ha, to allow the construction of a second berth.



Figure 10: Ringaskiddy East CCT Masterplan Layout 2050



Figure 11: Ringaskiddy East - Additional Cargoes - Masterplan Layout 2050

Future volume projections indicate that demand in container trades will continue to grow and will require additional capacity from the port. Reclaiming a further 6.6ha towards Paddy's Point will provide the terminal with sufficient storage area and berthing length. This second reclamation will allow the expansion of the container yard and facilitate the installation of a new RoRo berth.

Ringaskiddy East Additional Cargoes

Additional cargoes are identified as RoRo, ConRo, RoPax, and Trade Cars. The remaining locations at Ringaskiddy East will be developed alongside the expansion of the CCT for these purposes. RoRo, ConRo, RoPax, and Trade Car businesses are expected to grow substantially in the future. The Port of Cork will undergo significant infrastructure upgrades to satisfy the increasing demand. Between now and 2030, the Port of Cork will need to transition to a new RoRo, ConRo, and Trade Car layout at this location, increasing the efficiencies within the existing area.

By 2040, the land dedicated to RoRo, RoPax, and Trade Cars will need to be expanded to accommodate the continued steady growth in these markets over the intervening period. An expansion of the RoPax marshalling lanes will also guarantee sufficient capacity to handle the increased ferry passenger traffic. By 2050, some of the storage and marshalling areas for RoRo, RoPax, and Trade Cars will be moved off-site to provide sufficient capacity at the terminal. The increase in volumes will lead to additional vessel calls, and therefore a second RoRo berth will be located in the northern part of the terminal on the newly reclaimed land.

Additional Land Requirements

To accommodate future volumes and to allow for infrastructure upgrades, the PoCC will require supplementary industrial lands adjacent to or near their current operations. Incremental additional land requirements can be seen in the tables below. These figures do not account for the additional land required to support the Offshore Renewable Energy sector.

Ringaskiddy East

Table 2: Ringaskiddy East Additional Land Requirements

	Current	2030	2040	2050
Total storage area	18ha*	25.2ha	29.6ha	34ha

*Area already in use - part of this area will be used for the extension of the CCT

Ringaskiddy West

Table 3: Ringaskiddy West Additional Land Requirements

	Current	2030	2040	2050
Total storage area	9.6ha*	17.4ha	20.8ha	25ha

*Area already in use

Future Energy Hub Infrastructure

Development

The following locations have been identified as having potential to support the future green energy sector.

- 1. Ringaskiddy West
- 2. Ringaskiddy East
- 3. Dognose Bay
- 4. Bantry

Ringaskiddy West

The deepwater berth (DWB) at Ringaskiddy West currently facilitates the import of wind turbine components and other project cargoes associated with the land-based wind energy sector. Some of the longest blades in Ireland have been imported at the deepwater berth. The ADM jetty is currently used for the import of green liquid bulks, such as HVO.

Figure 12: ORE at Ringaskiddy – A Concept Image

There is potential for dry bulks, in the form of solid biomass fuel, to be enabled through Ringaskiddy West DWB with simple modification of the existing dry bulk business.

The DWB is currently able to facilitate many of the vessels associated with the ORE industry, and the ADM jetty at Ringaskiddy West could be widened and an additional hammerhead berth added to allow for ORE project cargoes.



Ringaskiddy East

Ringaskiddy East has been identified as a potential location for the development of Offshore Wind activities (ORE), supporting Marshalling and Assembly (M&A) in the short term and Operational & Maintenance (O&M) in the longer term. To achieve this, the PoCC can build out port infrastructure with the approved planning permission already in place for 430m of quay walls (Ringaskiddy East CCT: 200m, Ringaskiddy West DWB: 230m). It can also utilise existing landside facilities to support the fixed bottom ORE sector. To facilitate the floating ORE sector, a reclaimed area of 23ha would be required for M&A in the short- to medium-term future. In the longer term, this space would be used for the expansion of the CCT, with the remaining area being employed as an O&M Offshore Wind Facility. Reclamation would include the construction of additional berth lengths, to produce a total length of 800m when completed. Land allocation for different functions would potentially change over time, as indicated below.

Table 4: Potential ORE Spatial Requirements

	сст	Offshore Wind
2022 – 2036	-	23ha (M&A)
2036 – 2048	6.4ha	16.6ha (O&M)
Beyond 2048	13ha	10ha (O&M)

Figure 13: Potential ORE Spatial Requirements at Ringaskiddy



5

-

1 14.3 -12 100 223 CANERY OF 12 Cart 1000 6.83 with the A CONTRACTOR OF THE OWNER OWNE 6.50% 748678 dist and 武士 Notest Com MELLER. 100 At the st Story R. P 31

Dognose Bay

Dognose Bay is seen as a site that, after land reclamation (12ha), could support the ORE sector by facilitating offshore wind industry requirements for M&A. Due to challenges with hinterland connectivity, components would need to be shipped in for such operations or fabricated on the quays. The proximity of Dognose Bay to the national electrical grid at this location is a positive driver for energy production and supply.

Dognose could also gain capacity to support future and transition cargoes in the form of LNG bunkering and a Floating Storage Regasification Unit (FSRU) with the addition, in the short to medium term, of a jetty and berth for a permanent vessel. The proposed location is near (1km) the main gas pipeline and the main CCGT power stations for the region, and so the site could also help Ireland to meet its energy security requirements. Once the ORE and hydrogen industries are established, Dognose Bay has the potential to serve as a multipurpose terminal for other liquid bulks (e.g. green hydrogen, green ammonia, and E-Methanol), providing additional support to efforts to match national energy needs.

Bantry Bay Harbour

Bantry Bay Harbour has the potential to provide facilities to support M&A, O&M, and wet storage for ORE. Further investigation is required to determine suitable locations for these facilities.

This is in addition to Bantry's potential to provide storage facilities and port infrastructure for the import and export of green energy liquid bulks.



Figure 15: FSRU at Dognose Bay – A Concept Image

Summary of Infrastructure Requirements

The following infrastructural upgrades and extensions will be needed, on a phased basis, to ensure port capacity successfully meets demand:

- An extension of the CCT yard with the installation of Rail-Mounted Gantry cranes (RMGs)/Rubber-Tyred Gantry cranes (RTGs) on lands located on the eastern side of Ringaskiddy East by 2029.
- A 200m extension of the CCT berth by 2030 (planning permission in place).
- A 230m extension of the DWB in Ringaskiddy West by 2030 (planning permission in place).
- An extension of the CCT in Ringaskiddy East, involving construction of an additional 160m of quay wall and land reclamation of 13ha, to be carried out in two phases (Phase One to be completed by 2036).
- The provision of additional Dry and Break Bulks storage areas at Ringaskiddy West. Reconfiguration of the RoRo terminal layout and reallocation of storage areas for Trade Cars in Ringaskiddy East.
- A new multipurpose RoRo berth on the northern side of Ringaskiddy East, adjacent to the CCT.

- The upgrade of the jetty and allocation of land for Dry and Break Bulks storage at Marino Point.
- The provision of storage for Liquid Bulks at Marino Point.

Timelines for the delivery of this infrastructure are dependent on projected demand and industry trends, and so they will need to be reevaluated on an ongoing basis.

The following infrastructure is needed to meet the Government's climate action targets and ensure energy security across the island of Ireland. The construction of this infrastructure can facilitate the ORE, transition fuel, and green energy industries. It will:

- Utilise existing port facilities and accelerate the build-out of new infrastructure that has planning permission in place to facilitate the fixed ORE sector (CCT & DWB berth extensions).
- Reclaim 23ha of land and construct associated quays at Ringaskiddy East to support the floating ORE sector.
- Provide new port facilities at Dognose Bay for transition fuels (e.g. LNG), ORE, green hydrogen, and other green energy cargoes.





Next Steps to 2030

The following steps are those needed to be carried out by 2030.

- 1. Implement the infrastructure with existing planning permission in place by 2030 (e.g. the new berth extensions at Ringaskiddy East (CCT) and Ringaskiddy West (DWB), which together add 430m of quay length)
- 2. Seek planning permission for, and build out, the next phase of the CCT terminal (RMG/RTG yard) by 2029 to increase capacity and meet the demand of projected trade growth
- 3. Support the fixed Offshore Renewable Energy sector by using existing port facilities, and accelerate the build-out of new infrastructure with approved planning permission in place. Also, support the floating ORE sector by developing further port infrastructure and by reclaiming lands at Ringaskiddy East
- 4. Harness the potential of Dognose Bay as a strategic location, 1km from the main gas pipeline, to facilitate transition fuels (LNG), ORE, green hydrogen, and other future green cargoes
- **5. Grow** Marino Point as a bulk port facility, while also exploring rail freight, energy, and cruise options





Concept Image of ORE at Ringaskiddy

-

a 21

Ø

1 : LTISOT

4

EXISTING CCT TERMINAL

- ALA

(a)

E

