

LOS ANGELES - LONG BEACH - SINGAPORE GREEN AND DIGITAL SHIPPING CORRIDOR

Partnership Strategy

Endorsements



Teo Eng Dih,
Chief Executive,
Maritime and Port Authority
of Singapore (MPA)



We are excited to see this partnership grow from strength to strength with the Green and Digital Shipping Corridor Partnership Strategy. We have embarked on evaluating the various digital solutions and zero and near-zero fuels options that could be trialed along the route between Singapore and the San Pedro Bay Port Complex. We look forward to the support of all the corridor stakeholders over the coming months to conduct trials and potentially scale them for wider adoption.



Mario Cordero,
Chief Executive Officer,
Port of Long Beach (POLB)



Over the last two decades, we've learned that collaboration between maritime industry partners is the key to making meaningful progress in reducing emissions and cleaning the air. This trans-Pacific green shipping corridor takes this concept global. The strategies we develop here can be used as a roadmap by a larger network of seaports and supply chain companies to invest in programs, technologies, software and infrastructure to decarbonize international trade everywhere.



Gene Seroka,
Executive Director,
Port of Los Angeles (POLA)



This Partnership Strategy document is the foundation upon which we'll build the future of maritime shipping. Our success requires the resolve and dedication of the three partnering ports as well as our industry partners. Together, we will model the collaboration necessary to achieve our climate and efficiency goals.



Mark Watts,
Executive Director,
C40 Cities



C40 is proud to support our port partners in delivering this Partnership Strategy. The advancement of this Green and Digital Shipping Corridor brings the shipping sector one step closer to a 1.5°C-aligned trajectory. Green shipping is only achievable through collaboration because no one stakeholder can afford to move unless they know others are likely to follow. That's where C40 is delighted to help, bringing our network of world leading cities, which include most of the world's largest and most forward-looking ports.



1 Background and Context

As leading global hub ports, Singapore, Los Angeles and Long Beach are vital nodes on the trans-Pacific shipping lane and key actors in the maritime sector's green and digital transition. In 2022, vessels calling these ports carried more than 56 million twenty-foot equivalent units – making up around 7% of the world's total container trade.¹

The Maritime and Port Authority of Singapore (MPA), Port of Los Angeles (POLA) and Port of Long Beach (POLB), with the support of C40 Cities, have established a Green and Digital Shipping Corridor (GDSC) with the aim to accelerate decarbonisation of the

maritime industry and the development and deployment of digital technology solutions and enablers.

The three ports and C40 Cities announced their intention to collaborate on the GDSC in November 2022 at the 27th United Nations Climate Change Conference (COP27/CMP17/CMA4) in Sharm el-Sheikh, Egypt.

A Memorandum of Understanding (MoU) was subsequently signed at Singapore Maritime Week in April 2023 by leaders from the three ports, formalising the scope of cooperation between the partners.



The Maritime and Port Authority of Singapore (MPA), the Port of Los Angeles (POLA), and the Port of Long Beach (POLB) signed a MOU on 24 April 2023 to establish a GDSC between Singapore and the San Pedro Bay port complex to support the decarbonisation of the maritime industry and improve efficiencies through digitalisation. The MOU was signed by Mr Teo Eng Dih, Chief Executive of MPA, Mr Gene Seroka, Executive Director of POLA, and Mr Mario Cordero, Executive Director of POLB, and witnessed by Mr S Iswaran, Singapore's then-Minister for Transport and Minister-in-charge of Trade Relations, Mr Chee Hong Tat, Singapore's current Acting Minister for Transport, Mr Jonathan Kaplan, Ambassador of the United States to Singapore, Mr Niam Chiang Meng, Chairman of MPA, Ms Sharon Weissman, Long Beach Harbour Commission President, and Mr Edward Renwick, Los Angeles Harbour Commissioner.

Following the adoption of the International Maritime Organisation (IMO) Revised Strategy in July 2023, this collaboration supports the decarbonisation of the maritime industry in line with the goals of IMO², and Singapore's and the United States' respective Nationally Determined Contributions (NDCs).

Spanning 14,000km across the Pacific Ocean, the GDSC between Singapore and the San Pedro Bay port complex will support the development and uptake of low- and zero-carbon fuels and vessels and identify digital and technology solutions to enhance voyage and route optimisation.

The GDSC also builds on the ports' long-standing cooperation through platforms such as the Port Authorities' Roundtable (PAR) and chainPORT and complements bilateral initiatives between Singapore and

the United States such as the U.S.-Singapore Climate Partnership and the U.S.-Singapore Partnership for Growth and Innovation. The partnership is further strengthened by the collective expertise and stakeholder network that the three ports bring from existing corridor initiatives.

This Los Angeles – Long Beach – Singapore Green and Digital Shipping Corridor (GDSC) Partnership Strategy document aims to:

- Communicate the GDSC Partnership's vision, aims and objectives for the corridor.
- Describe how the GDSC partnership will govern itself and work with stakeholders to achieve its aims.
- Mobilise value chain actors and other stakeholders to participate in or support the implementation of the GDSC.



COLLABORATIVE PLATFORMS

The Port Authorities Roundtable (PAR)

PAR is the platform of choice for leading port authorities to exchange best practices, discuss issues of common interest and build mutually beneficial collaboration in today's evolving maritime landscape. It was initiated by MPA in 2015 and serves as its Secretariat, while the POLA and POLB are active participants.

chainPORT

Initiated by the Port of Los Angeles and Port of Hamburg, chainPORT aims to bring together port authorities, their partners and customers to share experiences and develop common strategies, with a focus on digitalisation and smart ports. MPA is a member of the chainPORT network.



BILATERAL PARTNERSHIPS

U.S.-Singapore Climate Partnership

Launched in 2021, the U.S.-Singapore Climate Partnership aims to foster closer collaboration on climate action, environmental governance, sustainable development and low-carbon solutions.

U.S.-Singapore Partnership for Growth

Launched in 2021, the U.S.-Singapore Partnership for Growth and Innovation aims to strengthen bilateral and regional collaboration on trade and investment, covering pillars such as digital economy, energy and environmental technologies, advanced manufacturing, and healthcare.



GREEN SHIPPING CORRIDORS

Singapore-Rotterdam Green & Digital Shipping Corridor

MPA Singapore is leading the Singapore-Rotterdam Green and Digital Shipping Corridor. This would be the largest of its kind worldwide and seeks to enable low and zero carbon shipping along the route.

LA-Long Beach-Shanghai Green Corridor

Ports of Los Angeles and Long Beach are leading the LA-Long Beach-Shanghai Green Corridor. The plan for this corridor was the first of its kind. The initiative seeks to enable supply chain participants to use greener practices and as a result, drive emissions reduction.

¹ Source: 2022 statistics from UNCTAD, Port of Los Angeles, Port of Long Beach and Port of Singapore

² The Revised Strategy commits Member States to peak Greenhouse Gas (GHG) emissions from international shipping as soon as possible and reach net-zero by or around, i.e. close to 2050, taking into account different national circumstances whilst pursuing efforts to phase them out. The Revised Strategy further included targets to reduce GHG emissions from international shipping by at least 20%, striving for 30% by 2030, and by 70%, striving for 80%, by 2040.

2 Vision, Aims and Scope of Cooperation

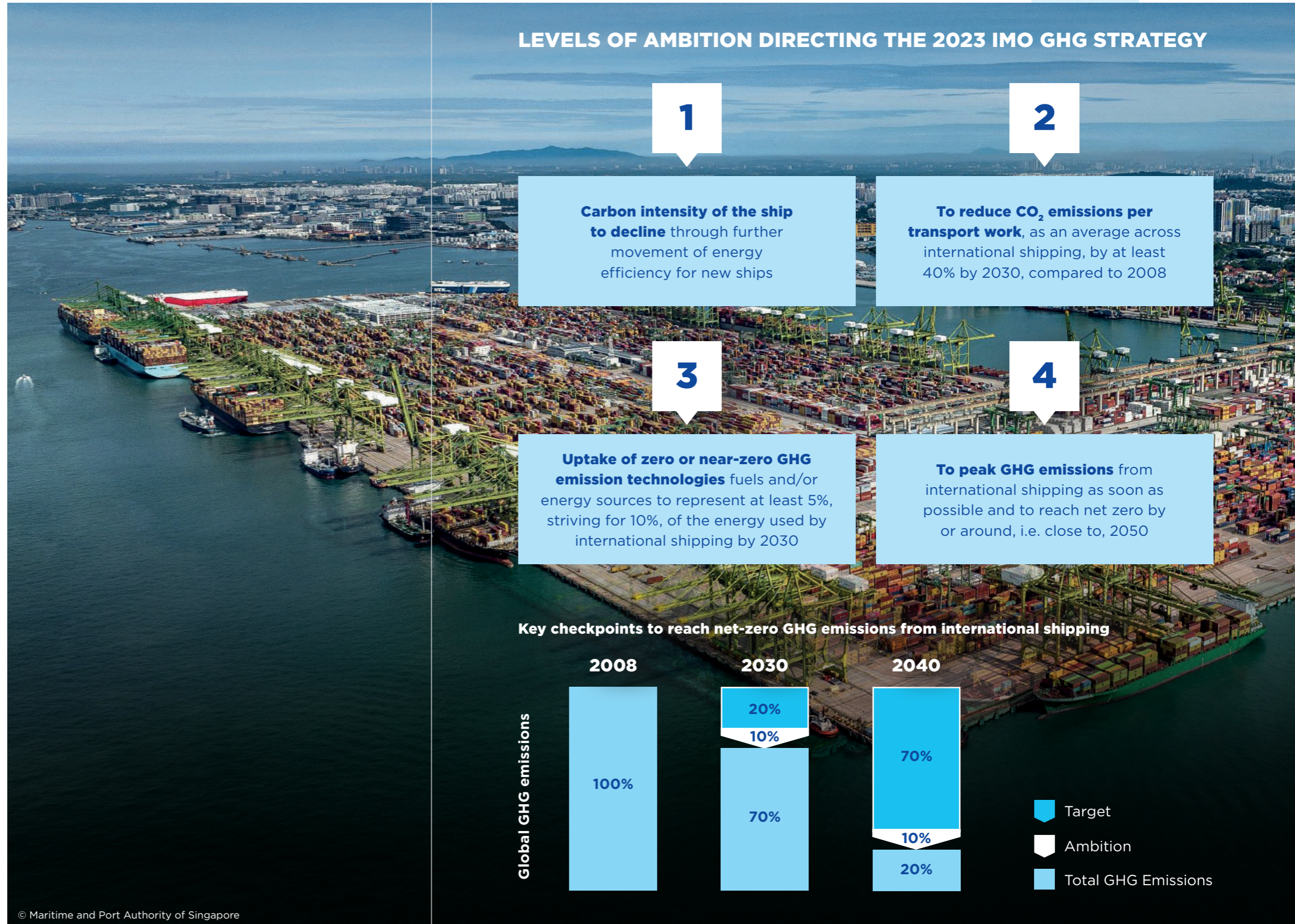
Vision

Accelerate decarbonization of the maritime shipping industry by enabling first movers to achieve net-zero GHG emissions by the earliest feasible date, in support of the goals defined by the 2023 IMO GHG Strategy.

Aims



Through the Los Angeles - Long Beach - Singapore Green and Digital Shipping Corridor, the partners will work together and with value-chain stakeholders from the fuel and maritime sectors towards the following aims:



- Catalyse and coordinate efforts to enable ships calling at the Port of Singapore, Port of Los Angeles, and Port of Long Beach to achieve net-zero GHG emissions by the earliest feasible date.
- Build consensus around green shipping best practices and standards.
- Accelerate the development and deployment of technology and digital solutions to support supply chain efficiency, resilience and decarbonization, as well as reduce costs and improve reliability of cargo movement.
- Actively work with other first mover green shipping corridors, including those established by the three ports and other third parties, to help scale the uptake of zero and near-zero technologies, fuels and/or energy sources.



Scope of Cooperation

The three ports have agreed to collaborate across several areas to achieve the above aims, as outlined in the table below.

AREA OF COOPERATION	OBJECTIVES	SUCCESS INDICATORS
 <p>Facilitating the transition to zero and near-zero emission marine fuels</p>	<p>Support the transition to zero and near-zero emission fuels on the shipping route between Singapore and the San Pedro Bay Port Complex.</p> <p>Facilitate the supply and adoption of a range of fuels that are demonstrated to achieve the transition to net-zero GHG emissions from shipping, including development of the necessary infrastructure and standards required for bunkering.</p>	<p>The ports communicate their readiness to facilitate the supply of zero and near-zero emission fuels, including an indicative timeline for preparing the necessary infrastructure for bunkering in alignment with applicable standards. The ports would explore the use of industry metrics, such as the Port Readiness Level (PRL) indicator developed by the World Ports Climate Action Programme (WPCAP).</p> <p>The GDSC acts as a catalyst for collaboration between the ports and stakeholders across the shipping and fuel value chains.</p> <p>By 2030, 10% of the energy used by international shipping operating on the corridor is met by using zero or near-zero GHG emission technologies, fuels and/or energy sources.³</p>
 <p>Technology Advancement</p>	<p>Identify and collaborate on pilot and demonstration projects, along with initiatives to advance the development and transition to zero and near-zero emission fuels and technologies to support decarbonization and emissions reduction. In addition, advance the development, demonstration and adoption of digital technologies by the maritime shipping industry that improve efficiencies and support decarbonization.</p>	<p>The GDSC identifies promising GHG emissions reduction technologies applicable to the route, supports their development, and incentivises their uptake on the corridor.</p> <p>The three ports will seek to increase the integration of their port digital systems.</p>

AREA OF COOPERATION	OBJECTIVES	SUCCESS INDICATORS
 <p>Standard Setting and Knowledge Exchange</p>	<p>Promote best practices and encourage standard setting across the maritime shipping and supply chain industries that can support decarbonisation and enhanced digital systems interoperability, including cyber security and training.</p> <p>Share knowledge and information in support of the Green and Digital Shipping Corridor's goals.</p>	<p>The GDSC supports development and promotes standards and best practices for bunkering of green marine fuels and digital systems interoperability.</p> <p>The GDSC actively cooperates and exchanges knowledge with other green and digital shipping corridor initiatives, bilaterally and through multi-stakeholder or industry forums, to disseminate learnings from the corridor activities.</p> <p>The GDSC will explore opportunities to expand this outreach more broadly to other value-chain stakeholders.</p>
 <p>Advocacy & Amplification</p>	<p>Provide advocacy and thought leadership globally and to industry to communicate and amplify the aims, benefits and projects of the Green and Digital Shipping Corridor.</p>	<p>The GDSC builds thought leadership amongst maritime governments, port authorities, and industry by advocating at global multilateral and industry platforms, including IMO, the Port Authorities Roundtable, and United Nations Climate Change conferences (e.g. the Conference of the Parties (COP)).</p> <p>Additionally, the GDSC finds opportunities to reach audiences outside of the shipping and energy sectors - including local communities, end-consumers, and environmental groups - to support an inclusive and equitable transition.</p>

³ The IMO 2023 Strategy indicates a goal for "uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to represent at least 5%, striving for 10%, of the energy used by international shipping by 2030."

Governance and Partnership Engagement

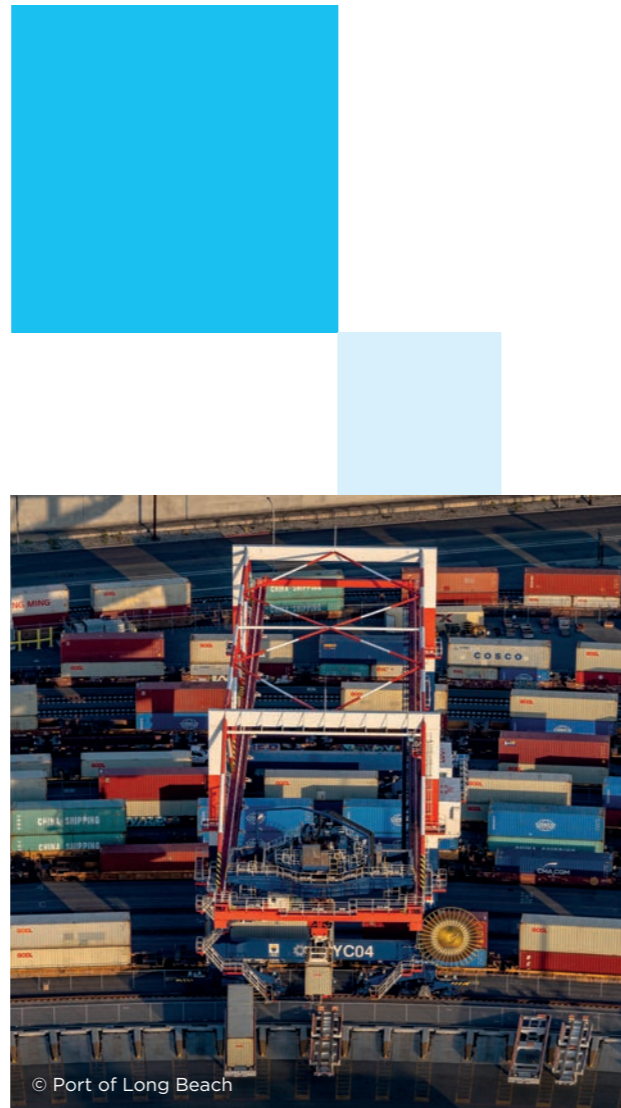
A partnership structure and governance mechanism have been developed to provide clarity on the roles and responsibilities of GDSC partners and participants in developing and implementing the corridor. These are subject to change and development as the GDSC evolves.

- **Supporters** provide support for the corridor through various means, such as external advocacy or consultation on specific topics, but do not necessarily commit to specific activities or resource provision. They are not actively involved in strategic decision-making or implementation activities.

Roles and responsibilities

There would be three categories of representation in the corridor:

- **Founding Partners** lead strategic decision making and programme management of the corridor’s activities through the Partner Steering Committee. Having defined the shared aims and goals of the corridor, as set out in this document, the Founding Partners are committed to providing sufficient resources to oversee and participate in the GDSC’s delivery. The Founding Partners include the Port of Los Angeles, Port of Long Beach, and the Maritime & Port Authority of Singapore. C40 is supporting the development and implementation of the GDSC through convening, facilitation, coordination, and communication activities as well as by actively participating in relevant implementation activities.
- **Participants** take an operational role in implementation activities as part of one or more working groups under the corridor. Participants could include but are not limited to shipping lines, fuel suppliers, cargo owners, and green and digital technology developers. Participants are expected to commit to specific activities and deliverables that align with the GDSC’s vision and aims, and to provide the necessary resources and expertise financially or in-kind.



PARTNERSHIP STRUCTURE

GROUP	MEMBERSHIP	ORGANISATION	ROLE
Partner Steering Committee	Named Lead and Deputy representatives from each of the Founding Partners and C40 Cities	<p>Led by the Ports, the Steering Committee meetings would include:</p> <ul style="list-style-type: none"> • Monthly partnership management calls. • Ad-hoc working sessions. • Stakeholder engagement. <p>C40 Cities supports the Ports by scheduling meetings, producing agendas/minutes, facilitation, and coordinating corridor activities.</p>	<p>The Steering Committee is responsible for management of the corridor. Roles will include:</p> <ul style="list-style-type: none"> • Strategic decision-making. • Programme management. • Developing partnership material (e.g. Implementation Plan). • Internal & external communications. • Coordinating stakeholder engagement. • Selection and approval of new corridor participants. • Establishing new working groups and monitoring progress.
Working Groups	Representatives from Founding Partners, Participants and C40 Cities (as appropriate)	The leadership of each working group will be agreed upon its establishment.	<p>Working groups are responsible for action planning and implementation activities to support a specific corridor objective or goal.</p> <p>Working groups will report progress and findings to the Partner Steering Committee on an agreed schedule.</p>

New Participants

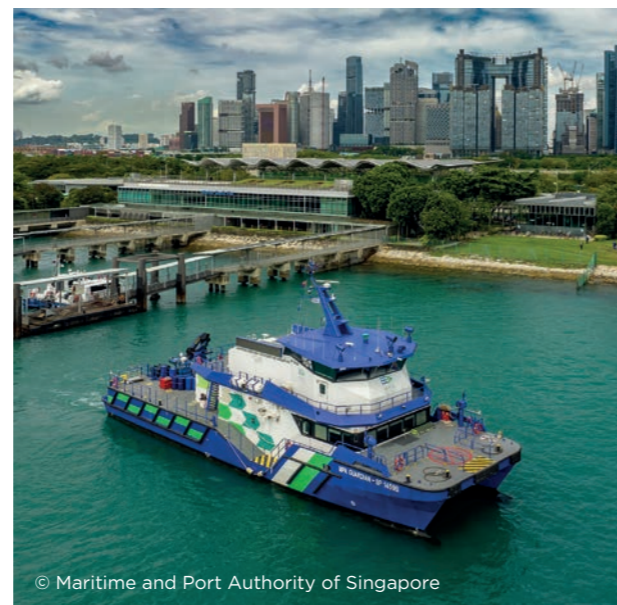
The Founding Partners will actively engage key organisations that share the corridor's aims and are able to commit resources to deliver on the corridor's goals and activities, to join as Participants.

- **Identifying potential Participants.**

The Founding Partners have already begun a process of engagement with their customers and stakeholders which includes the aim of identifying potential Participants and Supporters. However, any other parties from across the shipping, digital and fuel sectors that are interested in becoming Participants, as well as broader stakeholders such as community and environmental groups that are interested in becoming Supporters, are invited to contact the Founding Partners to express interest in the corridor.

- **Expectations of Participants.** Corridor Participants will be expected to commit to specific goals and activities that align with the corridor's vision and aims and participate in the development of an implementation plan setting out how these will be achieved. Ideally, Participants should identify specific actions or plans that they intend to undertake to support the interests of the GDSC. To this end, they should be able to allocate suitable resources to the corridor, including a dedicated point of contact that has the capacity and expertise to take part in working sessions pertinent to the management and implementation of the corridor. The point of contact should be empowered to act and take decisions on behalf of their organisation.

- **Approving new Participants.** The Steering Committee would approve any new Participants in the corridor.
- **Formalising new Participants.** Once approved by the Steering Committee, a formal commitment, such as a Letter of Intent (LoI), will be made by the new Participant. The commitment will detail the agreement by the new Participant including the specific goals, activities, and resources being committed to the corridor. Depending on the nature of the collaboration, mechanisms for the management of confidentiality and intellectual property may be required and will be discussed and agreed on a case-by-case basis.
- **Exiting the Corridor.** Should a Participant wish to end their participation in the corridor or specific working group cease to be relevant (i.e., through completion of a certain project or institutional change), the Steering Committee will dissolve the Participant's membership. Said Participant would be expected to carry out the necessary handover and knowledge transfer processes to ensure continued smooth operation of corridor activities.



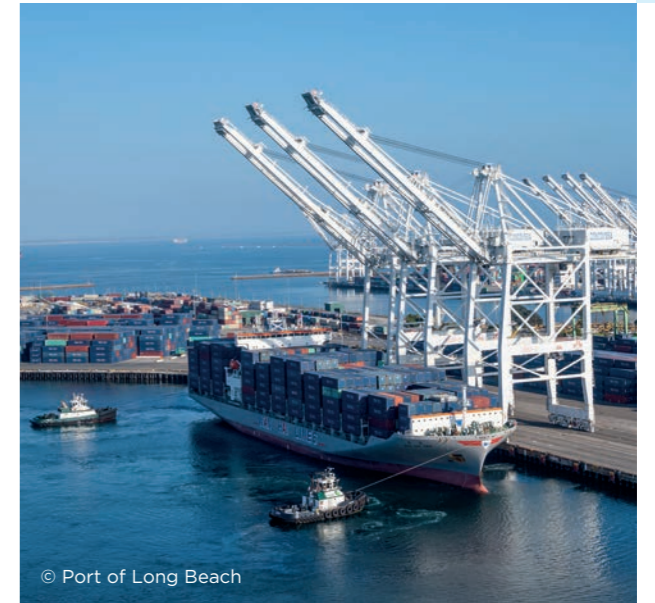
Decision-Making Processes

The Founding Partners will be the primary decision makers in the corridor and will have final sign off on any projects associated with the corridor, external communications regarding corridor activities, or strategic decisions that affect the vision, aims or objectives of the corridor. As a voluntary initiative, the GDSC does not seek to assert authority over Participants or their organisational strategies, investments, or operations undertaken outside the scope of the corridor.

Decision making will require unanimous approval from all Founding Partners. However, to expedite completion of particular activities, some decisions may be delegated to a single partner with the other Founding Partners' agreement. The Founding Partners recognise that some decisions may require separate approval through their own organisation's internal governance processes.

Decision making may take place at meetings, workshops, or by email. Records will be kept of decisions made and will be communicated to the other Participants and Supporters, for example through meeting minutes or progress reports.

Some autonomy will be given to working groups to deliver action planning and implementation activities without having to escalate decisions to the Founding Partners; this will be defined when the working groups are established.



Dispute Resolution, Confidentiality, and Intellectual Property

For any jointly executed projects in the future, the corridor Founding Partners will discuss dispute resolution, confidentiality, and intellectual property provisions to be included in project specific implementation documents, as appropriate.

Financial Management

Third party studies and other implementation activities may require funding contributions from Founding Partners, Participants or Supporters. Specific funding arrangements will be discussed on a case-by-case basis. It is recognised that the allocation of funding may require approval through each entities' internal corporate governance processes.



© Maritime and Port Authority of Singapore

**MPA, POLA, POLB and
C40 Cities' inaugural meeting
at Los Angeles in January 2023**