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Making Waves: New Study Identifies Opportunities for a Sea of Benefits along Green and Digital Shipping Corridor between Singapore, Los Angeles and Long Beach

One year after the signing of the Memorandum of Understanding (MoU) to establish a Green and Digital Shipping Corridor (GDSC), the Maritime and Port Authority of Singapore (MPA), Port of Los Angeles and Port of Long Beach have completed a comprehensive baselining study. It forecasts more green jobs, health improvements for local communities and economic benefits for participating countries, emphasising the future demand for zero and near-zero emission fuels and the benefits from decarbonising the shipping routes between the nations.

The study, commissioned by C40 and the ports, and conducted by the American Bureau of Shipping, analysed maritime trade flows between Singapore, Los Angeles and Long Beach, and provided a baseline of activities and energy demand requirements for vessels operating on the corridor through to 2050. The conclusion of the study follows the successful unveiling of the corridor’s Partnership Strategy at the 28th United Nations Climate Change Conference (COP28/CMP18/CMA5) in December 2023, which outlined the corridor’s goals, partnership structure and governance mechanism. The study estimates the quantity of near-zero and zero-emission fuels required for this traffic by modelling the adoption of zero and near-zero carbon alternative fuels by vessels operating on the corridor through to 2050, considering various parameters such as fuel production costs and fuel availability, and in view of the targets in the 2023 IMO Strategy on Reduction of Greenhouse Gas Emissions from Ships. The study can be found here.

On a practical level, the study highlights the potential socio-economic impact of transitioning to zero and near-zero emission fuels and leveraging on digital

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1 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.
solutions. Based on the study’s estimates, the corridor at full implementation could create over 700 new job opportunities in zero and near-zero emission fuel production and improve local air quality. These estimates support findings by C40 and other organisations that activities undertaken through green shipping corridors can catalyse wider decarbonisation across the maritime industry and unlock health benefits for local communities and green economy opportunities for participating countries.

As leading global ports, Singapore, Los Angeles and Long Beach are vital nodes on the trans-Pacific shipping lane and are key stakeholders in the maritime sector’s green and digital transition. Alongside 20 leading ports and port cities, MPA, POLA, and POLB are members of C40’s Green Ports Forum, a prominent global platform for collaborative climate action that actively champions ambitious green shipping corridors, acknowledging their central role in the ports and shipping sectors’ green transition.

The corridor partners underscore their dedication to a data-driven decision-making approach through the study, utilising its insights to guide their actions in pursuing the partnership’s decarbonisation objectives and aligning with the decarbonisation goals of the shipping sector. Key findings of the study include:

- Vessels operating on the corridor represent 7% of the world’s container trade, which is about 1% of Singapore’s, 14.5% of Port of Long Beach’s, and 20% of Port of Los Angeles’ traffic.
- The projected annual energy demand of vessels on the corridor is estimated to be approximately 60,000 terajoules (TJ), equivalent to approximately two months of Singapore’s national electricity generation.
- Shipping demand on the corridor is estimated to be around 850,000 tons of methanol and 160,000 tons of ammonia annually by 2030, displacing the equivalent GHG emissions from almost 320,000 cars annually.
- The transition to zero and near-zero emission fuels could potentially create approximately 700 jobs in the production and supply chain of such fuels by 2030.

The partnership convened the first in-person stakeholder meeting of the corridor together with industry value-chain representatives, as a prelude to onboarding stakeholders to the corridor. The meeting was held during Singapore Maritime Week (SMW) 2024 on 18 April.

The meeting and subsequent working groups will focus on developing green and digital solutions to address the following focus areas within the corridor:

1. Enable the supply and adoption of zero and near-zero emissions fuels (e.g. green ammonia, green methanol) at scale, including safety, emergency response, mitigation and standards-setting.
2. Develop and scale-up the adoption of energy efficiency solutions, including through digital tools (e.g. route optimisation, remote monitoring) and technologies that reduce fuel consumption (e.g. wind-assisted propulsion).

3. Develop and encourage the adoption of digital technologies to support the monitoring, reporting and verification of GHG emissions along the corridor.

All three ports will participate in the *Accelerating Digitalisation and Decarbonisation Conference* organised by MPA as part of SMW 2024 and in a moderated discussion convened by C40 on the sidelines of SMW 2024 entitled ‘Navigating Collaboration: Governance of Green Shipping Corridor Partnerships’, where C40 will unveil its new report and share insights into best practices for GDSC effective governance.

Mr Teo Eng Dih, Chief Executive of MPA, said: “Shipping is a new pillar in the multi-faceted partnership with the US. The GDSC with the Ports of Los Angeles and Long Beach highlights the importance of working with industry, researchers, government and society through innovation and capacity building. With traffic along the GDSC accounting for 7% of the world’s container trade, the initiatives by GDSC partners and stakeholders will help generate growth and new opportunities for maritime professionals.”

Port of Los Angeles Executive Director Gene Seroka, said: “This study provides a sense of scale and scope to inform our implementation of the Green and Digital Shipping Corridor. Achieving the reductions of greenhouse gas emissions required will take coordination and commitment from public and private stakeholders across the maritime and goods movement industries. We’re proud to be collaborating with industry partners to make this corridor a reality.”

“The Port of Long Beach and its partners have been very successful reducing emissions from cargo-handling equipment, trucks and other mobile sources moving cargo in our harbor,” said Port of Long Beach CEO Mario Cordero. “One of the most important parts of this partnership is it allows us to better understand and target a source of emissions that is hard for us to control as a local seaport authority – shipborne emissions. This work, vital to our net zero-emission quest, will result in economic and health benefits all along the trans-Pacific trade corridor.”

C40 Executive Director, Mark Watts said: “Accelerating efforts to decarbonise the shipping sector is urgent if we are to limit global heating to 1.5°C. C40 is proud to support this first-mover initiative which has the potential not only to support the development and uptake of low- and zero-carbon fuels and vessels, but also create good green jobs and health benefits for local communities by doing so.”

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About the Maritime and Port Authority of Singapore (MPA)

MPA was established on 2 February 1996 with the mission to develop Singapore as a premier global hub port and international maritime centre, and to advance and safeguard Singapore’s strategic maritime interests. MPA is the driving force behind Singapore's port and maritime development, taking on the roles of port authority, maritime and port regulator and planner, international maritime centre champion, national maritime representative and a champion of digitalisation and decarbonisation efforts at regional and international fora such as at the International Maritime Organization. MPA partners industry, research community and other agencies to enhance safety, security and environmental protection in our waters, facilitate maritime and port operations and growth, expand the cluster of maritime ancillary services, and develops maritime digitalisation and decarbonisation policies and plans, R&D and manpower development. MPA is responsible for the overall development and growth of the maritime domain and Port of Singapore. In 2023, Singapore's annual vessel arrival tonnage crossed 3 billion Gross Tonnage and remains the world’s busiest transshipment hub, with a total container throughput of 39.0 million 20-foot equivalent units (TEUs).

For more information, please visit https://www.mpa.gov.sg.

About the Port of Los Angeles

The Port of Los Angeles is North America’s leading trade gateway and has ranked as the No. 1 container port in the United States for 24 consecutive years. In 2023, the Port generated $292 billion in trade and handled a total of 8.6 million container units, sustaining its top rank among U.S. ports. The Port remains focused on community investment, commitment to sustainability and environmental leadership, workforce development, and infrastructure improvement. San Pedro Bay port complex operations and commerce facilitate one in nine jobs across the Southern California counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

For more information, please visit https://www.portoflosangeles.org.

About the Port of Long Beach

The Port of Long Beach is a global leader in operational excellence and top-notch customer service, moving cargo with reliability, speed and efficiency. As the premier U.S. gateway for trans-Pacific trade, the Port handles trade valued at $200 billion annually and supports 2.6 million trade-related jobs across the United States, including 575,000 in Southern California and 1 in 5 jobs in Long Beach. In 2023, industry leaders named it “The Best West Coast Seaport in North America” for the fifth consecutive year. In 2023, the Port handled 8 million twenty-foot equivalent
units. In the next 10 years, the Port is planning $2.2 billion in capital improvements aimed at enhancing capacity, competitiveness and sustainability.

For more information, please visit [www.polb.com](http://www.polb.com).

**About C40 Cities**

C40 is a network of nearly 100 mayors of the world’s leading cities working to deliver the urgent action needed right now to confront the climate crisis and create a future where everyone, everywhere can thrive. Mayors of C40 cities are committed to using a **science-based and people-focused approach** to help the world limit global heating to 1.5°C and build healthy, equitable and resilient communities. We work alongside a broad coalition of representatives from labour, business, the youth climate movement and civil society to support mayors to halve emissions by 2030 and help phase out fossil use while increasing urban climate resilience and equity.

To learn more about the work of C40 and our cities, please visit [our website](http://www.c40.org) or follow us on [X](https://twitter.com/c40cities), [Instagram](https://www.instagram.com/c40cities/), [Facebook](https://www.facebook.com/c40cities) and [LinkedIn](https://www.linkedin.com/company/c40-cities/).

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