



The Choices We Make Today will Impact Our World Tomorrow



The maritime community must show the world that it is committed to tackle climate change, said Kitack Lim, Secretary-General of the International Maritime Organization.



To manage effects of climate change, Singapore must plan with the long term in mind, said Teo Eng Dih, Chief Executive of the Maritime and Port Authority of Singapore.

Singapore is planning ahead to adapt to the impact of climate change.

Plan a Century Ahead to Manage Climate Change



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Climate change is an existential threat to the world, and decarbonisation brings the biggest challenge and also the greatest opportunity for shipping. Singapore, as a low-lying island especially vulnerable to sea level rise, is taking concrete action to mitigate and adapt to the impacts of climate change, said Teo Eng Dih, Chief Executive of the Maritime and Port Authority of Singapore (MPA).

Just last week, a severe heatwave swept through parts of Asia, with daily temperatures rising to above 44 deg C in some cities in India. Last year, a record-breaking drought caused parts of the Yangtze river, the world's third largest, to dry up, prompting the closure of many shipping routes.

These developments cannot be ignored, and Singapore is planning for the long term, said Mr Teo at the opening of the 2nd Accelerating Decarbonisation conference, as he sketched out the impact of climate change on the world and Singapore's response.

Citing the Tuas Port as an example, he pointed out that it is built at least 5 metres above sea level. "But we don't think this is enough if the world does not act on climate change," he added on the fourth day of the Singapore Maritime Week.

"Decarbonisation is critical to our long-term competitiveness."

Teo Eng Dih
Chief Executive
Maritime and Port Authority of Singapore

Showing an image of a 10-storey tall caisson, a watertight concrete block that allows work to be carried out under water, he said there are over 200 of them at the Tuas Port, in preparation for the first phase of operations in 2027.

Planning for net-zero

"But we are now looking ahead because long-term planning is critical for Singapore. The choices we make today will have an impact on Singapore's economy and our future generations," he said.

The Republic is also looking to mitigate climate change on three fronts: first, at its port and cruise terminals; second, on its domestic harbour craft sector; and third, on the front of international shipping.

MPA is working with port and cruise terminals to review their plans on achieving their net-zero goals. Already, solar panels have been installed at the ports, and MPA is studying different energy storage systems to help ports improve their energy efficiency.

From 2030, all new harbour craft operating in Singapore waters must be fully electric, be capable of using biofuel at 100 per cent blend (known as B100), or be compatible with net-zero fuels such as hydrogen. This new directive aims to ensure the sector's net-zero goals are aligned with Singapore's climate ambitions.

Mr Teo also urged industry stakeholders to work with MPA to meet the 2030 timeline. "If you have new harbour crafts coming in, tell MPA early so that we can work with you to make the designs even better. Because once the vessels are built, it is very difficult and expensive to do a retrofit."

All aboard decarbonisation agenda

Kitack Lim, Secretary-General of the International Maritime Organization (IMO), added in his keynote address at the same conference that the next few months are crucial as the maritime sector needs to agree on a global framework to strive towards green shipping.

"Now is the time for IMO member states to be ambitious in upgrading their vision and levels of ambition."

Kitack Lim
Secretary-General
International Maritime Organization

Come July, the Marine Environment Protection Committee (MEPC) meeting will take place in London. IMO is aiming to adopt a revised and strengthened greenhouse gas emissions strategy at the meeting.

"All member states are working hard to elevate our level of ambition. It is not easy but we are moving forward," said Mr Lim. He also urged developed nations to ensure developing countries are not left behind in shipping's decarbonisation agenda.

"Now is the time for IMO member states to be ambitious in upgrading their vision and levels of ambition, and work towards achieving a consensus showing the world that the maritime community is supporting the global efforts to combat climate change." ■



New Deals to Advance Smarter, Greener Shipping

The Maritime and Port Authority of Singapore inked two agreements at the Accelerating Decarbonisation conference to boost maritime's digitalisation and decarbonisation efforts.

Future-proofing the maritime sector

A deal inked between the Maritime and Port Authority of Singapore (MPA) and Finnish technology group Wärtsilä will see both sides work together to strengthen the maritime sector and ensure it is ready for future challenges. The Memorandum of Understanding (MoU) aims to achieve three goals:

1. Develop safety concepts and procedures to ensure the safe adoption of alternative fuels
2. Ramp up data exchanges between vessels and port operations to make port operations more efficient
3. Train the maritime workforce to build up competencies in digitalisation and decarbonisation

MPA and Wärtsilä will also work with other stakeholders in the maritime space to advance the digitalisation and decarbonisation agenda. For instance, to build bench strength in the industry, both parties could collaborate with the Tripartite Advisory Panel under the Alliance for Future Maritime Talent to develop training materials.

Kenneth Lim, Assistant Chief Executive of Industry and Transformation at MPA, said Singapore is supported by a robust research and development, and start-up ecosystem. "Singapore is at the heart of marinetech innovation and at an exciting phase for the potential introduction of maritime fuels such as methanol, hydrogen, and its derivatives such as ammonia," he said.

Setting standards for digitalisation and decarbonisation

MPA will work with internationally-recognised classification societies to spur the development of new technologies and solutions that will benefit the global maritime community.

Under the Letter of Intent (LOI) that MPA signed with eight classification societies, all parties will collaborate to establish standards and technical references on maritime digitalisation and decarbonisation. This could cover low-carbon marine fuels such as methanol, ammonia, and hydrogen. For a start, parties will aim to develop standards that meet Singapore's requirements.

The eight classification societies are the American Bureau of Shipping; Bureau Veritas Marine and Offshore; China Classification Society; DNV; Korean Register; Lloyd's Register of Shipping; Nippon Kaiji Kyokai; and RINA Services. These organisations develop and apply technical standards for the design, construction, and operation of maritime structures.

MPA will also work with the classification societies to ensure that the LOI, while governed by Singapore laws, is also applicable in overseas markets and adheres to local laws and regulations.

The collaboration will also streamline the recognition of the Singapore Registry of Ships (SRS) and class notations, as currently, SRS and the various classification societies have their own voluntary notations.

Lastly, MPA will work with the classification societies to ensure the industry is ready for future challenges. MPA aims to enhance the designs of new harbour crafts to ensure they are safe, secure, and efficient. It also wants to equip the maritime workforce with the right skills to operate increasingly sophisticated vessels, and will work with the eight partners to develop learning materials on digitalisation and decarbonisation.

"With the rapid changes brought about by decarbonisation and digitalisation, there is a need for collaboration to learn from one another, partner likeminded stakeholders to build capabilities, and accelerate the development and adoption of new technologies," said Teo Eng Dih, Chief Executive of MPA.

CEOs Speak: Disrupt to Decarbonise



From left: Captain Rajalingam Subramaniam, Group Chief Executive Officer and President of MISC Group; Remi Erikson, Group President and CEO of DNV; Teo Eng Dih, Chief Executive of the Maritime and Port Authority of Singapore; Christian M. Ingerslev, CEO of Maersk Tankers; and Christopher J. Wiernicki, President and CEO of American Bureau of Shipping.

Collaboration is crucial to tap existing technology in the race to net-zero in 2050.



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When it comes to the decarbonisation agenda, it's crunch-time for the shipping industry. To reach net-zero emissions by 2050, the world needs about 10 times more renewable energy than is in production now, and more than 100 times the carbon capture capability it has today.

It is a daunting challenge, and no single fuel will be able to meet the world's energy needs, noted Christopher J. Wiernicki, President and Chief Executive Officer of the American Bureau of Shipping. He was speaking at a panel discussion moderated by Teo Eng Dih, Chief Executive of the Maritime and Port Authority of Singapore.

One thing is clear: As the industry shifts away from fossil fuels, alternatives such as biofuels, ammonia, nuclear energy, and hydrogen will have to rise to the challenge of meeting 70 per cent of the world's energy requirements. But not all will do so at the same time.

Nuclear energy, for example, is still plagued by long cycle times, noted Remi Erikson, Group President and CEO of classification society DNV. "This will not be so helpful pre-2050, but in the longer term, it will be," he observed.

But research looks promising. Mr Teo noted that developments in the United States are accelerating nuclear fusion capabilities, typically thought of as being 50 years away.

Collaboration is not just a buzzword

Much of the discussion today centres on fuels, but industry players should not underestimate what existing technology can do to reduce emissions, said panellists.

"Our analysis shows that by using technology that you can put on your ships today, you can reduce emissions by 7 to 16 per cent," said Christian M. Ingerslev, CEO of Maersk Tankers. To fully maximise the potential of existing technology, collaboration is crucial. But it needs to be thought of as more than just a buzzword.

"Think of the word "collaboration" as a different word for scale," urged Mr Ingerslev. "Think of what you can do today in your business to drive scale, participate in it, or to advocate for it. If you do that, you are in control. You are not waiting for others to collaborate with you."

To drive decarbonisation, boldness is a must. This means that other industry players, from financial institutions to regulators to shipbuilders, must step up and share the burden of risk, which is currently being shouldered by shipowners.

"If collaboration is to be purposeful, (industry players) should not hide behind curtains," said Captain Rajalingam Subramaniam, Group CEO and President of MISC Group. In particular, he noted that banks need to do more to be part of the solution.

The panellists acknowledged that market forces are still king. "Banks will play an important role, but they will manage their risks. So will cargo owners, charters, and shipowners," said Mr Erikson.

The key is for regulatory bodies to create a market environment that will incentivise industry players to decarbonise.

To that end, more disruptive global measures are welcome, said Capt Subramaniam. "Bring on the carbon tax, and the world will be a better place," he said, drawing cheers from the audience. A carbon tax will require emitters to pay for each ton of greenhouse gases they produce and push them to green their operations. ■

"If the shipping industry is not going to green itself, funds will flow elsewhere. Shipping must bear the market risk... but a systemic approach by the government and industry partners can pool together resources to address these risks."

Teo Eng Dih
Chief Executive
Maritime and Port Authority of Singapore

Green Shipping Corridors Are a ‘Complex and Challenging’ Project

Governance, regulation, and collaboration across the value chain are key issues.



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Green corridors are being hailed as a pathway to zero-carbon shipping. But setting them up is a “complex and challenging” endeavour, said an industry player at Singapore Maritime Week.

“I would highlight three main challenges that green corridors face today. One is cross-value chain collaboration. Second one would be governance. And third one would be regulation,” noted Alisa Kreynes, Head of Ports and Shipping, C40 Cities, who was speaking at a panel event at Marina Bay Sands.

While cross-value chain collaboration is a “fundamental building block” of setting up green corridor partnerships, many of these have been shipping-centric, she said, adding that more has to be done to engage cargo owners, fuel producers, and cities themselves.

Cities in particular, could help with finance, job training for green jobs, stimulate innovation – and push for action at the local level, she added.

More than 20 countries, including Singapore, have signed the Clydebank Declaration for Green Shipping Corridors, which was launched in 2021 and commits to establish at least six green shipping corridors by 2025.

Ms Kreynes said that another challenge related to green corridors is governance.

“Many corridors will feature competitors. Things like sharing information, establishing effective decision-making mechanisms, (are) challenging. In order to address this challenge, we feel there’s a need to develop some kind of framework that allows us to make decisions, that allows us to identify and define roles of partners and stakeholders within a corridor.”

Regulation is critical too, she stressed at a panel on developing green corridors and international policy on Thursday – one of several centred around accelerating decarbonisation. “Things like putting a price on ship emissions are going to be critical.”

Her organisation C40 Cities recently supported a Memorandum of Understanding (MoU) to set up a green and digital shipping corridor between Singapore and California’s San Pedro Bay port complex. Inked earlier this week, it comes a year after an agreement to set up such a corridor between Singapore and the Port of Rotterdam.

Saskia Mureau, Director Logistics & Digital, Port of Rotterdam, reiterated that collaboration is key when it comes to green corridors. “There is a reason why one of the SDGs (sustainable development goals) is collaboration... We need to pull (in) people who have key knowledge.”

To align with Paris Agreement goals, some organisations are calling for zero emission fuels to make up 5 per cent of international shipping fuels by 2030.



Benedict Chia, Director General (Climate Change), National Climate Change Secretariat, Prime Minister’s Office, Singapore, speaking at the Thursday panel.

The clock, after all, is ticking. “If we are to stick to the 1.5 deg C (climate goal)...we need a very steep decline (in emissions) in the coming five, seven years,” said Pernille Dahlgard, Chief Officer, Busi-

ness, Regulatory & Analytics, Maersk Mc-Kinney Moller Center for Zero Carbon Shipping. ■

Net-zero a multilateral effort

“What are the implications if the IMO and international maritime community do not get (on the right) trajectory? There are many, but three stand out. First, if the world collectively needs to get to net-zero, and if the international maritime community is not on that path, what it means is somebody else has to pick up the slack.

The second is that given the international maritime community is an important supply chain vector in terms of shipping, moving low-carbon solutions around the world – think of your solar panels, your electric vehicles, even energy carriers like hydrogen... If you don’t get (on the right path), it will be a lot more challenging for countries and companies to reach that net-zero goal. And the last implication is...the risk that we might move away from a multilateral approach to a more patchwork approach.

Our position in Singapore is that we think a multilateral approach, where we all work together, gives the best chance of achieving those goals in the most efficient way.”

Benedict Chia

Director General (Climate Change)
National Climate Change Secretariat
Prime Minister’s Office, Singapore

When a Lawyer, Banker, Insurer, and Carbon Credit Champion Talk About How To Go Green

Greenhushing has joined greenwashing to hurt decarbonisation drive.



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Anna Stablum took a pause deep into the panel discussion on decarbonisation, taking a moment to compose herself. “I always get a bit emotional talking about this, because it’s a massive problem.”

The Commercial Director of carbon credit marketplace Climate Impact X then shared some key statistics close to her heart: The shipping industry requires US\$1.9 trillion to be net-zero by 2050. Global emissions need to be halved from 2020 to 2030 to have any chance of limiting global temperatures to a 1.5 deg C increase. In the meantime, the world risks losing a million species to extinction.

The voluntary carbon market is a remedy, she pointed out at a panel titled “Maritime Decarbonisation and a New Era of Services”, where companies offset emissions by funding climate mitigation projects.

But will buying carbon credits be done at the expense of investing in decarbonisation technology, asked Martijn Hoogerwerf, Head of Sustainable Finance - Asia Pacific, at bank ING.

Ms Stablum replied that so far, all the players who have come to Climate Impact X are serious in their decarbonisation efforts and looking at all possible solutions.

Strong medication

It may not be sufficient. The maritime industry may require a “strong medication” to be pushed towards greater decarbonisation, especially for smaller companies, said Oyvind Stordal, Head of Data and Performance Management at Wilhelmsen Ship Management.

To him, this involves more stringent regulation, such as European Union measures like FuelEU Maritime where ships have to decrease greenhouse gas emissions over time.

The fear, said moderator Carlo Raucci, Marine Decarbonisation Consultant at Lloyd’s Register Maritime Decarbonisation Hub, a centre for accelerating decarbonisation, is greenwashing, or overstating green credentials.

As if that is not bad enough, panellists responded by bringing up a related phenomenon, that of “greenhushing”. This is where companies under-declare their sustainability efforts for fear of being accused of greenwashing or not doing enough.

Such moves lead to lack of transparency in the decarbonisation landscape, and lost opportuni-



From left: Martijn Hoogerwerf, Head of Sustainable Finance - Asia Pacific, ING; Murali Pany, Managing Partner at Joseph Tan Jude Benny; and Oyvind Stordal, Head of Data and Performance Management, Wilhelmsen Ship Management, having a conversation during a panel on decarbonisation and maritime services.

ties to inspire others to collaborative action. Companies ought to be bold in sharing their green actions if they have a proper climate strategy in place, observed the speakers.

Navigating the transition

Decarbonisation requires a holistic approach from the entire industry, including support from legal and insurance services.

Murali Pany, Managing Partner at law firm Joseph Tan Jude Benny, shared that one emerging problem in maritime law is assessing contractual performance with greenhouse gas requirements.

For example, ships may reduce their cargo or switch routes which may breach a charterparty. To overcome this, he said anticipating decarbonisation requirements when crafting contracts may be the way forward.

When it comes to insurance, Andrew Cutler, Chairman of International Group of P&I (protection and indemnity) Clubs, gave assurance that he is fully behind the green transition. He shared that if a member came to his organisation proposing the use of a new fuel or engine, his aim is to remove any “significant headaches” over insurance coverage.

Such an integrated approach is critical to make sure going green takes off, said Mr Murali. “Climate change is not about competing interests where I try to pass the cost to somebody else. It’s a common interest...and the most important thing is this change of mindset.” ■

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Murali Pany
Managing Partner
Joseph Tan Jude Benny



Tuas Port is Beacon of Optimism in Times of Uncertainty

Tan Chong Meng, Group Chief Executive Officer of PSA International, shared how the maritime industry must build resilience in an uncertain future.

Global tensions and an uncertain regulatory landscape are rocking the maritime industry. How can it respond?



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Despite the geopolitical tensions and regulatory issues impeding the maritime industry, its future still remains bright, said Tan Chong Meng, Group Chief Executive Officer of PSA International.

The Tuas Port is a gleaming example of this. Officially opened last year, it has become a beacon of digitalisation and sustainability – the very trends that maritime is eagerly embracing. For instance, the use of electric cranes and automated guided vehicles make up the bulk of its operations.

“When ports get more electric, our carbon footprint will be smaller. We try to reduce the use of energy if possible, in our operations,” he said at Singapore Shipping Forum 2023, which was held in conjunction with the Singapore Maritime Week. “We are trying to get sustainability to become a driver of solutions and innovations.”

Adopting green and digital solutions is not enough – the maritime industry also has to build resilience, he said at this year’s event themed “Managing the waves of shipping”.

This will be how it can successfully adapt to a new normal of digitalisation, sustainability, and deepening geopolitical divides, he added at the Raffles Hotel.

“It’s not going to be a peaceful time for all of us in the business of supply chain and shipping.”

Choi Shing Kwok
Director and Chief Executive Officer
ISEAS - Yusof Ishak Institute

One way to do so is by diversifying operations – an area where PSA International has succeeded. For instance, it has expanded from traditional port operations to become a total supply chain provider.

Two weeks ago, it was appointed as the logistics service provider for Electric Vehicle battery producer Automotive Cells Company (ACC). Besides providing transport, it will also help store ACC’s products at its own warehouse.

“We asked ourselves – how do we avoid being disrupted? Could we be the disruptor?” said Mr Tan.

Contending with rivalries and regulations

Indeed, this year has seen the maritime industry contending with numerous disruptions. Chief among them is US-China tensions, which show no sign of cooling.

After passing the CHIPS and Science Act last year, for instance, the United States quickly restricted China’s access to advanced chips by announcing export controls. It not only infuriated Beijing, but also sent ripples across the global supply chain.

“Everyone now has to figure out whether they can ship equipment without violating US law,” said Choi Shing Kwok, Director and Chief Executive Officer of the ISEAS – Yusof Ishak Institute, noting that the high-tech industry is one area that is seeing a decoupling between the two superpowers.

And with Mr Choi predicting that this rivalry will persist for some decades, it will also change the landscape of the maritime industry. “Existing decoupling will cause significant configuration of the global supply and value chains. It will change the nature of trade,” he said. “It’s not going to be a peaceful time for all of us in the business of supply chain and shipping.”

There is also ongoing uncertainty in the regulatory landscape, which is impeding maritime’s

ambition to decarbonise and be carbon neutral by 2050. Esben Poulsson, Chairman of shipping company Enesel, urged for processes to be expedited.

“I wish to urge the IMO to step up, leave the egos at the door, leave the politics behind and get on with what it needs to do and pass regulation that industry can live with, that is practical, that takes away the huge amount of uncertainty across so many issues like decarbonisation.”

Esben Poulsson
Chairman
Enesel

“We are ready (for regulations) and I plead with the International Maritime Organization and regulators to get on with this urgent task,” he said in the opening address.

To this end, the most important thing is to take action, noted Mr Tan. “We should have a go at solving our future together,” he said. “When we win, we are happy. When we lose, we are wiser.” ■

Making Waves

In this series, we speak to individuals who are making a splash in the industry, from venture capital to championing the rights of seafarers.

*SMOU General Secretary Mary Liew tells **Derek Wong** about her passion for seafarer welfare and training, as well as how “every life matters”.*

Ms Mary Liew still recalls the incident clearly. Weeks after the seafarer had caused a drunken commotion at a union event, she received news that he had taken his life at sea.

“Could I have done more?” she asked herself then in the early 1990s. He had marital problems and Ms Liew had tried to counsel and encourage him before. Following that incident, the General Secretary of the Singapore Maritime Officers’ Union (SMOU) has abided by the mantra of “Every life matters”.

Whether as a former Nominated Member of Parliament, or her current roles at the helm of SMOU and the national labour movement, Ms Liew has been a strong advocate for seafarers.

Three causes of the maritime workforce are closest to the heart of the union veteran, who joined the SMOU finance department in 1982 before rising through the ranks.

They are establishing a Singapore core for the sector, tending to seafarers’ mental health, and equipping them for the future.

Building the Singapore core

As the Republic soars as an International Maritime Centre, Ms Liew believes strongly that it should be anchored by a pool of Singaporean talent.

“I always share with sector and tripartite partners that we need to make a concerted effort to build a Singapore core,” she said. “It is not just the role of the union or government.”

To do this, she said, more resources should be devoted to the recruitment and career development of locals. The experience of the pandemic illustrates how important seafarers are in the supply chain, yet they are often unsung heroes. More needs to be done to present maritime careers as vital and meaningful to attract newcomers.

Ms Liew also believes that ample support has to be provided to local seafarers for them to progress. An example is the Tripartite Nautical Training Award programme initiated by SMOU and facilitated by Wavelink Maritime Institute.

Together with its sister programme, the Tripartite Engineering Training Award, and with the efforts of tripartite partners, it has developed more than 400 cadets, including over 100 officers to date. This has given the Singapore core a significant boost.

The seafarer career path goes beyond life on the seas, added Ms Liew. “We also want

to help them transit from sea to shore, where there are good career opportunities.” These include roles such as top management positions in the sector, as well as in-demand functions such as technical and marine superintendents which greatly value the sea-going experience of seafarers.

Mental wellness

As many seafarers were stranded on ships for more than a year during the pandemic, their mental well-being came into sharp focus. Even before COVID-19, the job was a challenging one with issues of homesickness and fatigue.

While technology reduces manpower on-board ships, crew members may find themselves having to cover more areas in compliance with the heavily regulated shipping industry. For example, captains also have to manage administrative paperwork. “Fatigue sets in,” said Ms Liew. “Mental wellness is impacted and we do see signs of that.”

To address this, the WeCare mental well-being programme, a collaboration between the Mission to Seafarers and SMOU, provides advice and resources. For example, on how to detect such issues on board and how ship managers can help.

It is also useful for maritime workers to have the mental fortitude to adapt to the uncertainties of the future, with sustainability and technology reshaping the industry.

Keeping up with the 2Ds

As the twin movements of decarbonisation and digitalisation threaten to leave swathes of seafarers behind, it is crucial that they have some understanding of the trends.

An example Ms Liew shared was how a younger seafarer chose not to sign off from his ship during the pandemic because only he had the requisite tech skills to fill online documentation for the crew to sign off. “He was able to see beyond himself by helping the rest,” she said.

Commendable as the action was, Ms Liew’s hope, however, is that such situations do not repeat themselves. The union’s solution is to leave no one behind in the tech and automation drive.

It does this by being a part of the Tripartite Advisory Panel set up by the Maritime Industry Transformation Tripartite Committee, which reviews the training of the maritime workforce. Being deeply involved in the con-



versation on future skills helps SMOU provide members with the best training.

The union also leaves no one behind. Ms Liew recalled how a union training session to prepare members for a certificate of competency was met with a poor response. Only three people signed up. Still, in line with her mantra of how each person matters, the class carried on.

A similar principle applies in meeting the challenge of decarbonisation. “Everyone has to be on board as Maritime Singapore works towards a reduction in emissions by 2050,” she said. To do this, SMOU is working with shipping companies such as PIL to train members in the use of future fuels.

“The union looks after seafarers from cradle to grave,” said Ms Liew, noting how securing the future of SMOU members is a central mission. “It is important for the industry to work with the tripartite partners for Singapore to thrive as an IMC (International Maritime Centre) and fly the flag high.” ■