



THE EAST ASIAN SEAS CONGRESS



Charting a New Decade of Healthy Ocean, People and Economies

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Collab 20

Innovations in Greenhouse Gas Reductions in East and Southeast Asia's Maritime Sector

25 November 2021, 4:00 PM - 6:00 PM (GMT+7)
Online via Zoom

ORGANIZERS:



International Maritime Organization (IMO)



Partnerships in Environmental
Management for the Seas of East Asia
(PEMSEA)

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PROCEEDINGS

1. BACKGROUND

Over the last decade, maritime transportation has grown to almost 90 percent global overseas trading logistics and correspondingly produces 3%-5% of the total global GHG emission. Sixty percent of this total trade volume passes through the seas and ports of Asia.

According to the Fourth GHG Study of the International Maritime Organization (IMO), GHG emissions of total shipping have increased from 977 million tonnes in 2012 to 1,076 million tonnes in 2018 (9.6 percent increase) mostly due to a continuous increase of global maritime trade. The Study projects that shipping emissions could increase to 90-130 percent of 2008 emissions by 2050, pointing out that it will be difficult to achieve IMO’s 2050 GHG reduction ambition (i.e., reduce the total annual GHG emissions from shipping by at least 50 percent) through energy-saving technologies and approaches alone (e.g., slow steaming and Just in Time arrivals, among others). Under all projected scenarios, by 2050 a large share of the total amount of CO₂ reduction will have to come from the use of low-carbon/zero-carbon alternative fuels.

A shift to low-carbon/zero-carbon fuels and energy sources is not solely a shipping issue, but one that cuts across the maritime transportation, fuel, and energy systems, requiring collaborative efforts to address all the subsystems in an integrated manner encompassing, among others, ships, ports, hinterland transport, cargo handling and logistics, low-carbon fuel sources and distribution, renewable energy supply, IT/communication and information-sharing, and so on.

In June 2021, IMO and PEMSEA embarked on the planning and preparation of a project designed to build and enhance GHG reduction strategies and capacities in the maritime sector among East and Southeast Asian countries. The IMO/PEMSEA project, which is funded by the International Climate Initiative (IKI) of the Federal Ministry of Environment, Nature Conservation, Building and Nuclear Safety (BMU) of Germany, focuses on interface areas and interactions across these critical subsystems. Recognizing that decarbonization of the sector requires a transitioning approach with short-, medium-, and longer-term targets, initial actions under the project include assistance with the assessment of emission/energy efficiency baselines and forecasts, development of national strategies and roadmaps, and pilot trials of potential technology solutions and optimized processes for interfacing of shipping to ports and to hinterland transport. All actions focus on reducing greenhouse gases and other pollutant emissions from ships, in ports, and from the linked hinterland transport. All activities will be coupled with capacity building and knowledge exchange initiatives.

This session of the EAS Congress 2021 provided an opportunity for beneficiary countries of the IMO/PEMSEA project, namely Cambodia, Indonesia, Malaysia, Philippines, Thailand, and Vietnam, to share information on their respective national GHG pilot projects. Representatives from the participating countries were invited to introduce their pilot projects and discuss their potential contribution to the advancement of GHG reduction in the maritime sector along with NDC ambitions under the UNFCCC.

A panel comprised of representatives from the project's knowledge partner countries, namely China, Japan, RO Korea, and Singapore, as well as representatives from BMU and other collaborating organizations and institutions, were invited to respond to the countries' presentations. The panel provided insights into areas of future cooperation and collaboration during project implementation.

The objectives of the session were:

1. To enhance awareness by sharing perspectives on GHG reduction priorities in the maritime sector among policymakers, managers, and practitioners.
2. To identify national GHG reduction pilot project initiatives, opportunities, and challenges for further development and up-scaling of GHG mitigation programs.
3. To explore potential value-add focus areas, content, and partners, and confirm interest and informal endorsement of next steps.

The agenda and list of participants are given in **Annexes 1 and 2**.

2. OPENING REMARKS

2.1 Dr. Jose Matheickal, Chief of the Department of Partnerships and Projects of International Maritime Organization (IMO) welcomed all participants to the Innovations Workshop of the Blue Solutions Project. Dr Matheickal shared that there were a number of discussions on decarbonizing the shipping sector during the UNFCCC COP26 meeting held in Glasgow. He added that this will also be tackled during the IMO MEPC meeting, which will discuss the long-term ambition for research and development and fund creation for decarbonizing the shipping sector, the country-focused need for technology transfer, capacity building and technology demonstration. The Blue Solutions project allows the countries to come together in a strategic project in the region that will demonstrate and build confidence in moving forward towards maritime decarbonization. Finally, he thanked the countries for their work and commitment to the Project, the Government of Germany for the funding support, the PEMSEA and IMO project team, the national project consultants, and other partners for their support to the Project.

2.2 Ms. Aimee T. Gonzales, Executive Director, PEMSEA, welcomed the participants to the workshop, which was a regional re-convening for the Project since the kick off meeting held in June. She explained that the workshop will serve as a "temperature check" on the status of the project's preparatory phase and identifying the next steps including the process for securing for country endorsements. She added that the workshop provides opportunity to share complementary projects, as well as for countries to express their commitment and support to the Project. She indicated that the Project is very timely in response to the recent Glasgow Compact which included the ocean in the negotiations. Finally, she thanked the funding agency, the participating and knowledge partner countries, IMO and other partners for their participation to the workshop.

2.3 Dr. Sabine Lattemann, Senior Policy Advisor on Shipping at the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), welcomed the participants on behalf of the Government of Germany. She indicated that since the kick off meeting in June, the alarming effects of climate change have been experienced in the countries such as the heavy rainfall in Germany. She highlighted the need for continued action to avert climate change and the recent COP 26 meeting gave hope that significant actions can be accelerated. During the COP 26, parallel maritime discussions on the ambitious goal of zero emission and developing green corridors in shipping were also conducted. She underscored the need for countries to take action and make progress in averting climate change by working on their NDCs and include the reduction of emissions from the maritime sector. The Project may pave the way to encourage countries to take decisive actions in greening and achieving carbon neutrality in the maritime sector. She thanked all partner countries for working hard in the recent weeks and to the knowledge partner countries for their support towards greener ships, ports and hinterland transport.

2.4 Ms. Nadine Bresemann, Head of Maritime Transport, PEMSEA, explained that the workshop will provide updates on the proposed pilot projects in the countries as well discuss the next steps for the Blue Solutions project preparation. Ms. Bresemann recalled the project activities starting with the regional kickoff meeting in June followed by the national inception workshops in the participating countries, i.e., the Philippines, Vietnam, Indonesia, Thailand and Cambodia, which were participated by various Ministries (e.g., environment, transport), shipping and port authorities, private sectors and other relevant stakeholders. Ms. Bresemann also recalled the process undertaken in the countries in the identification and selection of their pilot projects and reiterated the other work packages of the Blue Solutions Project. She indicated that the project preparation phase may not be completed until December as originally planned due to the longer process of identifying the pilot projects.

3. WORKSHOP PRESENTATIONS

3.1 Ms. Sheilah Napalang, Assistant Secretary from the Philippine's Department of Transportation (DoTr), National Focal Point for the Philippines indicated that DOTr submitted its unconditional NDCs in 2019 but is mostly focused in road transport and was appreciative to be part of the Blue Solutions Project, which focuses in maritime sector. Ms. Napalang shared the timeline and process of the selection of pilot project in the Philippines. She shared that by the 2nd national workshop, 43 pilot project ideas have been identified that were then screened and shortlisted using project selection criteria. A series of consultation meetings were undertaken and came into consensus with 2 shortlisted projects, i.e., 1) port-based project: on shore power supply; and 2) ship-based project: hybrid or electric ferry that provides opportunity for linking the ship-based and port-based projects. Ms. Napalang indicated that they are still in the process of gathering and providing the required data and information for the national pilot project but is looking forward to the next steps for the project.

3.2 Ms. Tran Thi Tuyet Mai Anh, Director of the International Cooperation Department of VINAMARINE, National Focal Point for Viet Nam shared that during the UNFCCC COP26 meeting, Viet Nam has committed to achieve net-zero carbon emissions by 2050. She indicated that the Blue Solutions Project could be one of the most effective international

support in meeting the country's conditional NDC target of 27% GHG reduction by 2030 particularly in the maritime transport sector. The shortlisted pilot projects in Vietnam include: 1) shore power supply to ships; and 2) application of super capacitor in RTG/STS cranes. The Cat Lai Terminal of Saigon Newport is the primary candidate to host the pilot project in Vietnam. She indicated that the Saigon New Port is already engaged in various green ports activities and the Blue Solutions project will provide more insights in improving the existing plans in the port, which hopefully will be replicated in other ports in Viet Nam.

- 3.3 Mr. Marwanto Heru Santoso, Head of the Center for Sustainable Transportation Management (PPTB) Secretariat General of the MOT and National Focal Point for Indonesia** indicated that Indonesia has committed to reduce GHG emissions by 29% up to 41% from BAU in its NDC. For the Blue Solutions Project, the port of Tanjung Priok in Jakarta is being considered as the priority location for the pilot demonstration project. The proposed projects in Tanjung Priok are classified into 2 categories: 1) port electrification: electric or other energy-powered truck, electric crane using super capacitor, shore power to ship, solar panel for office building; and 2) hybridization of ship: hybrid tugboat. He looked forward to the future results of the project in Indonesia and in the other countries.
- 3.4 Mr. Phuripat Theerakulpisut, Deputy Director General of the Marine Department, National Focal Point for Thailand** presented the national team in Thailand consisting of members from the environment and transport ministries, port authorities, and the private sectors, who are working together for the preparation of the pilot project proposal. He indicated that during the UNFCCC COP 26 meeting, Thailand has committed to 40% GHG reduction by 2030 with support from international partners. Following a series of consultations and applying the selection criteria, Thailand proposes the electrification of yard trucks in Bangkok Port as the pilot project for the Blue Solutions Project in the country. He highlighted the need for a feasibility study in order to fully evaluate the benefits as well as potential risks for the application of such technology and the need to establish a management team that will handle the implementation of the 5-year Blue Solutions Project.
- 3.5 Ms. Sorachana Theng, Deputy Director General, Merchant Marine Department, Ministry of Public Works and Transport, National Focal Point for Cambodia** indicated that the country has 2 major ports, i.e., (Sihanoukville and Phnom Penh Ports) and 20 small private ports, which have about 3,549 vessels entry in 2021. She highlighted that the Blue Solutions Project will benefit the maritime transport sector and the 2 major ports in the country particularly in addressing GHG emissions and environmental pollution, as well as in improving the port facilities. The ports currently do not have GHG emission strategy, demonstration project of decarbonization, as well as looking into the application of solar energy as power source in the port. She presented a 5-yr roadmap for the Blue Solutions Project implementation in Cambodia starting off with the data collection and analysis in 2022, development of GHG reduction plan in 2023, implementation of the plan and capacity building in 2024-2025 and targets a smart port and green shipping by 2026.
- 3.6 Mr. Halim, Maritime Institute of Malaysia**, indicated that Malaysia is currently updating its NDC and commits to unconditional reduction of carbon emissions by 45% in 2030 compared to 2005 levels. Malaysia has been involved in a number of IMO projects in support of its transitioning to low carbon maritime sector such as the MEPSEAS, GloMEEP, and the GreenVoyage 2050. The MIMA is also conducting knowledge sharing sessions on technology

development towards maritime decarbonization. Malaysia is currently in the process of securing Government endorsement to officially embark on the Blue Solutions project. In the meantime, MIMA will continue to engage the different stakeholders in identifying the national priorities and focus areas while waiting for the final approval and will find synergies with other maritime-related projects.

4. ROUNDTABLE DISCUSSION

- 4.1 Ms. Gyorgi Gurban** provided an overview of IMO projects relevant to GHG reduction such as the GreenVoyage 2050 project which will have the demonstration project in India, the GMN project which supports the use of low-carbon technology, the Glofouling Partnerships project, GHG Smart Project, Global Industry Alliance, Finsmart, among others. She hoped that sharing the projects' portfolio will encourage the countries and other partners to participate in the discussions for promoting inclusive innovations through demonstration projects, accessible knowledge platforms, and capacity building sessions.
- 4.2. Ms. Minerva Lim, Manager of Maritime and Port Authority of Singapore (MPA)**, gave a brief explanation of NextGen, a joint project of the MPA and IMO, which provides a platform for a multi-faceted information sharing and exchange of best practices on maritime decarbonization. Ms. Lim invites the participants to join the next discussion sessions to further exchange ideas on inclusive decarbonization scheduled in 2022 and to share their relevant projects in the NextGen Portal.
- 4.3. Mr. Wei Ruan, Head of Maritime Technology Cooperation Centre (MTCC)-Asia and the Shanghai Maritime University, China**, congratulated the participating countries and other partners on their achievements for the Blue Solutions Project and in reducing GHG emissions. He indicated that the workshop provided a very good opportunity to learn from the experiences of the countries. He also indicated that MTCC with the leadership of IMO will continue to contribute to projects in the region through sharing of technological solutions to GHG reduction as technical providers, conduct of GHG online courses and series of workshops, conferences and training courses, technological research, among others. He looked forward to the outcomes of the Blue Solutions Project.
- 4.4 Dr. Sabine Lattemann, BMU** was overwhelmed with the great project ideas, enthusiasm and buy-in of the participating countries and knowledge partners to the Blue Solutions Project. She indicated that the countries would have to decide on what pilot project will best work in their respective situation and technical capability. She was delighted to see the idea of electrification as the use of electricity is the most efficient and has many good benefits such as having less air and noise pollution. She encouraged the countries that are looking into electrification as pilot project to diversify the focus areas; for example, port electrification, shore power and tug boat. She also encouraged the countries to look into other projects, e.g., Green Voyage 2050, FINSMART and harness relevant information on pilot projects, developing road maps and available financing for opportunities to scale up the project implementation.

5. CLOSING REMARKS

- 5.1 **Ms. Nadine Bresemann, PEMSEA** thanked the participants for their active participation in the session. She hoped that the project document will be completed soon and she looked forward for more meeting exchanges.
- 5.2 **Ms. Aimee T. Gonzales, PEMSEA** indicated that the workshop was a good stocktaking exercise on where the countries are in terms of the Blue Solutions Project preparation. She hoped that the countries will further narrow down their pilot project ideas, review their respective timeline and that a more concrete national project will be ready by the end of the year. She expressed her hopes that the next meeting to be convened will be discussing the regional project proposal and the letters of endorsements from the countries.
- 5.3 **Ms. Gyorgi Gurban, IMO** thanked all the participants and congratulated the countries for the great project ideas on behalf of the IMO. She was pleased to note the diversity of projects from the countries and highlighted the need for project proposals to consider some flexibility as these are pilot projects and testing of new technology may result to some changes that need to be addressed during implementation. Ms. Gurban was happy to share available materials on the FINSMART project both to the implementing partner countries and to the funding institution, i.e., the Government of Germany. Finally, she thanked the knowledge partner countries and highlighted their important role for the project.

Powerpoint presentations can be found at: [Click here.](#)

A recording of the event can be accessed at: [Click here.](#)

ANNEX 1. PROGRAM.

- (10 min) Opening Remarks by the Co-Chairs
- Ms. Aimee Gonzales, Executive Director, PEMSEA Resource Facility
 - Dr. Jose Matheickal, Chief, Partnerships and Projects, International Maritime Organization
- (30 min) Sharing experiences in National GHG Reduction Pilot Projects
Representatives of project beneficiary countries (5 minutes each):
- Cambodia
 - Indonesia
 - Malaysia
 - Philippines
 - Thailand
 - Vietnam
- (40 min) Panel Responses to National GHG initiatives in the maritime sector (5 minutes each)
Representatives of project knowledge partner countries:
- China
 - Japan
 - RO Korea
 - Singapore
- Representatives of collaborating organizations:
- ASEAN
 - ADB
 - Private sector
 - Academe
- (5 min) Donor's Response to National GHG initiatives in the maritime sector and proposed collaborative activities
- Dr. Christiane Molt, Team Urban Development Infrastructure, Mobility International Climate Initiative (IKI, Federal Ministry of Environment, Nature Conservation, Building and Nuclear Safety (BMU), Germany
- (20 min) Open Forum on GHG reduction and management in the maritime sector of East Asia and Southeast Asia using an integrated strategic approach.
- The Open Forum will provide an opportunity for the participants to raise questions to the speakers and panelists or to provide comments on the value-add of an integrated strategic approach to GHG mitigation and management. Specific discussion points may include:
- Scope and scale
 - Linkages to regional and global commitments and targets
 - Approach (integrated; adaptive; problem solving; hands-on; enabling)
 - Potential sources of financing
 - Potential Partnerships
 - Next steps
- (10 min) Co-chairs Wrap-up:
The Co-Chairs of the workshop, Ms. Aimee Gonzales and Dr. Jose Matheickal, will provide a wrap-up on the discussions, including a summary of priority next steps for

the approval and start-up of the IMO/PEMSEA project, and scaling up GHG reduction and management in East Asia and Southeast Asia.

ANNEX 2. LIST OF PARTICIPANTS.

Name	Email	Designation	Country/Organization
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Mr. Mak Sideth	maksideth@gmail.com	Director General General Department of Waterway-Maritime Transport and Port Ministry of Public Works and Transport Phnom Penh, Cambodia	Cambodia
Mr. Wei Ruan,		Head of Maritime Technology Cooperation Centre (MTCC)-Asia and the Shanghai , - Maritime University, China,	China
Mr. Brendan Marshall	bmarshall@imo.org	Senior Administrative Assistant Partnerships Department of Partnerships and Projects	IMO

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