



MTCC LATIN AMERICA
Maritime Technology Cooperation Centre

REPORT

3RD NATIONAL WORKSHOP OF THE GMN II PROJECT

PROMOTING MARITIME DECARBONIZATION IN GUATEMALA THROUGH INNOVATION AND CAPACITY BUILDING

November 11-12, 2025

Third National Workshop in Guatemala – Executive Summary

The Maritime Technology Cooperation Center for Latin America (**MTCC-LA**), within the framework of the GMN II Project (Global Network of Maritime Technology Cooperation Centers), Phase II, an initiative implemented by the International Maritime Organization (IMO) and funded by the European Union (EU), and in collaboration with the International Maritime University of Panama (UMIP) and the General Directorate of Maritime Affairs (DIGEMAR) of the Ministry of National Defense of Guatemala (MDN), held the Third National Workshop of the GMN II Project entitled: **“Promoting Maritime Decarbonization in Guatemala through Innovation and Capacity Building”**, on November 11 and 12, 2025, at the General Division Héctor Alejandro Gramajo Morales Army Conference Center in Guatemala City.

The main objective of the Workshop was to strengthen national capacities, promote knowledge exchange and identify technological, regulatory and financial solutions to reduce greenhouse gas (GHG) emissions from Guatemala’s maritime and port sector, in line with the IMO 2023 Strategy on the Reduction of GHG Emissions from Ships. With the participation of over 80 stakeholders from government, industry, academia and international cooperation, the Workshop provided a multisectoral platform to advance a just, inclusive and technically sound maritime energy transition.

Topics and Key Areas Addressed

- National maritime and port decarbonization strategies.
- Technical and operational energy-efficiency measures.
- Sustainable alternative marine fuels.
- Regional decarbonization initiatives and technical cooperation.
- Technological solutions for ships and ports.
- Climate finance and bankable project development.
- Capacity building and industry-academia-government cooperation.
- Gender equality is a cross-cutting enabler of maritime decarbonization.

Main achievements of the Workshop

- **National roadmap:** Agreement to move forward, under DIGEMAR leadership and with MTCC-LA technical support, towards the development of a national maritime decarbonization roadmap to 2050.
- **Technology prioritization:** Identification of a progressive pathway for alternative fuels, recognizing LNG and methanol as transition options and ammonia as a medium-term solution.

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- **Pilot initiatives:** Conceptualization of pilot projects on green ports and sustainable maritime corridors to demonstrate feasibility and attract climate finance.
- **Capacity development:** Commitment to promote technical training programmes on energy efficiency, carbon intensity indicators and life-cycle assessment.
- **Climate finance:** Initial alignment on the requirements for structuring bankable projects consistent with environmental, social and governance (ESG) criteria.
- **Gender mainstreaming:** Reinforced commitment to integrate gender indicators into maritime decarbonization policies and projects.

Participation and inclusiveness

Participants included maritime and port authorities, line ministries, shipping companies, port operators, financial institutions, universities, international organizations and professional networks. Women represented **44%** of participants, reflecting concrete progress in gender inclusion and alignment with the GMN Project Gender Action Plan.

Summary of Results and Actions – National Workshop: GMN II Project (Guatemala)

Title of the session	Results / Conclusions	Next steps	Responsible(s) and Support	Timeline
1. Use of Alternative Marine Fuels	Viability matrix (methanol > LNG> ammonia)	Study Guatemala's potential as a distributing country Design fiscal incentives for dual-fuel conversion	DIGEMAR – Shipping Companies	Q1 – Q4 2026
	Barriers: infrastructure and CAPEX		OMI and MTCC-LA Technical Support	
2. Overview of the Maritime and Port Sector in Guatemala	Baseline of GHG emissions and capacity building	Conduct GHG inventory	DIGEMAR	Q1 – Q3 2026
	Barriers: identification of challenges and opportunities	Creating National Technical Group on Decarbonization	OMI and MTCC-LA Technical Support	
3. Decarbonization in Action – Initiatives and Lessons Learned	MDETI model for Guatemala	Action plan for MDETI curriculum	DIGEMAR - Santo Tomás de Castilla National Port Authority (EMPORNAC)	Q1 – Q3 2026
	Preliminary project “Green Port Guatemala”	Prefeasibility study for commercialization of alternative fuels	MTCC-LA Technical Support	
4. Regional Industry Alliance (RIALA)	Consensus to formalize the alliance	Present terms of reference for its governance	MTCC-LA	Q3 2026
	Identification of stakeholders		OMI -Support for collaborative governance	

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Title of the session	Results / Conclusions	Next steps	Responsible(s) and Support	Timeline
5. Practical Workshop – Technological Solutions	Two case studies on ships: machinery restructuring and methanol as fuel, analyzed in the workshop	Development of Life Cycle of Fuels (LCA) course and Carbon Intensity Indicator (CII) for inspectors	MTCC-LA – Review of contents aligned with regulations OMI – Technical Support	Q2 – Q3 2026
	Analysis of Life Cycle of Fuels (LCA) and Digital Carbon Intensity Indicator Dashboard (CII)			
6. Interactive workshop – SWOT Strategy	SWOT matrix presented and agreed upon by participants	Present results of SWOT analysis Periodic meetings of the Technical Group	DIGEMAR	Q2 2026 – Permanent
			MTCC-LA Technical Support	
7. Climate Finance Panel	Presentation of proposals according to bankable criteria	Guide for financial structuring	Financial Sector in Guatemala	Q2 – Q3 2026
	Opportunity for blue and green bonds			
8. Gender equality and energy transition Round Table	Gaps: need to increase representation and participation of women in leadership roles in maritime and port sectors	Include gender indicators in all GMN II Project activities	MTCC-LA OMI – Support for IMO Women in Maritime program	Q2 – Q3 2026
		Publish maritime-port gender census	Red MAMLa – WISTA-DIGEMAR	
Feedback Session	Overall positive evaluation (95%) of workshop content and dynamics	Integrate feedback to optimize structure and topics for the next edition	MTCC-LA	Q1 2026
	Recommendations to extend panel duration and deepen practical applications	Evaluate inclusion of additional open questions and advanced practical exercises		

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Way forward

- Development of a national maritime GHG emissions inventory as a basis for an IMO-aligned MRV system.
- Establishment of an inter-institutional technical group to coordinate decarbonization actions.
- Identification and structuring of pilot projects for ships and ports.
- Continued capacity-building and institutional strengthening activities.
- Systematic integration of gender equality into the national decarbonization roadmap.

The Third National Workshop of the GMN Phase II Project in Guatemala laid a strong foundation for sustained cooperation and for the progressive transformation of the country's maritime and port sector towards a more efficient, resilient and low-carbon future.

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