


# The Region's maritime pathway to Decarbonization





At the Caribbean Shipping Association's Executives' Conference (CSEC) in Fort Lauderdale in May, a panel discussion was held on decarbonization of shipping and port services in the Caribbean. Moderator and Principal Regional Energy Specialist at the Inter-American Development Bank (IDB) Roberto Aiello introduced the discussion by saying:

**“There is strong momentum globally on this topic and the Caribbean region is no exception. The week before at the annual Caribbean Renewable Energy Forum (CREF) in Miami, energy stakeholders discussed the need to accelerate the pace of renewables at scale to cope, among other things, with the upcoming demand for green fuels, including for shipping and other sectors of the economy.**

The International Maritime Organization's (IMO) initial strategy on reduction of greenhouse gas (GHG) emissions from ships aims to reduce carbon intensity of international shipping by at least 40 per cent by 2030 compared to 2008; pursue efforts to achieve a 70 per cent reduction by 2050 compared to 2008; and reduce the total annual GHG emissions from international shipping by at least 50 per cent by 2050. It also encourages countries to promote a transition to green ports.

Shipping and port services are of key importance to the Caribbean for logistics and trade. The maritime industry is a complex ecosystem that comprises various value chains, three of which are central for steering decarbonization actions: marine fuel, shipbuilding, and maritime operations.

On the energy side, the Caribbean region faces several challenges, including high energy prices, the lack of modern regulatory environments to attract private sector investments, and the increasing resiliency challenges due to the impacts of climate change.

Developing the building blocks to underpin a paradigm shift towards decarbonization of shipping and ports calls for integrated planning, analysis, and inclusive stakeholders' engagement to develop the enabling ecosystem with a role for both the public and private sectors as well as for partnerships.

The panel were asked: what are some of the opportunities for decarbonization in shipping and ports?

Cherri-Ann Farquharson says: “Opportunities for decarbonization in shipping ranges from the electrification of smaller vessels used for shorter distances to the production of green hydrogen,

methanol, and ammonia from geothermal and offshore marine technologies for use in larger, longer-haul vessels. The production of green fuels for shipping is of particular interest. Several territories like Dominica and St Kitts and Nevis have the natural resources available to produce more energy than their current national demand and are actively pursuing Power to X industries to obtain off takers for the excess energy which they may produce”.

Ports may provide offshore and transit port refueling for vessels using green fuels or renewable energy powered charging for electric vessels. There are also extensive opportunities to decarbonize port operations with the use of renewable energy sources to supply electricity, electrifying or switching cranes and forklifts to greener fuels, and increasing the use of energy efficient technologies from low hanging fruit like lighting to cooling and plug loads.

Panelist Nelson Mojarro was asked: What scale and type alternative fuels are being considered by the shipping industry in their low carbon pathways?

### Transition

The transition will not be easy and he put the sheer enormity of the task ahead in perspective. Saying: “The world will need an 18-fold increase of renewable energy to reach net-zero by 2050 (IEA). Shipping alone would require the equivalent of up to 3,000 TWh – the current world renewable energy generation – to produce low-carbon fuels (including hydrogen-based fuels) to decarbonize by 2050 (ICS 2022). The scale of the challenge is tremendous but also the opportunity for countries advancing towards net-zero.”

The panel also considered the ongoing thinking at the International Chamber of Shipping (ICS) regarding transitioning to low-carbon shipping and ports, and what actions are being taken?

“We have understood that shipowners' efforts alone would not be enough to decarbonize. There is a clear acknowledgement of the need to develop a cross-sectoral approach, working with energy providers, ports, finance, shipowners, and



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governments committed to facilitate the transition. Development partners such as the IDBG provide technical assistance and financing to foster decarbonization, commented Agustina Calatayud.

Having said that, ICS – representing 80% of the world’s fleet – in collaboration with the International Ports and Harbors (IAPH) and five initial governments (Canada, Norway, Panama, the UAE, and Uruguay) have developed the Clean Energy Marine Hubs initiative (CEM-Hubs), a global public-private partnership to increase the production of low-carbon fuels close to the ports and de-risk the investments required at scale.

In particular, Trinidad and Tobago’s Vivian Rambarath Parasram was asked about initiatives along these lines taking place in the Caribbean and the work at the Maritime Technology Cooperation Centre for the Caribbean (MTCC)?

#### Implementation

Ms Rambarath Parasram responded by saying: “MTCC Caribbean has been involved in the implementation of three major IMO projects aimed at progressing the decarbonization of the maritime sector. These projects include Phase 2 of the Global MTCC Network (GMN), IMO CARES and TEST Biofouling Project. The GMN project aims to facilitate continued capacity building in the CARIFORUM countries by working with the various maritime administrations and public and private sector stakeholders to mount pilot projects to demonstrate decarbonization opportunities. IMO CARES (Coordinated Actions to Reduce Emissions from Shipping) supports the work of the MTCCs and various IMO projects to accelerate demonstration of green technologies, consistent with blue economy principles. The TEST Biofouling project is being implemented in targeted



countries that include the six Latin American countries and two Caribbean countries. The objective is also capacity building to mitigate and reduce biofouling of vessel hulls with a view to reducing shipping emissions and promoting operational efficiency of the vessels.

Carleen Lyden Walker says: “Energy recovery from waste (e.g cruise lines) to turn their waste into energy to supply shore power would be an excellent way to create a ‘circular economy’ while mitigating impacts on landfills.”

In addition, the panel considered what needed to happen in the regulatory space to enable the transition to low carbon shipping in the Caribbean and what challenges would the region have to overcome to enable such a reform?

The region needs to have a harmonized approach to decarbonization as most

Caribbean countries do not have the trade volumes to justify the capital investments required by ports for renewable energy shore power systems. In addition, vessels that trade in the region are not necessarily owned and operated by Caribbean shipowners. Therefore, policies and regulations to be developed in cognizance of the unique challenges of the Caribbean’s maritime domain. Ideally Governments should enable capital investments through incentives to shipowners and ports and/or pursue concessional financing for the development of resilient infrastructure through CARICOM. The regional approach needs to be coordinated and CARICOM provides an excellent regional institutional structure from which a regional policy and regulatory approach can be developed and harmonized.

#### PANELISTS:

- **Cherri-Ann Farquharson, Capacity Development and Gender Expert, CCREEE**
- **Nelson Mojarro, Head of Innovation and Partnerships, International Chamber of Shipping**
- **Vivian Rambarath Parasram, Attorney specialized in Maritime Law, MTCC (Maritime Technology Cooperation Centre for the Caribbean)**
- **Carleen Lyden Walker, Co-Founder/CEO, IMO Goodwill Maritime Ambassador. North American Marine Environment Protection Association (NAMEPA)**
- **Agustina Calatayud, Head of transportation research, IDB**