

Sustainable Freight Futures: A Maritime Perspective



Outline

- **ABS and Maritime Sustainability**
- **Drivers for Understanding Carbon Content of Goods and Passengers Moving Through the Marine Transportation System**
- **Green Labeling Concepts Under Consideration at ABS**
- **Challenges and Opportunities**
- **A New Government/Industry Partnership: The MARAD Center for Maritime Innovation**

ABS & Maritime Sustainability



ABS Sustainability Centers

HOUSTON

COPENHAGEN

ATHENS

SINGAPORE



Energy Transition & Decarbonization Support

- **Clean Energy in the Maritime Domain**
 - Offshore Wind (DOE Loan Program Office, NOWRDC, etc.)
 - Marine Energy (DOE Teamer Facility)
 - Advanced Nuclear Technology (DOE R&D Grant with INL)
- **Decarbonization of the Maritime Domain**
 - Energy Efficiency, Electrification, and Alternative Fuels Guides and Advisory Services for Maritime Operations (Commercial/Government Vessels & Associated Port/Shore Facilities)
 - Carbon Capture, Utilization, & Storage Applications in the Maritime Domain (Shipboard and Offshore)
 - New Technology Qualification (NTQ) & Approval-in-Principles (AIP) for Novel Applications
 - Sustainability & ESG Management
- **Regional Clean Energy Coalition & Innovative Research Support**
 - Hydrogen and Carbon Capture Hubs
 - Green Shipping Corridors & Clean Energy Marine Hubs
 - Applied Research Projects with Research Partners (Academic, Small Business, NGOs, etc.)

Technical & Advisory Support to Government Agencies & Industry Stakeholders on Policy, Regulatory Analysis, Grant Evaluations, Project Oversight, and Industry Outreach/Technology Transfer

Key Drivers for Understanding Carbon Content of Cargo & Passengers in Maritime



Key Drivers

- End Customer Buying Decisions
 - Total Carbon Content of Goods
 - Carbon Footprint of Passenger Transportation Options
- Decarbonization Goals/Metrics and Cost of Carbon Implications Across the Supply Chain
- Cargo Chartering Decisions
- Competition with Other Freight and Passenger Transportation Modes
- Regulatory Requirements
- Green Financing Goals/Requirements

Green Labeling Concepts Under Consideration at ABS



Defining the Supply Value Chain



How are Retailers make decisions on identifying and quantifying environmental footprint are made?

- 1 Environmental Logistics Committee**
Sustainability Advisors for each part of the supply chain (i.e., shipping, land transportation, etc.). Information gathered for each part of the supply chain is based on work done by a 3rd party verifier selected by a “pre-approved list”
- 2 Turn-Key Solutions**
Outsourcing the whole environmental footprint of the supply chain to a single 3rd party verifier.
- 3 In-House Capabilities**
Certain Retailers may have in-house capabilities to track the environmental footprint of their operations.



ABS Green Eagle Label

- Green Labeling
 - **External** Benefits:
Demonstrates to end-users that products are sustainably shipped
 - **Internal** Benefits
Allows charterers/manufacturers to show their product meets sustainable shipping practices

- One Label**, two stages of verification
 - **Design**: Sustainability or Environmental Notations
 - **Operational**: Cargo Carbon Intensity



Value Proposition

- As a market leader in new building vessels and alternative fuels applications, ABS possesses the technical expertise to have deep knowledge on the environmental footprint of ships

A multidimensional approach towards sustainability



The Value of Green Labeling

- Reducing shipping emissions alleviates social/investor pressure and supports a sustainable future.
- Companies that offset all emissions financially benefit from decarbonizing their shipping
- Independent verification and accountability to decarbonize shipping
- Independent verification and accountability to align shipping with the UN SDG's



coZEV is a platform for climate-forward companies to work with one another to develop initiatives to advance maritime decarbonization.

- Ambition to only use zero-carbon ocean shipping services by 2040



Challenges & Opportunities



Challenges & Opportunities

Three Key Challenges

1. Lack of Intermodal Frameworks and Tools for Characterizing Carbon Content of Overall Transportation Solutions
2. “TRUST” in Carbon Content Statements and Transportation Pathways (Verification, Validation, & Certification)
3. Trade-offs of Speed, Flexibility, Cost, and Carbon Content

Three Key Opportunities

1. ARPA-E Intermodal Transportation Projects
2. Joint Development Projects Focused on Building Non-Proprietary Frameworks for Measuring and Communicating Carbon Content of Transportation Pathways
3. Third-party Verification, Validation, and Certification to Support the Framework

MARAD Center for Maritime Innovation (CMI)



Path to Authorization for the CMI

- ABS advocacy with U.S. Government Agencies and Congressional Oversight Committees for a National Decarbonization Center
- Agreement on broadening the scope to a Center for Maritime Innovation (underwater noise, invasive species, supply chain issues, cybersecurity concerns, etc.) for Congressional Authorization
- Authorization in December 2022 in the NDAA under MARAD's Marine Environmental and Technical Assistance (META) Program (Section 3543)
- ABS advocacy for additional funding MARAD META to further the goals of the CMI
- MARAD to issue RFI and eventual Funding Opportunity Announcement (FOA) for operation of the CMI

“(e) CENTER FOR MARITIME INNOVATION.—

“(1) IN GENERAL.—The Secretary of Transportation shall, through a cooperative agreement, establish a United States Center for Maritime Innovation (referred to in this subsection as the ‘Center’) to support the study, research, development, assessment, and deployment of emerging marine technologies and practices related to the maritime transportation system.

Overview of the Coalition for the Center for Maritime Innovation (CCMI)



CCMI Purpose and Scope

- CCMI is a broad alliance of leading maritime research, development, test and evaluation (RDT&E), technology demonstration, verification and certification, and technology training organizations that are committed to working collaboratively on national and regional maritime innovation priorities.
- CCMI is specifically focused on serving as a national Center for Maritime Innovation in the U.S. with additional interests in collaborating on other maritime innovation projects or programs with U.S. government agencies and industry.
- CMI organizations are voluntary, non-exclusive, independent participants in the alliance, working together through ABS leadership on priority needs best served by collaboration with personnel, facilities and other resources.

