



**UN Climate Change COP 28
Dubai, United Arab Emirates**

**Implementation Lab
Concept note
“Accelerating decarbonisation of shipping sector with hydrogen-
based fuels”**

Marrakech Partnership for Global Climate Action

DATE 6th December 2023
TIME (60 minutes) 1300-1400
ROOM Implementation Lab 1

Organised by
UN Foundation
World Economic Forum
Global Maritime Forum
RMI
Mærsk McKinney Møller Center for Zero Carbon Shipping

MP “Implementation Lab”: Accelerating decarbonisation of shipping sector with hydrogen-based fuels

Concept note

Description	<p>In 2022 international shipping accounted for about 2-3% of global energy-related CO₂ emissions. Alongside heavy industry, aviation and road transport, the shipping sector offers one of the largest opportunities to deliver emission reductions. Zero emissions fuels need to ramp up from less than 1% of energy consumed today in shipping and aviation to almost 15% in 2030 and 80% to stay on track with our global net zero targets (IEA 2022).</p> <p>The International Maritime Organization’s 2023 Greenhouse Gas Strategy sets a target of reducing emissions to net zero by or around 2050, with indicative checkpoints that effectively require 90% decarbonization by 2040 on a per ship basis. To meet these ambitious climate goals, the shipping sector will need a large, stable supply of zero or near emissions fuels and infrastructure, produced and powered by renewable energy. Development of supply chains for near zero emissions fuels at pace and scale is critical to pave the way for decarbonisation of global shipping. However, the demand from shipping has not been translated into action yet and the supply side will require time to scale production.</p> <p>This event will shed light on the decarbonisation pathways for the shipping sector focusing on demand-side signals and supply side scale up. What is needed to catalyse new investment in renewable hydrogen and derivatives? What other barriers are still hindering supply to scale at the necessary pace? This event will explore pathways and solutions for moving from vision to action to (i) build synergies between clean shipping and energy corridors globally and ultimately (ii) to have more real economy actors signal demand for renewable hydrogen and derivatives to ramp up investment this decade.</p>
Headline	Unlocking decarbonisation solutions for shipping sector with hydrogen-based fuels to keep the 1.5 degrees within reach
2030 Breakthrough / SAA outcomes	At least 5% uptake of zero emission fuels by international shipping
Guiding Question	How can we break down the barriers between demand and supply for zero or near zero emissions fuels for ships to meet the volumes needed to achieve the IMO GHG Strategy trajectory & the 2030 breakthrough unlocking investment and economic development opportunities in both emerging markets and developing countries and developed economies.
Targeted Outcomes	<i>How does this event contribute to the COP28 outcomes on progress in implementation of mitigation/resilience goals?</i>

	<p>This event contributes to the COP28 mitigation outcome of Fast Tracking the energy transition to reduce emission by 2030 by shedding light on practical solutions and pathways for decarbonisation of the shipping sector with hydrogen-derived fuels.</p> <p>Bringing together key actors in the shipping ecosystem on the demand and supply side, alongside international organisations and standard development bodies, this event will put the spotlight on the near-term actions and solutions, including those focussed on supporting demand signals and visibility, for accelerated deployment of zero emissions fuels in the shipping sector.</p>
Objectives	<ol style="list-style-type: none"> 1. <i>Put spotlight on forward looking solutions that are enabling us to achieve the 2030 breakthrough</i> <ul style="list-style-type: none"> ○ Use case studies of real-life projects that have the potential to be replicated and scaled ○ Focus on identifying solutions that contribute to scaling up supply 2. <i>Discuss key roadblocks to alleviate these barriers</i> <ul style="list-style-type: none"> ○ It will discuss how trade flows for low-emissions marine fuels from production to bunkering hubs can be enabled ○ It will discuss solutions to scale up supply and solutions for creating impactful demand signals 3. <i>Foster collaboration and knowledge exchange between key actors in the shipping sector</i>
Session Outcomes	<p><i>Please share three key outcomes this event plans to achieve:</i></p> <ol style="list-style-type: none"> 1. Identify top three solutions to focus on in the near-term with a timeline to support at least 5% uptake of zero emission fuels by international long-distance shipping 2. Strengthen cross value chain collaboration and public / private collaboration 3. Foster concrete action from key actors in the shipping ecosystem to advance deployment on the ground.
Participants	<p><i>Which stakeholder groups (from Party and non-Party) do you need to take part in the event to achieve the outcomes?</i></p> <p>This event will bring together key actors in the shipping sector across the value chain, from off-takers and producers, including renewable energy developers, renewable hydrogen producers, as well as investors, to shipping companies and consumer goods companies/cargo owners and Party representatives from the Global South, as well as the Global North, and Port Authorities.</p>
Key Action points out of	<p><i>Please summarise in no more than 150 words the 3 most ambitious action points that participants of the discussion should come out of the event with to enable reaching the 2030</i></p>

the discussion	<p><i>target/outcome</i></p> <ul style="list-style-type: none"> Identifying three key enabling solutions for advancing decarbonisation of the shipping sector with hydrogen-based shipping fuels Laying out pathways for stimulating the uptake of near zero or zero emissions fuels in the shipping sector Creating opportunities for synergies across the value chain to deliver at least 5 MTPA of hydrogen for production of zero or near zero emissions fuels for the shipping sector by 2030
Logistics	<p><i>Room layout: Round Table room</i></p> <p><i>Capacity Room 1: 175 total pax</i></p> <ul style="list-style-type: none"> 60 seats at the inner circle table with microphones. Suggest 20-30 targeted attendees with reserved seating 90 seats in the outer circle (overflow) <p><i>Capacity Room 2: 96 total pax</i></p> <ul style="list-style-type: none"> 32 seats at the inner circle table with microphones. Suggest 20-30 targeted attendees with reserved seating 55 seats in the outer circle (overflow)

Prospective Agenda

Timing	Session Description	Speaker suggestions <i>Stakeholder group, name, title, organisation, gender, geography</i>
2 mins	Welcome Welcome and overview of the objectives, format and outputs from the event	Katharine Palmer (she/her) Maritime Lead, Climate Champions Bradford Willis (he/him) Green Hydrogen Lead, Climate Champions
18 mins	Introduction: state of play Scene-setting presentation on state of the union of the global hydrogen project pipeline, outlook for demand in shipping and key enablers/barriers to scaling up hydrogen-based fuels. <i>Where are we now with the progress towards the 2030 breakthroughs for near zero or zero</i>	1) [stakeholder group: global industrial leaders in hydrogen] Green Hydrogen Catapult, Mr. Oleksiy Tatarenko, Senior Principal, Rocky Mountain Institute. Green Hydrogen Catapult to present on “State of play” on green hydrogen production and uptake, with focus on maritime sector (he/him) 2) [stakeholder group: NGO] Johannah Christensen, CEO, Global Maritime Forum to present on state of play on shipping 5%

	-emissions shipping and green hydrogen deployment?	<p>progress (she/her)</p> <p>3) Case study on green shipping driving investment in green hydrogen and renewable energy production -[government: Namibia]. James Mnyupe is the Presidential Economic Advisor to the President of the Republic of Namibia / Green Hydrogen Commissioner of Namibia (he/him)</p> <p>4) Framing the exercise [Stakeholder group: NGO] - World Economic Forum & FMC: Barriers for maritime fuels projects reaching FID, Rob Johan Adriaan Van Riet (he/him), Interim Head of First Movers Coalition</p>
25 mins	<p>Interactive Workshop</p> <p>The table will be split into 2-4 working groups, participants will be mixed but we will have priority seating for a target list between 20-30.</p> <p>Each working group will be tasked with an exercise to identify the top three solutions needed to scale the supply and stimulate demand in the shipping sector to deliver on our global climate targets in line with the Paris Agreement.</p> <p><i>Relevant solutions may pertain to supply-side and demand-side measures, learnings from pilot projects, global standards, financing and risk mitigation tools.</i></p>	<p>Facilitator & rapporteur 1: Bo-Cerup Simonsen - CEO Maersk Mckinney Moller Center for Zero Carbon Shipping (he/him)</p> <p>Facilitator & rapporteur 2: Susana Moreira from H2Global Foundation (she/her)</p> <p>Facilitator & rapporteur 3: Dr. Jan Yves Remy - University of the West Indies - Director for the Shridath Ramphal Center (she/her)</p> <p>Facilitator & rapporteur 4: Susan Ruffo, Senior Ocean and Climate Advisor, UN Foundation (she/her)</p> <p>“Primed” responses: we will have 2-3 representatives of key actors across the value chain (producer/ port authority/ shipping company/ policymaker) ready to kick-start the discussion in each group.</p>
10 mins	<p>Feedback from Working groups</p> <p>Each facilitator will have three minutes to feedback in plenary setting on the top three solutions identified by the group, indicating their merit order and the leading actors.</p> <p>Working groups will feature presenters from diverse stakeholder groups and geographies including industry, NGOs, standard development organisations, academia, and governments from the Global South, including Egypt, Namibia, Mauritania, and South Africa, as well as the Global North, including Germany and the Netherlands.</p>	
5mins	Closing Remarks	<p><i>UN High Level Climate Champion: Dr. Mahmoud Mohieldin or Her Excellency Ms. Razan Al Mubarak</i></p>

Supporting materials

Climate Action in Shipping - progress towards the 2030 Breakthrough

Global Hydrogen Review, IEA, 2022, 2023

Hydrogen for Net Zero, Hydrogen Council, 2021

Hydrogen Insights, Hydrogen Council, 2023

IMO Strategy on Reduction of GHG Emissions from Ships, 2023

Maritime Decarbonization Strategy 2022

Fueling the Future of Shipping: Key Barriers to Scale Zero-Emissions Fuel Supply, WEF and BCG, 2023