

Thirteenth session of the Assembly
Abu Dhabi, 14-15 January 2023

Background Note
Ministerial Roundtable
**Decarbonising Shipping: The role of ports in addressing supply,
demand and trade of renewable-based fuels**

1. While maritime shipping is a key sector of the global economy, accounting for 80-90% of global trade, it is also responsible for around 3% of the world's annual greenhouse gas (GHG) emissions or around 9% of global transport-related emissions. Given that these emissions are expected to increase in a business-as-usual scenario, it is of paramount importance to urgently take action to decarbonise this sector.
2. IRENA's [World Energy Transitions Outlook](#) shows that over 90% of the solutions needed to decarbonise the energy system involve renewable energy through direct supply, electrification, energy efficiency, green hydrogen and bioenergy combined with carbon capture and storage (BECCS).
3. Limiting global temperature rise to 1.5°C by 2050 will result in a demand for 613 million tonnes of hydrogen. Out of this number, international shipping is expected to require roughly 50 million tonnes of green hydrogen for its own use as liquid hydrogen or in the form of other synthetic fuels such as e-methanol and e-ammonia.
4. As described in IRENA's [Pathway to Decarbonise the Shipping Sector by 2050](#), green hydrogen will be pivotal for decarbonisation maritime shipping, together with advanced biofuels and energy efficiency improvements, but beyond that, the shipping sector will also play a role in enabling the global trade of green hydrogen for the decarbonisation of other sectors. About a quarter of the total hydrogen demand is expected to be internationally traded: 50% by pipeline and 50% by shipping in the form of ammonia.
5. Hence, the shipping sector as a whole needs to work closely and in coordination with other sectors, not only to ensure its own supply of renewable fuels (i.e. powerfuels and advanced biofuels), but also to be able to transport these fuels and enable the decarbonisation of other sectors.
6. In this effort to decarbonise the international shipping sector, it is crucial to properly identify the locations that could fast-forward the energy transition in this sector. Here the role of bunkering ports is crucial, as well as navigation routes, and choke points. The ports with the highest global bunkering relevance are located in different continents and investments and

regulations agreed among those ports may significantly pull the demand for renewable fuels. The ports and the shipping sector will be the key part of the infrastructure that connects logistically the local hydrogen production with the locations that have potentially the need to import hydrogen.

7. As the world embarks on this challenge, stakeholders need to answer three main questions: 1) how can a sufficient supply of renewable maritime fuels, in the form of e-methanol and e-ammonia be ensured?; 2) How can renewable-based fuels be safely, efficiently and economically traded and transported overseas?; and 3) How can stakeholders foster and accelerate the demand for these fuels?

Objectives

8. The objective of this Ministerial Roundtable is to facilitate a dialogue between the maritime shipping industry and the governments to discuss the decarbonisation of maritime shipping. The Roundtable will aim to identify and discuss priority actions on three key topics:
 - ensuring availability of supply of renewable-based maritime fuels;
 - establishing enabling frameworks to facilitate the trade and transport of these fuels;
 - and discussing the role of ports in creating the necessary conditions to accelerate the demand for these fuels.
9. The discussions in this Roundtable will be aimed at raising awareness amongst Ministers on the key issues hindering the decarbonisation of the shipping sector and will inform their strategies and national plans for this sector.

Associated Publications

- [World Energy Transitions Outlook: 1.5°C Pathway \(2022\)](#)
- [A Pathway to Decarbonise the Shipping Sector by 2050 \(2021\)](#)
- [Innovation Outlook: Renewable Ammonia \(2022\)](#)
- [Innovation Outlook: Renewable Methanol \(2021\)](#)
- [Trade Outlook for 2050 and Way Forward \(2022\)](#)
- [Green Hydrogen Cost and Potential \(2022\)](#)
- [Reaching Zero with Renewables \(2020\)](#)
- [Navigating the way to a renewable future: Solutions to decarbonise shipping \(2019\)](#)

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