

Note by the International Maritime Organization to the fifty-ninth session of the UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA 59) Dubai, United Arab Emirates, 30 Nov - 12 Dec. 2023

Agenda item 12(b)

“Emissions from fuel used for international aviation and maritime transport”

UPDATE ON IMO’S WORK TO ADDRESS GHG EMISSIONS FROM INTERNATIONAL SHIPPING

SUMMARY

The International Maritime Organization (IMO) contributes to international action to address climate change by regulating GHG emissions from international shipping.

This note is an update of the IMO submission to SBSTA 58 and focusses on the latest developments on the various GHG-related workstreams at IMO, in particular the historic adoption of the **2023 IMO Strategy on reduction of GHG emissions from ships** by the Marine Environment Protection Committee at its eightieth session (MEPC 80) in July 2023.

Context

1 In July 2023, IMO Member States, at the eightieth session of the Marine Environment Protection Committee (MEPC 80), unanimously adopted resolution MEPC.377(80) on the [2023 IMO Strategy on reduction of GHG emissions from ships](#) (2023 IMO GHG Strategy) enhancing IMO's contribution to global efforts by addressing GHG emissions from international shipping containing, inter alia, the following elements:

- .1 The vision of the 2023 IMO GHG Strategy states that IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible, while promoting, in the context of this Strategy, a just and equitable transition.
- .2 Enhanced levels of ambition include to reach at least 5%, striving for 10%, of the energy used by international shipping to be zero or near-zero GHG emission technologies, fuels and/or energy sources by 2030, and to reach net-zero GHG emissions by or around, i.e., close to, 2050, taking into account different national circumstances, whilst pursuing efforts towards phasing them out as called for in the Vision consistent with the long-term temperature goal set out in Article 2 of the Paris Agreement.
- .3 New indicative checkpoints to reach net-zero GHG emissions are identified as follows: reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, and by at least 70%, striving for 80%, by 2040, compared to 2008.

- .4 The 2023 IMO GHG Strategy identifies that levels of ambition and indicative checkpoints should take into account the well-to-wake GHG emissions of marine fuels as addressed in the Guidelines on lifecycle GHG intensity of marine fuels (LCA guidelines) developed by IMO with the overall objective of reducing GHG emissions within the boundaries of the energy system of international shipping and preventing a shift of emissions to other sectors.
- .5 A basket of mid-term measures comprised of both a technical element (a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity) and an economic element (on the basis of a maritime GHG emissions pricing mechanism) should be adopted following a comprehensive impact assessment process in 2025 and enter into force in 2027 to deliver on the reduction targets. The mid-term measures should effectively promote the energy transition of shipping and provide the world fleet a needed incentive while contributing to a level playing field and a just and equitable transition. These impacts on States of the basket of measures should be assessed and taken into account as appropriate before adoption of the measure(s) in accordance with the Revised procedure for assessing impacts on States of candidate measures.
- .6 The decarbonization of shipping should be possible for all IMO Member States and may create new opportunities also for developing countries, including LDCs and SIDS, to take part in the value chain of the production and distribution of zero and near-zero GHG emission fuels and/or energy sources for international shipping.
- .7 The IMO GHG Strategy should be subject to a five-yearly review with the first review due in 2028.

2 MEPC 80 requested the IMO Secretariat to submit the Organization's work on reducing GHG emissions from international shipping, notably the 2023 IMO GHG Strategy, as part of the First Global Stocktake (GST). The submission is available on the UNFCCC website [here](#).

3 The participation to MEPC 80 by representatives from 12 Member States¹ was facilitated by the recently established IMO Voluntary Multi-Donor Trust Fund to facilitate delegates from developing countries, especially SIDS and LDCs to attend IMO GHG meetings.

4 To ensure the effective implementation of the 2023 IMO Strategy, IMO is accelerating its efforts to decarbonize the shipping sector as soon as possible, through important parallel tracks, inter alia:

- .1 development of a basket of mid-term GHG reduction measures, including technical and economic elements, to pursue further GHG reduction whilst maintaining a level playing field and ensuring that no one is left behind;
- .2 further development of the IMO framework on life cycle assessment of GHG following the adoption of the *Guidelines on the life cycle GHG intensity of marine fuels* (LCA guidelines) at MEPC 80, aiming at encouraging the production, supply and use of sustainable low-carbon and zero-carbon marine fuels in the near future;

¹ Bangladesh, Belize, Cook Islands, Fiji, Kiribati, Madagascar, Mongolia, Nauru, Seychelles, Solomon Islands, Tuvalu and Vanuatu

- .3 development of the necessary safety regulatory framework allowing safe handling of the future marine fuels on board of ships and associated work on the human element; and
- .4 scaling up of technical cooperation and capacity-building initiatives to support shipping decarbonization in developing countries, in particular SIDS and LDCs, to ensure a just and equitable transition to low-carbon shipping and seize development opportunities arising from the decarbonization of the sector.

Development of mid- and long-term GHG reduction measures

5 As presented in previous IMO submissions to SBSTA, considerable work is ongoing on the [development](#) of mid- and long-term GHG reduction measures. The 2023 IMO GHG Strategy states that by the autumn of 2025 a basket of candidate measure(s), delivering on the reduction targets, should be developed and finalized comprised of both:

- .1 a technical element, namely a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity; and
- .2 an economic element, on the basis of a maritime GHG emissions pricing mechanism.

6 Consequently, MEPC 80 initiated a comprehensive assessment of possible impacts on States of the various combinations of the candidate technical and economic elements with a view to facilitating the finalization of the basket of measures.

7 Preliminary results of the comprehensive impact assessment will be presented to MEPC 81 (March 2024), to be considered in combination with other updated proposals on candidate mid-term GHG reduction measures. The comprehensive impact assessment of the basket of candidate mid-term GHG reduction measures is funded by the [IMO GHG TC Trust Fund](#).

Life cycle GHG/carbon intensity assessment (LCA) of marine fuels

8 [Life cycle GHG intensity assessment \(LCA\) of marine fuels](#) is a key element supporting the uptake of alternative marine fuels for international shipping by adequately calculating the overall GHG footprint of those fuels.

9 MEPC 80 adopted the *Guidelines on life cycle GHG intensity of marine fuels (LCA guidelines)* ([Resolution MEPC.376\(80\)](#)). The LCA guidelines allow for a Well-to-Wake calculation, including Well-to-Tank and Tank-to-Wake emission factors, of total GHG emissions related to the production and use of marine fuels. MEPC 80 established a Correspondence Group on the Further Development of the LCA Framework to continue this important work.

10 MEPC 80 also requested the Secretariat to undertake a review of existing practices on sustainability aspects/certification and third-party verification issues and to organize an expert workshop on the life cycle GHG intensity of marine fuels, which will take place in December 2023. The review of existing practices is undertaken by the [IMO Future Fuels and Technologies project](#).

11 The further development of the LCA framework will be discussed at MEPC 81 to be held in March 2024.

Development of the necessary safety regulatory framework allowing safe handling of the future marine fuels on board of ships

12 The Marine Safety Committee at MSC 107 (June 2023) agreed to include in its biennial agenda for 2024-2025 a continuous output on "Development of a safety regulatory framework to support the reduction of GHG emissions from ships using new technologies and alternative fuels" and established a correspondence group to progress the work intersessionally.

13 The [IMO Sub-Committee on Carriage of Cargoes and Containers \(CCC 9\)](#), which met in September 2023, made significant progress on the development of draft interim guidelines for the safety of ships using hydrogen and ammonia as fuel. Taking into account the urgency of providing guidance to Administrations, shipowners and the industry at large on the safe use of hydrogen and ammonia as fuel, and in support of the Organization's emission targets, the Sub-Committee agreed to convene an intersessional working group in 2024 to finalize the guidelines.

Capacity-building, technical cooperation and other supporting activities

14 IMO is scaling up its technical cooperation and capacity-building initiatives to support shipping decarbonization in developing countries, in particular SIDS and LDCs, ensure a just and equitable transition to low-carbon shipping and seize development opportunities arising from the decarbonization of the sector. Overview of IMO initiatives in this area is set out in our previous submission to SBSTA 58: [IMO submission to SBSTA 58](#). The main new initiatives since SBSTA 58 are listed in the paragraphs below.

IMO-UNEP-Norway Innovation Forum

15 On World Maritime Day, the [IMO-UNEP-Norway Innovation Forum 2023](#) took place on 28 September at IMO Headquarters, London, and online. The Forum promoted innovation to accelerate the transition of the marine sector towards a zero- and low-emission future. Topics addressed through high-level panel discussions included: environmental performance; reducing plastic litter from ships; supporting innovation in marine fuel production; decarbonizing the maritime sector; unlocking green finance; and partnerships and collaboration. This was the third annual Forum supported by the Government of Norway, the IMO Secretariat and the United Nations Environment Programme (UNEP) in order to promote innovation by providing a global platform to exchange best practices and fill necessary gaps by gathering ideas and latest developments from all competent international policy makers.

GreenVoyage2050 project extended

16 The Government of Norway has confirmed 210 million NOK (US\$19.4 million) of funds for Phase Two of the IMO GreenVoyage2050 project, in an agreement between Norway and IMO that was signed on 28 September, World Maritime Day, during the IMO-UNEP-Norway Innovation Forum.

17 The IMO GreenVoyage2050 project was launched in May 2019 to provide support to selected countries to develop policy frameworks and National Action Plans (NAPs) to address GHG emissions from ships, aligned with the implementation of the Initial IMO GHG Strategy, which was adopted in 2018. The project provided support to partnering countries on the adoption of green technologies, through the identification, development and implementation of pilot projects.

18 Phase Two of the project will continue to provide support to developing countries in meeting their commitments to climate change and ship energy efficiency goals, in line with the levels of ambition set out in the IMO GHG Strategy. Existing pilot projects in partnering

countries will continue to be supported. These include pilot projects which facilitate sharing of operational best practices, catalyse the uptake of energy efficient technologies and support countries in exploring opportunities for the production and provision of low- and zero-carbon fuels, linking the project even further to the wider global energy transition. The number of partnering countries and new pilot projects are expected to be expanded.
