INTERNATIONAL MARITIME ORGANIZATION

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REDUCTION OF GHG EMISSIONS FROM SHIPS

Revision of the Initial IMO Strategy on reduction of GHG emissions from ships

Submitted by Norway, Republic of Korea and WSC

SUMMARY

Executive summary:	This document proposes levels of ambitions to be included in the revised IMO GHG Strategy. The document also presents the benefits of advancing the phase-out of GHG emissions from ships through a green corridors approach and suggests including it in the revised IMO GHG Strategy.
Strategic direction, if applicable:	3
Output:	3.2
Action to be taken:	Paragraph 30
Related documents:	Resolution MEPC.304(72); MEPC 77/16; ISWG-GHG 10/5/5; MEPC 78/7 and MEPC 79/7

Background

1 In 2018, the Organization adopted the Initial IMO Strategy on reduction of greenhouse gas emissions from ships (the 'Initial IMO GHG Strategy') (MEPC.304(72)). As specified in the Initial Strategy, the Committee has initiated a revision of the Initial IMO GHG Strategy with a view to adoption at MEPC 80 in 2023.

2 In the view of the co-sponsors, the discussions in the Committee on the revision of the Initial Strategy leading to the process towards MEPC 80 have been constructive. The co-sponsors welcome the decision of MEPC 77 to initiate the revision, and this document responds to the invitation by MEPC 78 to submit concrete proposals to MEPC 79.

3 This document will address viewpoints on ambitions for emission cuts to be established in the revised IMO GHG Strategy. We will further discuss how the concept of green corridors can facilitate the transition towards a decarbonized maritime sector by accelerating the transition and making it more effective. In addition, we will highlight elements which can ensure a fair and inclusive pathway towards decarbonization.

Discussion

Climate change effects calls for global action by the Organization

4 The co-sponsors welcome the progress made at the Organization in the follow-up to the Initial Strategy. In particular, the adoption of the short-term measures was a major achievement. It demonstrates the willingness to meet the levels of ambition identified in the Initial Strategy, as well as the identified timeline. Further, the follow-up of the Work Plan for Development of Mid- and Long-Term Measures is progressing according to plan. In short, Member States are working well to advance the work at the Organization and also benefiting from valuable input from observer organizations, e.g. from industry and environmental organizations.

5 However, the *United in Science*[*] report released in September 2022, which provides an overview of the most recent science related to climate change, its impacts and responses, says that science is clear – urgent action is needed to mitigate emissions and adapt to the changing climate. The revised IMO GHG strategy must respond firmly to this urgency.

6 The co-sponsors welcome the outcome of MEPC 77, in particular that the Committee recognized the need to strengthen the ambition of the Initial IMO GHG Strategy during its revision process. The co-sponsors want to reiterate our viewpoint that zero emissions from international shipping needs to be achieved by 2050, and this ambition should be included in the revised strategy. Further, because of the urgent climate crisis, we take the view that the revised strategy should assess strengthening of the existing 2030 ambition, and establish levels of ambitions for every five years, in order to be certain that the pathway to reduce GHG emissions is sufficient to meet the ambition in 2050. This would ensure better steering of the emission reduction pathway for shipping.

Fuel transition is needed – also in the early phase

7 Having studied the development of emissions, and what type of transition will be needed in the next phase of the pathway to emission reductions, it is clear that we now need to start deployment of low- and zero-carbon fuels in shipping. In particular, the introduction of zero-emission solutions cannot start too late.

8 There are several real challenges in various parts of the industry as well as the global economy. It is well documented that huge investments are needed in global fuel production and infrastructure. According to DNV's *Maritime Forecast to 2050*, the average annual fuel infrastructure costs required to decarbonize shipping by 2050 are in the range of $28 billion to $90 billion. Further, shipping companies are also subject to investment needs for onboard technologies in the range of $8 billion to $28 billion annually. On top of that, the more expensive carbon-neutral fuels will increase annual fuel costs by 70% to 100%.

9 The fuel transition investments are reliant on two mutually-dependent elements. The investments in sustainable alternative fuel production and infrastructure will be too weak unless there is larger certainty in demand. Likewise, investments in new and modified ships using sustainable alternative fuels will be too weak unless there is larger certainty of supply and belief in a competitive market. This is particularly important in the early phase of the transition.

[*] It includes input from WMO (and its Global Atmosphere Watch and World Weather Research Programmes); the UN Environment Programme, the UN Office for Disaster Risk Reduction, the World Climate Research Programme, Global Carbon Project; UK Met Office, and the Urban Climate Change Research Network. It also includes relevant headline statements from IPCC's Sixth Assessment Report.

10 By more focused actions for realizing the transition, the various elements can ensure an earlier and more successful transition and emission reduction pathway by making early adaptions. These focused actions will, inter alia, include investments in human resources in various parts of the value chain, technical development including quality and safety assurance, allocation of financial capital, and development of sustainable business models for the transition.

11 Focused action will be needed in a global decarbonization strategy, and green corridors can play an important role in catalysing specific actions and serving as a mechanism to stimulate actions in both developing and developed countries. Therefore, the *Clydebank Declaration* launched at COP 26 is a timely and important initiative to trigger actions for establishing green corridors.

12 The co-sponsors also welcome the proposals put forward by the World Shipping Council in document MEPC 78/7. We look forward to further consideration of these proposals in the process of revising the Initial Strategy. In the following, the co-sponsors will discuss how the Organization can take the concept of green corridors forward and suggest proposals to that effect.

The role of the Organization in progressing green corridors

13 At present we observe increased activity by regional bodies, governments and industry to stimulate and even regulate fuel transition. In general, initiatives to cut climate gas emissions in shipping should be welcomed. However, the wide range of initiatives would benefit from coordinated actions in the Organization, in order to have a greater effect. It could provide for better global exchange of information and identify needs for IMO regulations and/or guidelines. In this context, we also believe that involvement of the Organization in early actions on green corridors will better ensure that safety requirements and guidelines will advance accordingly.

14 Development of green corridors for shipping will take substantial advantage of the Organization as a body where most stakeholders which are relevant for decarbonizing shipping will meet. Further, by being a part of the UN system, the Organization can ensure the relevant linkage to other bodies such as UNEP, UNFCCC, CTCN, UNCTAD, IRENA and others when needed.

15 The Organization could also contribute to coordinated assistance to developing countries on the development of green corridors. In short, involvement and an active role of the Organization in progressing green corridors will most likely ensure that this concept will be safer, more inclusive and harmonized, and in general advance more effectively compared to such development without the Organization's involvement.

How could the green corridors be addressed in the context of the revised GHG Strategy

16 Notwithstanding the proposals in this document to strengthen the levels of ambition as outlined in paragraph 6, the co-sponsors also take the view that green corridors should be addressed in the revised IMO GHG Strategy. It is suggested that the revised strategy includes ambitions for green corridors and expresses the aim by defined target dates.

17 In doing so, the meaning of a green corridor needs to be defined. The green corridor should be established and ready for operation by ships capable of operating on zero GHG emission solutions (partly or fully), and we need to establish the appropriate proportion of such ships that should operate in the corridor over a given time period. Consequently, a decarbonization ambition can be established earlier for green corridors than the agreed global decarbonization for shipping.

18 While the Committee would ultimately define what specific conditions and criteria should accompany recognition of a 'green corridor' in the Organization, we offer an illustrative set of criteria in table 1 to provide an example of what criteria and actions may accompany the designation of a green corridor, including provisions designed to encourage corridors between developing and developed countries.

19 The economic circumstances surrounding one corridor versus another corridor may vary notably. The co-sponsors also expect that most corridors will share the need to address certain sustainability needs, including what financial measures have been put in place to enable fuel production and infrastructure investments, but also what other provisions (e.g. national, regional and/or other incentives) may be available to enable ships to operate in a manner that is commercially sustainable. This is especially relevant during a transitional period where some ships may use low-, some may use zero-GHG fuels, or alternative energy sources (e.g. wind) while other ships in the corridor continue to use conventional fuels.

Table 1 Indicative examples of IMO 'green corridor' criteria

1. **define the geographical scope of the corridor**, and list the parties and supporting stakeholders participating (noting that it may be that not all Member States positioned between port pairs or on a route may be in a position to participate at a given point in time);

2. **identify the fuel transition towards zero-GHG fuels, and which fuels or alternative energy sources will be introduced in the corridor**;

3. **define explicit milestones/phasing for fuel availability**; and

4. **identify financial measures/incentives** available in the corridor to encourage the necessary port and fleet investments.

20 The revised IMO GHG Strategy should also identify an intent to support developing countries in their actions to establish green corridors.

21 It is important to note that the concept of green corridors has an inviting approach. It is an opportunity for Member States, ports and industry to join focused action to decarbonize shipping. This would mean that those taking that opportunity may attract investments, business development and cater for sustainable economic development.

22 Further, as the Initial IMO GHG Strategy includes its sections 4 and 5 which point toward follow-up activities which make it possible to meet the levels of ambition in section 3, we also suggest that the initial strategy should identify that the Committee should establish a green corridors programme in the follow-up of the revised GHG Strategy. We note and welcome that this is also suggested in document MEPC 78/7 and paragraph 13.2 of document MEPC 79/7. The elements to include in a green corridors programme should be further discussed in revision of the Strategy, but the green corridors programme can also be established in the follow-up of the revised strategy.

Implications for the Organization's measures to reduce GHG emissions

23 A relevant issue would be what implications the concept of green corridors may have on the present process of development of measures as set out in the work plan for mid- and long-term measures. It is clear that the green corridors concept is not addressed in the Initial Strategy, nor specifically addressed in the work plan. This means that, at this stage the focus should be on how to incorporate green corridors in the revised strategy.

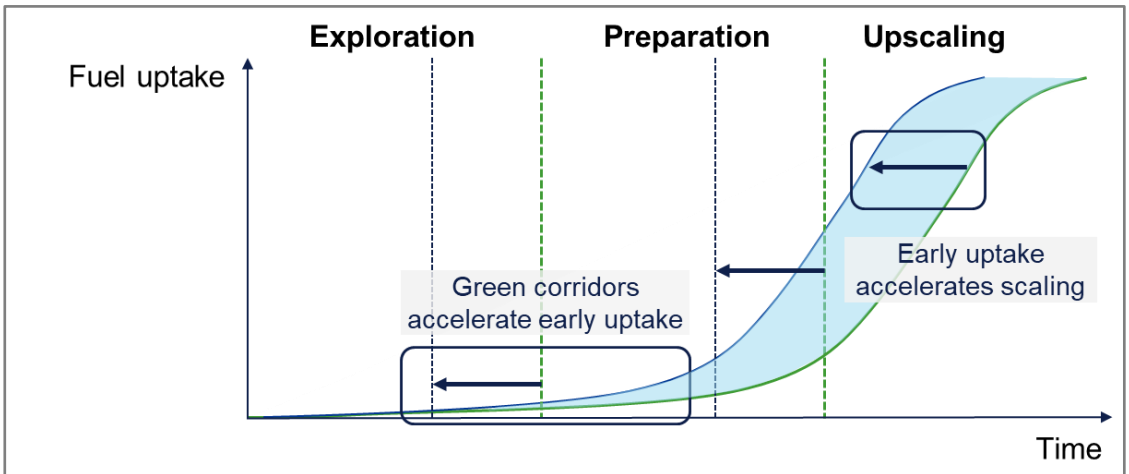
24 Further, green corridors could provide guidance on steering funds to developing countries. This could be included in any emission reduction mechanism which generates revenues.

Analysis on implications of advancing green corridors at the Organization

25 Document ISWG-GHG 10/5/5 (Norway and the United States) presented a road map characterizing three phases for carbon-neutral fuel uptake. First, an exploration phase is needed to lower some critical barriers such as technical maturity. The uptake is expected to remain very low in this period. This is followed by a phase of preparation both onshore and on land, building the supply and increasing the demand, and finally an upscaling phase to complete the uptake of carbon-neutral fuels.

26 The period of time in each phase depends on the pace of technological development and incentives driven by regulatory development but can also be impacted by green corridor projects, as illustrated in Figure 1. Establishing green corridors in the context of the revised IMO GHG Strategy would expedite the transition towards low- and zero emission shipping by creating a market for low- and zero emission ships and fuels. The initiative would therefore burst the so-called chicken-or-egg problem by creating demand at a smaller, more manageable scale to begin with. This in turn will be an advantage for the more ambitious global reduction of the GHG emissions from shipping in line with the Organization's ambition.

27 The impact of increased availability of carbon-neutral fuels, for example as a result of a green corridor project, is analysed in DNV's recent *Maritime Forecast to 2050*. The uptake was accelerated by five years in the region where availability was increased, but it also had a ripple effect beyond the region, accelerating the uptake also in other regions.



Key characteristics				
	Main purpose	Explore and mature technologies, develop regulations	Prepare and develop supply and demand	Fuel uptake by upscaling supply and demand
	Fuel supply	Low	Low	High
	Fuel demand	Low	Medium	High
	Technologies	Piloting and testing – high risk	Commercially available – medium risk	Off the shelf – low risk
	Regulations	In preparation	Introduced, first phase	Increased stringency

Figure 1: Illustration of the effect of green corridors.

Proposal

28 The Committee is invited to consider proposals for levels of ambition as presented in paragraph 6 of this document.

29 Regarding green corridors, paragraphs 13 to 24 identify a way forward for the Committee. More specifically the co-sponsors propose that:

.1 The section on levels of ambition includes an ambition for green corridors with the following text:

"Through an IMO Green Corridors Programme, establish at least [xx] green corridors by 2030, and by 2035 to aim for green corridors to be present in all major trade routes, and by 2040 achieve full decarbonization of [xx] green corridors."

.2 The section on measures includes an agreement to establish an IMO green corridors programme by [202X] with the task to detail the various elements of green corridors and how the ambitions for green corridors will be achieved.

Action requested of the Committee

30 The Committee is invited to consider the proposals presented in this document and take action, as appropriate.