

COMPARATIVE ANALYSIS OF CANDIDATE MID-TERM MEASURES**Fact sheet**

Name of the candidate measure:	International Maritime Sustainable Fuels and Fund (IMSF&F) mechanism (an updated version of the original International Maritime Sustainability Funding and Reward (IMSF&R) mechanism)
Reference document(s):	ISWG-GHG 15/3/4, ISWG-GHG13/4/7, ISWG-GHG12/3/9, and others.

1 Feasibility of the proposed candidate measure

1.1 Scope and compliance options	
1.1.1 Substances covered (GHG/CO ₂)	GHGs, including CO ₂ , CH ₄ and N ₂ O
1.1.2 Phases of GHG emissions covered (WtT / TtW / WtW)	WtW GHGs and other sustainability aspects
1.1.3 Acceptable approaches for compliance (e.g. in-sector/out-of-sector offsetting, CCS, etc.)	<ol style="list-style-type: none"> 1. Use compliant fuels/energy, including the use of fuel blend, the use of different fuels in different energy consumers and during different time, the use of shore power and battery, as well as other innovative technologies, such as wind propulsion and onboard CO₂ capture; 2. Obtain Surplus Reward Units (SRUs) from other ships to offset their Deficit Units (DUs). The use of out-of-sector carbon credits may also be taken into account; and 3. Obtain Remedial Units (RUs) through making contributions to the Sustainable Shipping Fund (SSF).
1.2 Likelihood to achieve a consistent implementation of the measure	
1.2.1 Provisions to ensure global availability of alternative fuels and technologies	<ol style="list-style-type: none"> 1. Approaches specified in 1.1.3 above would provide flexible options for ships in case alternative fuels and technologies are not available; and 2. [45%] of the total Sustainable Shipping Fund (SSF) contributions would be used for R&D.
1.2.2 Provisions to limit administrative burden for ships and Administrations	<ol style="list-style-type: none"> 1. The IMSF&F mechanism would be implemented on the basis of existing Data collection system for fuel oil consumption of ships (DCS), Ship Energy Efficiency Management Plan (SEEMP), and bunker delivery note (BDN). No more information other than the certified GHG intensity and sustainability performance of fuels/energy would be needed, so there would be no undue administrative burden for ships and Administrations.
1.3 Compatibility and consistency with existing regimes/regulations	
1.3.1 Consistency with UNFCCC and the Paris Agreement	<ol style="list-style-type: none"> 1. The IMSF&F mechanism is consistent with the CBDR-RC principle enshrined in UNFCCC and the Paris Agreement; 2. The “TtW GHG intensity value 2” as defined in Equation 2 in the draft LCA Guidelines is applied as the GHG intensity indicator (in gCO₂eq/MJ) of fuels/energy, which is strictly in line with the 2006 IPCC Guidelines.
1.3.2 Coordination / overlap with other international, regional and national initiatives	<ol style="list-style-type: none"> 1. The eligibility framework for SAF under ICAO CORSIA could be taken into account in developing the sustainability framework under the IMSF&F mechanism. 2. As the IMSF&F has already incorporated technical elements to address the GHG intensity and other sustainability aspect of fuels/energy used onboard ships, in combination with economic elements (SRUs and RUs/Fund) to compensate the

	<p>GHG emissions beyond a benchmark and raise revenue, the participation in regional/unilateral mechanisms of the same nature, such as the EU-ETS or FuelEU Maritime, would result in double accounting and double payment/punishment.</p>
<p>1.3.3 Compatibility with other IMO regulations</p>	<ol style="list-style-type: none"> 1. The IMSF&F mechanism would be developed on the basis of existing DCS, SEEMP, and BDN. 2. The GHG intensity indicator and the sustainability framework in the context of the IMF&F mechanism are on the basis of the draft LCA Guidelines.

2 Effectiveness of the proposed candidate measure

2.1 Expected reductions in GHG emissions	
2.1.1 Levels of GHG reduction with associated timeframe	<ol style="list-style-type: none">1. Levels of GHG reduction, as well as the timeframe, would be determined by the reduction percentage of the required GHG intensity indicator of fuels/energy used on board ships (required GFI, in gCO₂eq/MJ), pending further consideration in Phase III of the Work Plan, in parallel with the comprehensive impact assessment.
2.1.2 Provisions to avoid unintended outcomes that could increase GHG emissions	<ol style="list-style-type: none">1. For the downstream phase, even though the mandatory required GFI would target the GHG intensity of marine fuels/energy, both SRUs and the RUs would be based on actual GHG emissions. This means that innovative technologies, such as wind propulsion and onboard CCS and CCUS, as well as operation optimization would also be incentivised; and2. For the upstream phase, a sustainability framework is introduced to set quantitative or qualitative thresholds for sustainable marine fuels/energy, including the threshold the lifecycle (WtW) GHG emissions.
2.2 Incentives for first movers	
2.2.1 Provisions for reducing/bridging the price gap between conventional and low-carbon solutions	<ol style="list-style-type: none">1. GHG reductions achieved by the uptake of sustainable alternative fuels/energy would get SRUs, which could be transferred to non-compliant ships at a due price agreed between the two parties.2. Non-compliant ships could alternatively get Remedial Units (RUs) from the Sustainable Shipping Fund at a price determined by the Committee, which would be set at a level that could bridge the cost gap between compliant and non-compliant ships.
2.2.2 Provisions to ensure a level playing field	<ol style="list-style-type: none">1. The price level of the Remedial Units (RUs) would largely narrow down but not completely close the price gap between conventional and alternative fuels. Otherwise, some ships, or sectors, which are better placed to use sustainable fuels/energy, potentially being given an unfair competitive advantage.2. Since the price gap could be largely bridged through SRUs/RUs, there is no need to further introduce an independent levy for the same purpose, or any other revenue raising mechanisms to further reward or rebate the first movers. Otherwise, ships will be double punished or double rewarded.

2.2.3 Provisions to ensure global access to technology	<ol style="list-style-type: none"> 1. [45%] of the total contribution to the Sustainable Shipping Fund would be used to support R&D and technology transfer regarding alternative fuels and innovative technologies, with an emphasis on collaboration between developing and developed countries, including addressing the intellectual property issues to make the innovative fuels/technologies accessible for developing countries and having them join the production of new fuels.
2.3 Compatibility of different elements within the basket of measures	
2.3.1 Identification where elements of the measure are complementary to each other without overlap or redundancy	<p>The IMSF&F mechanism is in nature a combination of compatible technical and economic elements:</p> <ol style="list-style-type: none"> 1. The downstream (Tank-to-Wake) phase is dressed through mandatory requirements on GHG intensity of fuels/energy used on board ships (Technical element). Two economic elements, i.e. Surplus Reward Units (SRUs) and Remedial Units (RUs) are incorporated as flexible compliance options; 2. The upstream (Well-to-Tank) phase is addressed through a sustainability framework, which sets quantitative or qualitative thresholds for sustainable marine fuels/energy, including the threshold the lifecycle (WtW) GHG emissions; and 3. The combination of these elements can not only help bridge the price gap and thus provide sufficient incentives to first movers, but also would generate the Sustainable Shipping Fund to support capacity building, negative impact mitigation, as well as R&D.
2.3.2 Provisions to avoid double accounting, payment, reward or punishment	<ol style="list-style-type: none"> 1. Since the price gap between conventional and sustainable fuels/energy could be largely bridged through SRUs/RUs, there is no need to further introduce an independent levy for the same purpose, or any other revenue raising mechanisms to further reward or rebate the first movers. Otherwise, ships will be double punished or double rewarded. 2. Since the Sustainable Shipping Fund would be used to support capacity building, negative impact mitigation, as well as R&D, there is no need to further introduce other independent revenue raising mechanisms for these purposes.
2.4 Process for development and implementation	
2.4.1 Possible legal framework	<ol style="list-style-type: none"> 1. Existing regulations and associated guidelines/guidance related to DCS, SEEMP, BDN as well as Surveys and Statement of Compliance, would need to be updated; and 2. New instruments/regulations and supporting guidelines/guidance would need to be developed, including but not limited to following elements: <ol style="list-style-type: none"> .1 Requirements on GHG intensity of fuels/energy used on board ships;

	<p>.2 Sustainability framework; and</p> <p>.3 Sustainable Shipping Fund (SSF) and Governing Board (SSB).</p>
2.4.2 Expected timeframe for development and implementation	The various technical and economic elements incorporated in the IMSF&F mechanism are expected to be developed in Phase III of the Work Plan, to be finalized within target dates to be agreed by the Committee, taking into account the nature and priority thereof.
2.4.3 Mechanisms of accountability and adjustment	<ol style="list-style-type: none"> 1. The IMSF&F mechanism would be developed in parallel with the comprehensive impact assessment and the settings of this mechanism, such as the reduction percentage of the required GFI, the price of the RUs and the allocation of revenue, could be adjusted as informed by the results of the comprehensive impact assessment. 2. A review clause could be additionally introduced in developing the IMSF&F mechanism.

3 Potential impacts on States of the proposed candidate measure

3.1 Initial impact assessment	
3.1.1 Does the proposal provide a description of impacts on ships and emissions?	1. Yes. A preliminary impact assessment was provided in the original IMSF&R proposal, showing that it would bring far smaller negative impacts on fleets and States than all the other mid-term measures proposed, including a carbon/fuel levy, a cap-and-trade system and a fuel standard (GFS). The updated version, i.e. IMSF&F mechanism, would not foresee a substantial change in terms of negative impacts.
3.1.2 8 Impact criteria assessed	<p>1. As the impacts of the IMSF&F mechanism on fleets and States mainly depend on the parameters, including the reduction percentage of the required GFI, the price of the RUs and the revenue disbursement strategy, a quantitative conclusion could not be drawn before without a comprehensive impact assessment; and</p> <p>2. Instead, a qualitative assessment on the potential impacts on transport supply, freight cost, and international trade, in particular for those far from the market, were provided.</p>
3.1.3 Potential positive and negative impacts	<p>.1 Positive impacts should not be confused with the effect or purposes, such as GHGs reduction and fuels/energy transition, of a mid-term measure. Positive effect should be understood as benefits of a measure other than its major purposes, such as job creation; and</p> <p>.2 Negative impacts on fleet and states may include a potential increase in freight cost and trade cost, as well as a decrease in transport supply to some developing countries, in particular to those far from the market and lack of sustainable fuels/energy and infrastructure.</p>
3.1.4 Extent of the impacts on States	.1 Pending comprehensive impact assessment in Phase III of the Work Plan.
3.1.5 Description of methodological tools and data sources used	<p>1. Qualitative description in the preliminary impact assessment; and</p> <p>2. Quantitative analysis would be carried out in the comprehensive impact assessment in Phase III of the Work Plan.</p>
3.2 Possible disproportionately negative impacts	
3.2.1 Is the measure likely to result in disproportionately negative impacts on States?	1. Pending comprehensive impact assessment in Phase III of the Work Plan.
3.2.2 Description of how these impacts could be addressed (e.g.: avoided, remedied, mitigated), as appropriate	<p>1. To avoid undue negative impacts:</p> <p>.1 The key parameters, such as the reduction percentage of the required GFI, the price for RUs, should be set at a practically reasonable level and following a realistic pathway, as informed by the comprehensive impact assessment; and</p>

.2 Ammonia, methanol or hydrogen produced from fossil should be allowed for the transition period, especially in the early stages of the transition.

2. To remedy/mitigate/compensate disproportionate negative impacts, from the total contributions to the Sustainable Shipping Fund (SSF):

.1 [50%] would be used for in-sector capacity building and negative impact mitigation in developing countries, including the construction of infrastructure for alternative marine fuels and funding, inter alia, e.g. for the IMO GHG-Trust Fund, to support other maritime GHG reduction projects in developing countries; and

.2 [45%] would be used for R&D programmes and technology transfer, including addressing the intellectual property issues to make the innovative fuels/technologies accessible for developing countries and having them join the production of new fuels.
