

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

<b>Name of the candidate measure:</b>	Combination of the GHG Fuel Standard (GFS) with a levy
<b>Reference document(s):</b>	ISWG-GHG 15/3/1, ISWG-GHG 15/3/2, ISWG-GHG 13/4/7 and ISWG-GHG 13/4/8.

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## 1 Feasibility of the proposed candidate measure

<b>1.1 Scope and compliance options</b>	
1.1.1 Substances covered (GHG/CO <sub>2</sub> )	GHG
1.1.2 Phases of GHG emissions covered (WtT / TtW / WtW)	WtW
1.1.3 Acceptable approaches for compliance (e.g. in-sector/out-of-sector offsetting, CCS, etc.)	Reduction of emission inside the value chain of energy for shipping (no out-of-sector offsetting). Aligned with IMO LCA Guidelines, including sustainability considerations.
<b>1.2 Likelihood to achieve a consistent implementation of the measure</b>	
1.2.1 Provisions to ensure global availability of alternative fuels and technologies	<p>The GFS proposal (see separate fact sheet) will send a clear long-term demand signal to investors across the fuel/energy value chain(s).</p> <p>The levy provides additional economic incentives for the use, by shipping companies, of zero and near-zero-GHG fuels and energy sources. This will increase the predictability of long-term demand for such fuels and energy sources, and thus create stable incentives for investment in the production of such fuels and innovative GHG emissions-saving technologies.</p> <p>Furthermore, revenue from a levy can potentially be disbursed to promote R&amp;D&amp;D, sustain the energy transition in all countries, and mitigate disproportionately negative impacts in specific countries. Revenue disbursement options should be designed to smoothen the energy transition, contribute to all countries being able to supply zero-and near-zero GHG fuels while accessing innovative GHG emission-saving technologies, and mitigating disproportionately negative impacts.</p>
1.2.2 Provisions to limit administrative burden for ships and Administrations	<p>The levy is an efficient market-based measure, with minimum administrative burden for ships and administrations. The levy will have universal application, without exemptions or waivers, to further limit administrative burden.</p> <p>Regarding the GFS element of the combination, please refer to the separate fact sheet.</p>
<b>1.3 Compatibility and consistency with existing regimes/regulations</b>	
1.3.1 Consistency with UNFCCC and the Paris Agreement	The combination is fully consistent with the rationale and the reporting requirements under the UNFCCC and Paris Agreement. The GFS element can be designed to ensure the achievement of decarbonisation along a 1.5°C compatible trajectory, and the levy will provide and additional economic incentives for cost effective solutions, including energy efficiency and the early uptake of zero and near-zero GHG fuels. The levy is also expected to smoothen

	<p>phasing out of GHG emissions through the revenue disbursement options designed to sustain an equitable transition.</p>
<p>1.3.2 Coordination / overlap with other international, regional and national initiatives</p>	<p>Many national action plans have started to include actions to promote the fuel transition. The proposed combination of measures is designed to incentivise and strengthen the adoption of a consistent set of actions at the global scale.</p> <p>This could also promote initiatives which are related to shipping routes and maritime hubs.</p> <p>The European FuelEU Maritime Regulation shares several building blocks with the GFS and can be expected to have synergies. Moreover, the FuelEU Maritime Regulation contains provisions for alignment as appropriate in case a GFS is adopted by the IMO.</p> <p>The co-sponsors acknowledge that existing carbon pricing schemes in certain countries or regions can already include in their scope emissions occurring during the production phase of fuels used for shipping. If the emissions from the production phase are also accounted for in an IMO levy, there is potential for some of them to be accounted twice and therefore be subject to double payment unless adequate provisions for streamlining with national/regional schemes are adopted. In practical terms, this is only relevant for fuels, which have zero- or near-zero emissions on a TtW basis, but not on a WtW basis, like grey ammonia. It is not relevant for fuels, which have zero- or near-zero emissions on a WtW basis, which eventually will play the largest role in the decarbonisation of shipping. The co-sponsors propose that these are specific transitional cases, and the best ways to address them, are discussed in detail during Phase III of the Work Plan.</p>
<p>1.3.3 Compatibility with other IMO regulations</p>	<p>Yes. Reference to documents ISWG-GHG 15/3/1 (Austria et al.), MEPC 76/7/11 (Belgium et al.) and MEPC 76/INF.22 (Belgium et al.).</p>

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## 2 Effectiveness of the proposed candidate measure

<b>2.1 Expected reductions in GHG emissions</b>	
2.1.1 Levels of GHG reduction with associated timeframe	<p>The combination of the GFS and of the levy can be calibrated to achieve the phasing out of GHG emissions by 2050 from the sector along the chosen reduction trajectory. The GFS will ensure alignment with the reduction trajectory and the levy will act in synergy to increase economic incentives for the use of zero- and near-zero GHG fuels and for improvements in energy efficiency.</p> <p>The combined effect will be strengthened by both instruments fostering the best performing fuel options in terms of GHG emissions reduction potential (e.g., every reduced unit counts vs minimum reduction compliance threshold approach).</p>
2.1.2 Provisions to avoid unintended outcomes that could increase GHG emissions	Both elements of the combination will consider GHG emissions on a WtW basis (in full compatibility with the LCA guidelines developed by the IMO), without recurring to out-of-sector off-setting. This framing guarantees that there are no emissions transferred to other sectors dwarfing or nullifying net overall emissions reductions.
<b>2.2 Incentives for first movers</b>	
2.2.1 Provisions for reducing/bridging the price gap between conventional and low-carbon solutions	<p>The price gap between conventional fuels and zero and near-zero GHG fuels will be jointly bridged by the levy and the GFS flexibility mechanism (value of the FCU), for the amount of zero and near zero- GHG emission fuels needed to achieve the GHG fuel intensity required to stay on track with the chosen decarbonisation trajectories consistent with commitments under the Paris Agreement.</p> <p>Should revenues from the levy be partly used to reward the uptake of zero- and near-zero GHG solutions, the levy's contribution to the narrowing of the price gap would in turn contribute to decreasing the value of the FCUs with the same amount.</p>
2.2.2 Provisions to ensure a level playing field	Both the GFS and the levy are universal and will apply to all ships above the decided tonnage threshold.
2.2.3 Provisions to ensure global access to technology	As expressed in document ISWG-GHG 13/4/8 (Austria et al.), the co-sponsors consider that revenues from the levy and from the sale of GHG remedial units may be used for various purposes, such as research and development (R&D) sustaining the energy transition globally, and supporting and projects that make the transition just and equitable, with a particular focus on Small Island Developing States (SIDS) and Least Developed Countries (LDCs). Results of R&D&D financed by revenue from IMO measures could be made globally available.
<b>2.3 Compatibility of different elements within the basket of measures</b>	
2.3.1 Identification where elements of the measure are	The GFS steers the sector onto the reduction trajectory with an incentive for the early uptake of zero- and near-zero GHG fuels. The levy will increase economic incentives also enhancing the

<p>complementary to each other without overlap or redundancy</p>	<p>economic viability of energy efficiency solutions thus smoothening the cost curve of the transition. Acting in synergy, the flexibility mechanism of the GFS and the levy will contribute to closing the price gap between conventional fuels and zero- or near-zero GHG fuels; the market-driven price of the flexibility compliance units, in combination with the fixed levy, will ensure that at no time are investments in zero- and near-zero GHG technologies over- or under-compensated, thereby ensuring that the incentives for decarbonisation remain at optimal level at all times.</p> <p>As a co-benefit, the levy also raises revenues, which can contribute to an equitable transition, promoting early and widespread uptake of zero- and near-zero fuel and technology options across all world regions while mitigating disproportionately negative impacts as appropriate.</p>
<p>2.3.2 Provisions to avoid double accounting, payment, reward or punishment</p>	<p>The GFS's flexibility mechanism is voluntary and will only be used by those ships which cannot comply using compliant fuels.</p> <p>The price of the FCUs and the levy together just bridge the price gap between conventional and low- and zero-GHG solutions (i.e. they do not lead to any over-payment for the emissions).</p> <p>Potential double accounting with national or regional schemes will be further addressed in document ISWG-GHG 15/3/2 (Austria et al.) and will have to be eliminated through adaptations to be decided upon in Phase III.</p>
<p><b>2.4 Process for development and implementation</b></p>	
<p>2.4.1 Possible legal framework</p>	<p>Draft MARPOL amendments developed for GFS element in document ISWG-GHG 15/3/1 (Austria et al.). Draft MARPOL amendments for levy element not yet developed but can be inspired from the IMRB/IMRF proposal.</p>
<p>2.4.2 Expected timeframe for development and implementation</p>	<p>Approval at MEPC 83 at the latest will imply sufficient time for development of the measure and the comprehensive impact assessment if Terms of Reference for the Comprehensive Impact Assessment is agreed at ISWG-GHG 16.</p>
<p>2.4.3 Mechanisms of accountability and adjustment</p>	<p>The measure should be reviewed after 5 years to evaluate its efficiency in meeting the agreed reduction pathway and whether further action is needed.</p>

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### 3 Potential impacts on States of the proposed candidate measure

<b>3.1 Initial impact assessment</b>	
3.1.1 Does the proposal provide a description of impacts on ships and emissions?	<p>The impacts of the combination proposal primarily stem from the additional cost of fuels. In the first years there will be some extra cost from the levy compared to the impact of the GFS alone. This extra cost will decrease with the uptake of zero emission fuels. The impact of the extra cost of the levy will be mitigated by the disbursement of the revenue from the levy. Therefore, the total impact of the combination is not expected to be significantly higher than the impact of the GFS alone, and depending on the disbursement of revenues, the impact on SIDS and LDCs could end up being lower.</p> <p>For that reason, the initial impact assessment for the GFS element which was submitted in document ISWG-GHG 12/3/4 (Austria et al.) is used to illustrate impacts.</p> <p>By its prescriptive character in terms of reducing the GHG intensity of fuels, the GFS will have highly predictable impacts on the reduction of the GHG emissions, largely aligned with the regulated GHG fuel intensity.</p> <p>The initial impact assessment on the GFS found limited negative impact on states. The levy will play a significant role in reducing the potential negative impacts of decarbonisation through the disbursement of the revenues in projects facilitating a smoother just and equitable transition.</p>
3.1.2 8 Impact criteria assessed	<p>The following elements are considered in document ISWG-GHG 12/3/4:</p> <ul style="list-style-type: none"><li>- Fuel transition and emissions reduction</li><li>- Transport costs and trade patterns</li><li>- Socio-economic progress and development</li><li>- Impacts on states</li><li>- Likelihood of disproportionately negative impacts</li></ul>
3.1.3 Potential positive and negative impacts	<p>Some countries would have small positive impacts on GDP stemming from lower imports, import substitution and increased domestic capital accumulation.</p> <p>Some countries would have small negative impacts on GDP as a result of higher import prices and lower export revenues.</p> <p>Some countries would have positive impacts from the production and export of zero- and near-zero GHG fuels.</p> <p>The preliminary impact assessment on the GFS by the co-sponsors indicates that the impact on freight prices would be much smaller in percentage than potential rise in fuel prices.</p> <p>Those (limited) negative impacts will be compensated by some positive impacts:</p> <ul style="list-style-type: none"><li>- Import substitution when local production becomes more competitive</li></ul>

	<ul style="list-style-type: none"> <li>- New economic opportunities for the production of zero or near-zero GHG fuels, which will be largely concentrated in developing countries with good potential renewable energy sourcing or access.</li> <li>- Marginally positive impacts on seafarers, equipment manufacturers and shipping construction and repair, and naturally public health.</li> </ul>
3.1.4 Extent of the impacts on States	<p>For most countries, the negative impacts on GDP would be less than 0.1%.</p> <p>For some countries, the negative impacts would be larger. These countries are characterised by a combination of long trading distances, low income and a high transport dependency. Other States which appear to be at risk of being negatively impacted are low-income countries with a specialized economy focussing on export of a few low-value commodities.</p> <p>Positive impacts from the production and export of zero-and near-zero GHG fuels are not yet quantified but are expected to be considerable.</p> <p>As a result, impacts on countries' economies are likely to be limited across the world: low or zero in mid-income countries, and slightly negative (-0.02% to -0.4%) in SIDS and LDCs.</p> <p>In a combination with the levy the potential revenues implies the possibility to mitigate impacts. Appropriate reinvestment of the revenues from the levy could play an important role in reducing or eliminating those negative economic impacts, particularly in developing states and SIDS and LDCs. Revenues could also be used more generally to reduce the increase in the costs of transport by investments in the development, supply and distribution/bunkering of zero- and near-zero GHG fuels.</p>
3.1.5 Description of methodological tools and data sources used	GTAP modelling (computable general equilibrium model).
<b>3.2 Possible disproportionately negative impacts</b>	
3.2.1 Is the measure likely to result in disproportionately negative impacts on States?	<p>The concept of disproportionately negative impacts is not defined.</p> <p>The impacts of the combination are considered low in most cases. However, even those limited negative impacts can be mitigated with the revenues from the levy appropriately reinvested in projects supporting a just and equitable transition, with a particular focus on SIDS and LDCs.</p>
3.2.2 Description of how these impacts could be addressed (e.g.: avoided, remedied, mitigated), as appropriate	As explained above, the revenues from the levy could potentially constitute a reserve of financial means facilitate the transition and to address as appropriate potential negative impacts of the proposed combination of measures in particular in SIDS and LDCs. The most appropriate allocation of revenues to different affectations should be discussed in Phase III, but could certainly

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	include investment in R&D&D, production of the new fuels, deployment of infrastructure linked to those fuels, mitigation of negative impacts on fleets, with a particular focus on most affected states, and particularly SIDS and LDCs.
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