



# Mid-term Measure Assessment Tool

Methodology Paper



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# 1 Introduction

The IMO has a strategy to phase out GHG emissions from international shipping as soon as possible in this century, and to reduce GHG emissions by at least 50% in 2050, relative to 2008 emissions (Resolution MEPC.304(72)). In spring 2021, the IMO's MEPC adopted a work plan for the development of mid- and long-term measures as a follow-up to this strategy (MEPC 76/15/Add.2, Annex 14). The work plan comprises three phases:

1. Collation and initial consideration of measures.
2. Assessment and selection of measures to further develop.
3. Development of (a) measure(s).

The first phase ends in spring 2022 and the second in spring 2023. The measures are intended to ensure meeting the 2050 level of ambition. This means that they will aim for a fuel transition and that market-based measures will be proposed in the first phase.

At the start of this project, three market-based measures (MBMs) had been proposed. The Marshall Islands and Solomon Islands have proposed to introduce a GHG levy, starting at USD 100 per tonne of CO<sub>2</sub>e and gradually increasing (MEPC 76/7/12); ICS and Intercargo have proposed a CO<sub>2</sub> levy at a lower but undefined level (ISWG-GHG 10/5/2); and Norway has proposed a maritime Emissions Trading Scheme (ISWG-GHG 10/5/6). Norway has also proposed a fuel standard (ISWG-GHG 10/5/6), and so have EU Member States and the European Commission (ISWG-GHG 10/5/3). A fuel standard is not a MBM, but also aims to achieve a fuel transition. It is possible that more MBMs, fuel standards or other types of measures will be proposed at future sessions of the IMO.

Mid-term measures (MTMs) are essential in starting the fuel transition and at the same time ensuring that the transition is equitable, meaning, in the IMO context, at least that disproportionately negative impacts on States are addressed and that no country is left behind.

Carbon Market Watch wants to support the political negotiations on an international MTM, by comprehensively assessing MTM proposals on a number of key characteristics. It has asked CE Delft to develop a science-based tool, that would allow Carbon Market Watch to independently assess MTM proposals put forth at the IMO in the coming years.

This methodology paper explains the principles and criteria behind the MTM tool, as well as how they are operationalised. It accompanies an MS Excel-based tool.



## 2 Principles, criteria and weights

Carbon Market Watch has written a position paper (CMW, 2021), and contributed in MEPC 77/7/17 (CSC, 2021), on key principles and criteria that any market-based measure (MBM) agreed at IMO level needs to follow for it to be fair and effective in contributing to the decarbonization of international shipping. CE Delft has elaborated on these principles and criteria for the development of the MTM tool.

The MTM assessment tool is developed in Microsoft Excel and can be used to assess any MBM or fuel standard proposal submitted to the IMO. The tool is a questionnaire, consisting of 20 questions categorized in seven criteria. These seven criteria are:

1. Bring the shipping sector in line with the Paris Agreement's 1.5 °C target.
2. Decrease pollution from ships as soon as possible in this decade.
3. Support countries most at risk from climate change impacts, and countries and workers most dependent on shipping.
4. Raise revenues to help decarbonise the sector by supporting research and infrastructure development.
5. Accurate monitoring, truthful reporting and effective enforcement.
6. Emissions scope.
7. No undermining of more climate ambitious regulations in countries or regions.

MTM proposals are scored on each of these criteria. The points per criterium are weighted to arrive at a total score for each proposal. The weights per criterium have been developed in collaboration with Carbon Market Watch and are as follows:

The first two criteria are seen as most important, these are both weighted at a 30 points each. The reason is that the international shipping sector needs to have a transparent and environmentally ambitious carbon budget in line with the 1.5 °C target. To this end, and in line with the proposal in document MEPC 77/7/3 (Kiribati, 2021), ship GHG emissions should reach zero before 2050. If international shipping is to contribute to reaching the Paris Agreement's climate goals, mid-term measures need to have an impact as soon as possible in this decade. This was highlighted in the IPCC Special Report on 1.5 °C, which made it clear that climate action across all sectors has to be drastically scaled up pre-2030.

Criteria 3 and 4 are seen as second in priority, together having a weight of 30 points. Carbon pricing not only puts a price on climate pollution, it also raises revenues. These revenues should be used to address equity and fairness concerns, least developed countries (LDCs) must be shielded from undue burden. Proposals should address the need for support in earmarking revenues for countries that have low incomes and/or are at greater risk of significant climate change induced harm, especially if these countries bear no historical responsibility for the climate crisis. A second priority for using revenues is financing in-sector climate action, including research, innovation and zero-carbon infrastructure.

Criteria 5, 6 and 7 together have a weight of 10 points. Adequate monitoring, reporting and enforcement is necessary for the MTM to work properly. All relevant shipping GHG emissions should be taken into account and be treated well-to-wake (WTW). And countries and regions should retain the right to go above and beyond any international measure.



The scores of all criteria total up to a maximum achievable score of a 100 points. Next to the scoring on criteria, there also is a score for completeness. This score is based on the degree of which a proposal includes relevant aspects belonging to the above mentioned criteria. This is measured by the amount of answers that can be filled in in the questionnaire (out of 20). Therefore a proposal's score is based both on its content and the amount of details included.



# 3 Methodological justification

This chapter presents the justification for the methodologies developed for assessing proposals on each of the criteria. The full questionnaire and scoring used in the tool can be found in Annex A.

## 3.1 Bring the shipping sector in line with the Paris Agreement’s 1.5 °C target

Emission targets have to be defined for the Paris Agreement 1.5 °C scenario and other scenarios to score the climate ambition accordingly. We have chosen to work with targets for the years of 2030, 2040 and 2050. These emission targets can directly be used to score the ambitions of proposals containing an Emissions Trading System (ETS), see Section 3.1.1. For scoring proposals containing a carbon levy or a GHG Intensity limit additional methodology had to be developed for converting the emission targets to levels of a carbon levy or intensity limit, see Sections 3.1.2 and 3.1.3.

### 3.1.1 Emissions Trading System (ETS)

Five scenarios are used to score the climate ambitions of proposals accordingly. Table 1 displays the TTW emission targets for these five scenarios and the corresponding scores. The Paris Agreement 1.5 °C scenario is based on 50% emissions reduction in 2030 (compared to 2008 emissions level), followed by a linear decrease to full decarbonisation in 2050. This pathway is to some extent arbitrary, as long as the cumulative emissions remain within a certain budget. The pathway has been based on input of Carbon Market Watch. The cumulative budget of this scenario fulfils the SBTi 1.5 °C CO<sub>2</sub> budget, corrected for international shipping<sup>1</sup>. The other scenarios are based on the ratings of (CAT, 2021).

Table 1 - Defined emission targets for each scenario for the years 2030, 2040 and 2050. Values are TTW emissions in Mt CO<sub>2</sub>/year (values in brackets are % of 2008 TTW emissions). The scoring per scenario and year is also given in number of points. Points are given when the proposal’s emissions cap for a specific year is less than the stated value.

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	388 (50%) = 6 pts	194 (25%) = 6 pts	- (0%) = 6 points
Compatible <2 °C	566 (73%) = 4 pts	373 (48%) = 4 pts	226 (29%) = 4 pts
Insufficient <3 °C	737 (95%) = 2 pts	719 (93%) = 2 pts	615 (79%) = 2 pts
Highly insufficient <4 °C	839 (108%) = 1 pt	922 (119%) = 1 pt	981 (126%) = 1 pt
Critically insufficient 4 °C+	>839 (>108%) = 0 pts	>922 (>119%) = 0 pts	>981 (>126%) = 0 pts

Source: This report.

Table 2 displays the same emission targets, but now in WTW levels of emission. WTW emission levels are calculated by multiplying the TTW emissions with a WTW factor of 1.173. This factor is derived from the ratio of the WTW to TTW emission factors for fossil maritime fuels (HFO, LSFO, ULSFO, VLSFO and LFO having very similar emission factors and assuming a 20% contribution of MDO/MGO).

<sup>1</sup> The share of international shipping to total shipping is analysed for several years, based on Faber et al., (2020), to be 71% on average.



Table 2 - Defined WTW emission targets for each scenario for the years 2030, 2040 and 2050. Values are WTW emissions in Mt CO<sub>2</sub>/year (values in brackets are % of 2008 WTW emissions).

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	455 (50%) = 6 pts	228 (25%) = 6 pts	- (0%) = 6 pts
Compatible <2 °C	664 (73%) = 4 pts	438 (48%) = 4 pts	265 (29%) = 4 pts
Insufficient <3 °C	865 (95%) = 2 pts	844 (93%) = 2 pts	722 (79%) = 2 pts
Highly insufficient <4 °C	984 (108%) = 1 pt	1.082 (119%) = 1 pt	1.151 (126%) = 1 pt
Critically insufficient 4 °C+	>984 (>108%) = 0 pts	>1.082 (>119%) = 0 pts	>1.151 (>126%) = 0 pts

Source: This report.

Proposals containing an Emissions Trading System (ETS) can now directly be scored by comparing the proposed emission caps for 2030, 2040 and 2050 to the developed scenarios.

### 3.1.2 Carbon levy

To score proposals containing a carbon levy, a methodology has been developed for converting the emission target to levels of a carbon levy. We made a revenue recycling model, calculating the cost gap between the prices of LSHFO and E-ammonia and the share of power needed from E-ammonia. The carbon levy multiplied by the emissions per scenario should be equal to the subsidy.

We collected LSHFO and E-ammonia price projection data from IRENA, (2021) and Baresic et al., (2022). Price projections of both sources show similar behaviour. We want to work with prices based on total cost of ownership, therefore we used the UMAS prices. The e-ammonia and LSHFO prices were averaged and used to calculate the projected price difference, see Table 3.

Table 3 - Projected prices of E-ammonia and LSHFO and their price difference in \$/GJ

	2020	2030	2040	2050
e-ammonia	76	65	54	43
LSHFO	8	11	11	11
Price difference	68	54	43	32

Source: (Baresic et al., 2022).

We work solely with LSHFO and e-ammonia in this model. Baresic et al., (2022) projects that these two fuels will dominate the future marine fuel demand. Also, other marine fossil fuels have very similar characteristics (emission factor and energy content) as LSHFO. Therefore modelling with LSHFO and e-ammonia should give a good representation for the future marine fuel demand.

In this model only LSHFO contributes to GHG emissions (e-ammonia is assumed to have zero GHG emissions), enabling us to translate emissions directly into LSHFO power demand (using LSHFO emission factor of 3.114 tonneCO<sub>2</sub>/tonne LSHFO for TTW, 3.657 tonneCO<sub>2</sub>-eq./tonne LSHFO for WTW and an energy content of 40 GJ/tonne LSHFO). To find the power demand needed from E-ammonia, we need to compare the LSHFO power demand with the total power demand for each scenario. For the total power demand we use the business as usual (BAU) scenario from the 4<sup>th</sup> IMO GHG Study (Faber et al., 2020). However, because an increased use of e-ammonia in the two most ambitious scenarios will drive up fuel costs considerably, we assume that ships will improve their efficiency to a greater extent than in





the IMO BAU scenarios. Instead, we assume efficiency improvements by using the ‘Total fleet energy efficiency improvement maximum effort case’ from (CE Delft, 2022). These energy efficiency improvements are scaled down for the other scenarios, assuming less ambitious carbon pricing will lead to lower efficiency improvements: for the 3 °C, 4 °C and 4 °+ C scenarios additional efficiency improvements of respectively 60%, 40% and 20% have been assumed. Now the difference of the LSHFO energy demand and total energy demand should be the e-ammonia energy demand.

Assuming e-ammonia would only be bought if the price is equal to LSHFO, we multiply the e-ammonia energy demand with the projected price differences. If we now divide this amount by the emissions per scenario, we get the carbon levies per scenario, see

Table 4. The carbon levies are capped by the price difference of LSHFO and e-ammonia directly converted to carbon prices (price difference multiplied with the LSHFO energy content divided by the LSHFO emission factor).

Table 4 - Carbon levies necessary to achieve the set TTW emission targets for each scenario in 2030, 2040 and 2050. Prices are given in \$/tonneCO<sub>2</sub>. Points are given when the proposal’s fuel levy for a specific year is equal or higher than the stated value.

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	506 = 6 points	546 = 6 points	405 = 6 points
Compatible <2 °C	131= 4 points	417 = 4 points	405 = 4 points
Insufficient <3 °C	1 = 2 points	13 = 2 points	112 = 2 points
Highly insufficient <4 °C	0 = 0 points	0 = 0 points	0 = 0 points
Critically insufficient 4 °C+	0 = 0 points	0 = 0 points	0 = 0 points

Source: This report.

Table 5 displays the carbon levels per scenario, now in \$/tonneCO<sub>2</sub>-equivalent, for WTW emissions.

Table 5 - Carbon levies necessary to achieve the set WTW emission targets for each scenario in 2030, 2040 and 2050. Prices given in \$/tonneCO<sub>2</sub>-eq.

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	432 = 6 points	546 = 6 points	405 = 6 points
Compatible <2 °C	112= 4 points	355 = 4 points	405 = 4 points
Insufficient <3 °C	1 = 2 points	11 = 2 points	95 = 2 points
Highly insufficient <4 °C	0 = 0 points	0 = 0 points	0 = 0 points
Critically insufficient 4 °C+	0 = 0 points	0 = 0 points	0 = 0 points

Source: This report.

### 3.1.3 GHG Intensity limit

The GHG Intensity limit values are determined by dividing the emission targets for each scenario from Table 1 by the BAU scenarios with scaled efficiency improvements. The resulting intensities are determined relative to the 2020 GHG intensity. From these the intensity reductions are calculated, these are displayed in Table 6.



Table 6 - GHG Intensity reductions necessary to achieve the set emissions targets for each scenario in 2030, 2040 and 2050. Values are % reductions compared to the 2020 GHG intensity. Points are given when the proposal's intensity limit reduction for a specific year is equal or higher than the stated value.

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	42% = 6 points	71% = 6 points	100% = 6 points
Compatible <2 °C	16% = 4 points	43% = 4 points	67% = 4 points
Insufficient <3 °C	1% = 2 points	2% = 2 points	22% = 2 points
Highly insufficient <4 °C	0% = 0 points	0% = 0 points	0% = 0 points
Critically insufficient 4 °C+	0% = 0 points	0% = 0 points	0% = 0 points

Source: This report.

Other relevant aspects for this criterium are:

- focus on in-sector reductions, and not allowing offsetting;
- well-to-wake (WTW) should be addressed instead of tank-to-wake (TTW) emissions;
- zero emissions should be reached earlier than 2050.

### 3.2 Decrease pollution from ships as soon as possible in this decade

An important aspect is that the MTM is applied to all ship types and all routes. To score proposals that exclude certain ship types or routes we developed a methodology. We divided the ship types into four categories, see Table 7. The GHG emissions per ship type from Faber et al., (2020) are used, we calculate the share of emissions attributed to each ship type category.

Table 7 - GHG emissions (Mt CO<sub>2</sub>-eq.) per ship type category in 2018 for total shipping

Ship type categories <sup>2</sup>	GHG emissions	Share
Unitized cargo	282.7	26.3%
Bulkers	210.5	19.6%
Tankers	321.9	29.9%
Other ship types	261.6	24.3%

Source: (Faber et al., 2020).

The routes are divided into two categories, see Table 8. We used the estimates of CE Delft, (2022) for CO<sub>2</sub> emissions on a route-level.

Table 8 - CO<sub>2</sub> emissions by route in 2016 for international shipping

Routes associated with	Share
Small Island Developing States (SIDS) and Least Developed Countries (LDCs) <sup>3</sup>	6.5%
Rest of the world	93.5%

Source: (IMarEST, 2022).

<sup>2</sup> Unitized cargo includes general cargo, Ro-Ro and vehicle. Bulkers include bulk carriers and refrigerated bulk.

Tankers include chemical tankers, liquefied gas tankers, oil tankers and other liquids tankers.

<sup>3</sup> Excluding Singapore.



Although our emissions data for ship types and routes is based on different years (2016 vs. 2018) and different emission scopes (CO<sub>2</sub> vs. GHG and international vs total shipping), we think the share of emissions are compatible. To calculate the total share of maritime emissions included in the MTM proposal, we multiply the share of emissions from included ship types with the share of emissions from included routes.

Other important aspects for this criterium are:

- Use of existing instruments: amending MARPOL Annex VI is seen as the only realistic option for action in this decade.
- A well-developed proposal includes:
  - draft amendments for changes to MARPOL Annex VI;
  - clear descriptions of obligations for ships, flag states and port states;
  - obligations included in the legal text, not in the guidelines.
- Proposal being entered into force well before 2030.
- Requirements for the period up to 2030 (an ambitious pre-2030 fuel levy, emissions target or GHG Intensity limit).
- Application to all ships from the start.

### **3.3 Support countries most at risk from climate change impacts, and countries and workers most dependent on shipping**

Important aspects for this criterium are:

- the MBM should raise revenues and include specifications of how the revenues are used;
- guarantee of a significant share of revenues for supporting climate vulnerable countries;
- acknowledging the need for supporting workers through the transition.

### **3.4 Raise revenues to help decarbonise the sector by supporting research and infrastructure development**

Important aspects for this criterium are:

- guarantee of a significant share of revenues for supporting research and infrastructure development;
- equitable composition for the governance of revenues.

### **3.5 Accurate monitoring, truthful reporting and effective enforcement**

Important aspects for a proposal are:

- robust provisions on reporting and verification;
- allowing enforcement by both flag states and port states.

### **3.6 Emissions scope**

The proposal should address all relevant shipping GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, black carbon, etc.).

### **3.7 No undermining of more climate ambitious regulations in countries or regions**

The proposal should not include provisions that prohibit measures or stop regional measures from going further in their climate ambition.



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# A Questionnaire and scoring

The following questions and scores per answer are used in the MTM Assessment Tool:

## Criterion 1: Bring the shipping sector in line with the Paris Agreement's 1,5 °C target (30 points)

1. Does the proposal focus on in-sector emissions reduction or does it also allow for offsetting (out-of-sector emissions reduction)?
  - a In-sector reduction = 4 points
  - b Allows offsetting = 0 points
  
2. Does the proposal include specific levels for a fuel levy, an emissions trading system cap or a GHG Intensity limit?
  - a Fuel levy → after question 3, go to question 4a
  - b ETS → after question 3, go to question 4b
  - c GHG Intensity limit → after question 3, go to question 4c
  - d No = 0 points → go to Criterion 2
  
3. Does the proposal address well-to-wake or tank-to-wake emissions of fuels?
  - a Well-to-wake = 4 points → use table for well-to-wake emissions
  - b Tank-to-wake = 0 points use table for tank-to-wake emissions
  
4. a) If the proposal includes a fuel levy: What are the specific levels of the fuel levy?

Table 9 - Scoring system for a fuel levy system based on the TTW levels of the fuel levy for 2030, 2040 and 2050. Points are given when the proposal's fuel levy for a specific year is equal or higher than the stated value. Values are in \$/tonneCO<sub>2</sub>.

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	506 = 6 points	546 = 6 points	405 = 6 points
Compatible <2 °C	131= 4 points	417 = 4 points	405 = 4 points
Insufficient <3 °C	1 = 2 points	13 = 2 points	112 = 2 points
Highly insufficient <4 °C	0 = 0 points	0 = 0 points	0 = 0 points
Critically insufficient 4 °C+	0 = 0 points	0 = 0 points	0 = 0 points

Table 10 - Fuel levy system based on the WTW levels of the fuel levy for 2030, 2040 and 2050. Values are in \$/tonneCO<sub>2</sub>-eq.

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	432 = 6 points	546 = 6 points	405 = 6 points
Compatible <2 °C	112= 4 points	355 = 4 points	405 = 4 points
Insufficient <3 °C	1 = 2 points	11 = 2 points	95 = 2 points
Highly insufficient <4 °C	0 = 0 points	0 = 0 points	0 = 0 points
Critically insufficient 4 °C+	0 = 0 points	0 = 0 points	0 = 0 points



4. b) If the proposal includes an emissions trading system: What are the specific levels of the emissions cap?

Table 11 - Scoring system for an emissions trading system based on the TTW levels of the emission cap for 2030, 2040 and 2050. Points are given when the proposal's emissions cap for a specific year is less than the stated value. Values are TTW emissions in Mt CO<sub>2</sub>/year (values in brackets are % of 2008 TTW emissions).

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	388 (50%) = 6 pts	194 (25%) = 6 pts	- (0%) = 6 points
Compatible <2 °C	566 (73%) = 4 pts	373 (48%) = 4 pts	226 (29%) = 4 pts
Insufficient <3 °C	737 (95%) = 2 pts	719 (93%) = 2 pts	615 (79%) = 2 pts
Highly insufficient <4 °C	839 (108%) = 1 pt	922 (119%) = 1 pt	981 (126%) = 1 pt
Critically insufficient 4 °C+	>839 (>108%) = 0 pts	>922 (>119%) = 0 pts	>981 (>126%) = 0 pts

Table 12 - Values are WTW emissions in Mt CO<sub>2</sub>-eq./year (values in brackets are % of 2008 WTW emissions)

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	455 (50%) = 6 pts	228 (25%) = 6 pts	- (0%) = 6 pts
Compatible <2 °C	664 (73%) = 4 pts	438 (48%) = 4 pts	265 (29%) = 4 pts
Insufficient <3 °C	865 (95%) = 2 pts	844 (93%) = 2 pts	722 (79%) = 2 pts
Highly insufficient <4 °C	984 (108%) = 1 pt	1.082 (119%) = 1 pt	1.151 (126%) = 1 pt
Critically insufficient 4 °C+	>984 (>108%) = 0 pts	>1.082 (>119%) = 0 pts	>1.151 (>126%) = 0 pts

4. c) If the proposal includes a GHG Intensity limit: What are the specific levels of the limit?

Table 13 - Scoring system for a GHG Intensity limit system based on reductions in the CO<sub>2</sub> intensity limit for 2030, 2040 and 2050. Points are given when the proposal's intensity limit reduction for a specific year is equal or higher than the stated value. Values are reductions in % of the 2020 CO<sub>2</sub> intensity.

Scenario	2030	2040	2050
Paris Agreement 1.5 °C	42% = 6 points	71% = 6 points	100% = 6 points
Compatible <2 °C	16% = 4 points	43% = 4 points	67% = 4 points
Insufficient <3 °C	1% = 2 points	2% = 2 points	22% = 2 points
Highly insufficient <4 °C	0% = 0 points	0% = 0 points	0% = 0 points
Critically insufficient 4 °C+	0% = 0 points	0% = 0 points	0% = 0 points

5. Does the proposal reach 0 emissions earlier than 2050?
- Yes = 4 points
  - No or not specified = 0 points

**Criterion 2: Decrease pollution from ships as soon as possible in this decade (30 points)**

6. Does the proposal use existing instruments?
- It proposes to amend MARPOL Annex VI = 6 points
  - It does propose a new Annex to MARPOL = 0 points
  - It does propose a new convention = 0 points
  - Else = 0 points



7. Is the proposal well developed?
- It contains draft amendments for changes to MARPOL Annex VI = +2 point
  - It contains a clear description of the obligations for ships, flag states and port states = +2 point
  - All obligations are included in the proposed legal text and not deferred to guidelines (including the emissions cap - in case of an ETS, and the level of the fuel levy - in case of a fuel levy) = +2 point
8. Does the proposal enter into force well before 2030? (Note this will take about 1,5 years from the point of decision; will probably not be mentioned in the proposal therefore now low scoring proposed)
- a 2025 or earlier = 3 points
  - b 2026 or 2027 = 2 points
  - c 2028 or 2029 = 1 point
  - d Else = 0 points
9. Does the proposal include requirements for the period up to 2030?
- A significant level of the tax from the start:
    - Proposal includes a pre-2030 fuel levy of >\$150/tonneCO<sub>2</sub> = 6 points
    - Proposal includes a pre-2030 fuel levy of >\$75/tonneCO<sub>2</sub> = 3 points
    - Proposal does not include a pre-2030 fuel levy = 0 points
  - An ambitious emissions target up to 2030:
    - Proposal includes a pre-2030 emissions cap of <600 Mt/year = 6 points
    - Proposal includes a pre-2030 emissions cap of <700 Mt/year = 3 points
    - Proposal does not include a pre-2030 emissions cap = 0 points
  - Significant reduction in the GHG Intensity limit pre-2030
    - Proposal includes a pre-2030 GHG Intensity target reduction of >20% = 6 points
    - Proposal includes a pre-2030 GHG Intensity target reduction of >15% = 3 points
    - Proposal does not include a pre-2030 GHG Intensity limit reduction = 0 points
10. Does the proposal apply to all ships from the start?
- No trial period = +2 point
  - No phase-in = +2 point
  - Includes ship types (container ships, bulk carriers, oil tankers, other ship types)
  - Includes flag states (developed countries, SIDS, LDCs, other development countries)
    - Includes at least 95% of the emissions = +5 points
    - Includes at least 90% of the emissions = +3 point
    - Includes less than 90% of the emissions = +0 points
    - Includes less than 80% of emissions = -2 points
    - Includes less than 70% of emissions = -4 points
    - Includes less than 60% of emissions = -6 points

**Criterion 3: Support countries most at risk from climate change impacts, and countries and workers most dependent on shipping (20 points)**

11. Does the MBM raise revenues?
- a Yes = 5 point → go to question 12
  - b No = 0 points → go to Criterion 5
12. Does the proposal include a specification of how revenues will be used?
- a Yes = 5 point → go to question 13
  - b No = 0 points → go to Criterion 5





13. Does the proposal guarantee a significant share of revenues to support climate vulnerable countries?
- a At least 51% = 9 points
  - b At least 35% = 6 points
  - c At least 20% = 3 points
  - d Less than 20% = 0 points
14. Does the proposal acknowledge the need for supporting workers through the transition? (with for example reskilling)
- a Yes = 1 point
  - b No = 0 points

**Criterion 4: Raise revenues to help decarbonise the sector by supporting research and infrastructure development (10 points)**

15. Does the proposal guarantee a significant share of revenues to support research and infrastructure development?
- a At least 33% = 9 points
  - b At least 20% = 6 points
  - c At least 10% = 3 points
  - d Less than 10% = 0 points
16. Does the governance of revenue use have an equitable composition?
- a Yes, the research/infrastructure development is guaranteed to also support developing countries/LDCs/SIDS = 1 point
  - b No = 0 points

**Criterion 5: Accurate monitoring, truthful reporting and effective enforcement (4 points)**

17. Does the proposal include robust provisions on reporting and verification?
- a Yes = 2 points
  - b No = 0 points
18. Does the proposal allow for enforcement by both flag states and port states?
- a Yes = 2 points
  - b No = 0 points

**Criterion 6: Emissions scope (3 points)**

19. Does the proposal address all relevant GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, black carbon, etc.) ?
- a Yes = 3 points
  - b No = 0 points

**Criterion 7: No undermining of more climate ambitious regulations in countries or regions (3 points)**

20. Does the proposal include provisions that prohibit regional measures or stop regional measures from going further in their climate ambition?
- a Yes = 0 points
  - b No = 3 points

