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**REVISED PROCEDURE FOR ASSESSING IMPACTS ON STATES  
OF CANDIDATE MEASURES**

- 1 The Marine Environment Protection Committee, at its seventy-ninth session (12 to 16 December 2022) approved the *Revised Procedure for assessing impacts on States of candidate measures*, as set out in the annex.
- 2 Member Governments and international organizations are invited to apply the annexed *Revised Procedure for assessing impacts on States of candidate measures*.
- 3 This circular revokes MEPC.1/Circ.885 on *Procedure for assessing impacts on States of candidate measures*.

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## ANNEX

### REVISED PROCEDURE FOR ASSESSING IMPACTS ON STATES OF CANDIDATE MEASURES

#### Background and objectives

1 In April 2018, MEPC 72 adopted resolution MEPC.304(72) on the *Initial IMO Strategy on reduction of GHG emissions from ships* (the Initial Strategy). The Initial Strategy lists a series of candidate short-, mid- and long-term measures. As outlined in the Initial Strategy, the impacts on States of a measure should be assessed and taken into account as appropriate before adoption of the measure. Particular attention should be paid to the needs of developing countries, especially small island developing States (SIDS) and least developed countries (LDCs). Disproportionately negative impacts should be assessed and addressed, as appropriate.

2 This procedure for assessing impacts on States of candidate measures identifies steps, specifies what should be included in the different steps in the procedure, and the respective roles of the proponent of a measure and of the Committee, without prejudging the substance of any future impact assessment.

3 The duration of the impact assessment procedure may range from one to four meetings depending on the level of assessment required and consideration of a measure by the Committee before approval.

4 Taking into account the *Work plan for Development of mid- and long-term measures as a follow-up of the Initial IMO Strategy on reduction of GHG emissions from ships* (MEPC 76/15/Add.2, annex 14) and following completion of the lessons-learned exercise from the comprehensive impact assessment of the short-term GHG reduction measure by MEPC 79, the Committee approved this Revised Procedure superseding the Procedure set out in MEPC.1/Circ.885. This Revised Procedure should be kept under review, taking into account lessons-learned from future comprehensive impact assessments.

#### Procedure

5 Impact assessment should be simple, inclusive, transparent, flexible, evidence-based and measure-specific. The comprehensiveness of any impact assessment should be commensurate to the complexity and nature of the proposed measure. Impact assessment should be undertaken in parallel with the consideration and development of a candidate measure. There are up to four steps in the procedure:

- .1 Step 1: initial impact assessment, to be submitted as part of the initial proposal to the Committee for candidate measures;<sup>1</sup>
- .2 Step 2: submission of commenting document(s), if any;
- .3 Step 3: comprehensive response, if requested by commenting document(s); and
- .4 Step 4: comprehensive impact assessment.

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<sup>1</sup> Proponent(s) of the measure should abide to a 13-week submission deadline, as set out in paragraph 6.12.3 of the Committees' Methods of work (MSC-MEPC.1/Circ.5/Rev.3).

6 A proponent of a measure should submit an initial impact assessment at a minimum. However, the proponent may submit a more detailed impact assessment in the first instance, taking into account the elements listed in paragraph 15.

**Step 1: initial impact assessment**

7 Once the consideration of a measure is initiated, the Committee should consider the initial impact assessment submitted as part of the candidate measure proposal.

8 The initial impact assessment should pay particular attention to the needs of developing countries, especially SIDS and LDCs and, inter alia:

- .1 indicate if the proposal for the measure provides a description of impacts on ships and emissions;
- .2 identify which impacts should be assessed, taking into account, as appropriate, inter alia (1) geographic remoteness of and connectivity to main markets; (2) cargo value and type; (3) transport dependency; (4) transport costs; (5) food security; (6) disaster response; (7) cost-effectiveness; and (8) socio-economic progress and development;
- .3 indicate both positive and negative potential impacts;
- .4 analyse the extent of the impacts (e.g. by quantifying them and relating them to normal variations in transport costs, trade or GDP); and
- .5 assess whether the measure is likely to result in disproportionately negative impacts and, if so, how they could be addressed (e.g. avoided, remedied, mitigated), as appropriate.

9 The initial impact assessment should indicate the methodological tools and data sources used, and may indicate the limitations of the analysis.

**Step 2: submission of commenting document(s), if any**

10 Member States may comment on the initial impact assessment to request clarification and/or additional information.

11 Commenting document(s) should be submitted at the latest to the meeting following on from the one where a proposal has been made.

12 Any interested Member State or international organization may submit additional information and/or a separate impact assessment, as appropriate, of a proposed measure or group of measures.

**Step 3: comprehensive response, if requested by commenting document(s)**

13 At the following meeting at the latest, the proponent(s) of the measure or any interested Member State or international organization should provide a comprehensive response to the commenting document(s).

#### **Step 4: comprehensive impact assessment**

14 A comprehensive impact assessment should be initiated, taking into account the issues identified in previous steps, including any commenting documents.

15 The comprehensive impact assessment should take into account the guidance on process and methodological elements for the conduct of comprehensive impact assessments set out in the appendix and, in addition, pay particular attention to the needs of developing countries, especially SIDS and LDCs and include, inter alia:

- .1 a description of the assumptions and methods used in the analysis;
- .2 a detailed qualitative and/or quantitative assessment of specific negative impacts on States; and
- .3 an assessment of whether the measure is likely to result in disproportionately negative impacts and, if so, recommendations on how they could be addressed (e.g. avoided, remedied, mitigated), as appropriate.

16 The Committee should consider the comprehensive impact assessment, in order to inform further consideration of the proposed measure, and take action as appropriate.

17 The impacts on States of a measure/combination of measures should be assessed and taken into account as appropriate before adoption of the measure. Particular attention should be paid to the needs of developing countries, especially SIDS and LDCs.

18 Once the impact assessment is completed, and disproportionately negative impacts assessed and addressed, as appropriate, the measure may be considered for adoption.

#### **Analysis tools, models and support in undertaking the impact assessment**

19 Impact assessment should be evidence-based and should take into account, as appropriate, analysis tools and models, including as further described in the guidance on process and methodological elements for the conduct of comprehensive impact assessments set out in the appendix, inter alia, as follows:

- .1 cost-effectiveness analysis tools such as maritime transport cost models, trade flows models, impact on Gross Domestic Product (GDP);
- .2 updated Marginal Abatement Cost Curves (MACCs); and
- .3 economic trade models, transport models and combined trade-transport models.

20 Some Member States such as SIDS and LDCs may require assistance for the collection of data and analysis of potential impacts.

#### **Review of the impacts, upon request**

21 Once a measure is adopted and enacted, the Committee should keep its implementation and impacts under review, upon request of Member States, so that any necessary adjustments may be made.

## APPENDIX

### GUIDANCE ON PROCESS AND METHODOLOGICAL ELEMENTS FOR THE CONDUCT OF COMPREHENSIVE IMPACT ASSESSMENTS

#### Introduction

1 Following up from the lessons-learned exercise of the comprehensive impact assessment of the short-term measure completed by MEPC 79, this appendix provides additional guidance on several process and methodological elements with the aim to enhancing robustness and transparency of future comprehensive impact assessments of candidate GHG reduction measures.

#### Process for conducting a comprehensive impact assessment

##### *Structure of a comprehensive impact assessment and overall coordination of the work*

2 A comprehensive impact assessment should comprise of at least the following five distinct but interrelated tasks:

Task 1 Literature review;

Task 2 Assessment of impacts of the measure on the fleet;

Task 3 Assessment of impacts of the measure on States;

Task 4 Complementary qualitative/quantitative stakeholders' analysis, including relevant illustrative case studies; and

Task 5 Identification of areas of missing data, quality assurance and quality control (QA/QC), uncertainty and sensitivity analyses and integration between various tasks.

3 The Committee should envisage sufficient time to conduct all these tasks in a meaningful and manageable way, taking into account the effective implementation of the IMO GHG Strategy, as revised.

4 All organizations involved in carrying out each task of the comprehensive impact assessment should regularly exchange information arising from their findings through coordination meetings facilitated by the Secretariat.

5 A steering committee composed of representatives of Member States should oversee the conduct of a comprehensive impact assessment in accordance with the agreed terms of reference.

##### *Establishment, role and function of the steering committee*

6 The establishment, role and function of the steering committee on impact assessment should be based on the following guidance:

.1 Considering the importance of the comprehensive impact assessment, and the need for the steering committee to be established in a transparent, open, and fair manner, the Secretary-General should invite nominations from all

Member States by issuance of a circular letter. Given the technical nature of impact assessments, it is desirable that members should have the required relevant expertise on the subject matter. The size of the steering committee should be decided and announced by the Secretary-General depending on the number of nominations received.

The steering committee may be coordinated by the Vice-Chair of the Marine Environment Protection Committee (MEPC), in line with the practice for the Ad Hoc Capacity-Building Needs Analysis Group (ACAG).

- .2 The steering committee should be of a manageable size. The steering committee of Member States should be geographically balanced (e.g. with reference to the five United Nations regions), appropriately represented by developed and developing countries, including SIDS and LDCs.
- .3 The steering committee should:
  - .1 act as a focal point for the Committee during the conduct of a comprehensive impact assessment;
  - .2 consider and agree on the outline of the comprehensive impact assessment and associated timeline;
  - .3 provide input to any relevant tendering process and establish the study team, i.e. all organizations to be involved in carrying out each task of the comprehensive impact assessment;
  - .4 when approving the study outline and providing input to a tendering process, the steering committee should, inter alia:
    - .1 review input data, including proposed baselines, business-as-usual (BAU) scenarios and Marginal Abatement Cost (MACC) curves;
    - .2 review assumptions and methodologies for assessing impacts on both fleet and States;
    - .3 review results of conducted sensitivity analysis; and
    - .4 ensure inclusiveness and transparency in the impact assessment;
    - .5 review and monitor the progress of the comprehensive impact assessment, including providing feedback on the main methods, databases and data sources to be used, in line with agreed timelines;
    - .6 oversee the conduct of an external review of quality assurance and quality control (QA/QC) issues in the final report before it is submitted to the Committee; and
    - .7 confirm that the study meets the terms of reference.

- .4 The steering committee should provide recommendations to the Committee. It should, as much as possible, work by consensus, make all efforts to ensure timely completion of the comprehensive impact assessment, aim at assisting the Committee to make evidence-based decisions.
- .5 The steering committee should meet regularly, should have sufficient time to consider and discuss the progress of the work of the different organizations involved in the comprehensive impact assessment, and provide regular updates to the Committee.
- .6 The steering committee should be assisted in its work by the Secretariat.

### **Task 1 Literature review**

7 A literature review may be conducted to provide relevant background information for the comprehensive impact assessment, as appropriate.

### **Task 2 Assessment of impacts on the fleet**

#### *Objective*

8 The assessment of impacts on the fleet should provide an analysis of the impacts of the assessed measure(s) on the fleet, including the impacts on fuel use, fuel efficiency, uptake of emission reduction options and costs, and serve as the main input to the assessment of impacts on States.

#### *Approaches, methods and modelling tools*

9 The assessment of impacts on fleet should rely on advanced modelling approaches, methods and tools, including, where available, peer-reviewed sources, inter alia, baseline scenarios, Marginal Abatement Cost Curves, IPCC reports, energy transition projections, transport demand projections, fleet development models, abatement uptake models, and logistical improvements.

10 Where available, approaches, methods and modelling tools approved by the Organization should be used as this will ensure trust and reliability. Alternatively, the study team should seek approval of the steering committee for their approach and modelling tools.

11 The study team should provide a detailed description of the methodology and data used, a discussion on the assumptions and limitations of the analysis, and aggregated results from the data sets to ensure reproducibility of the findings of the assessment.

12 As appropriate, the assessment of the impacts on the fleet should consider, inter alia, for the envisaged GHG reduction potential(s) of the candidate measure(s) and/or policy scenarios:

- .1 all types of fuels, modes of operation and technologies likely to be used to comply with the measure(s), cost of mitigation options, also taking into account different fuel and technologies production costs and availability across world regions;
- .2 possible spillover effects of technology/alternative fuel advancement from other sectors, as well as competing uses;



- .3 variability and uncertainties both in time and across world regions;
- .4 different ship owner business models, including possible split incentives, in various segments;
- .5 the generation and deployment of revenue if that is foreseen by the measure(s) in the shipping industry, as appropriate; and
- .6 the impact of regional measures, as appropriate.

#### *Interaction with other tasks*

13 Interaction by the organizations responsible for carrying out the assessment of impacts on the fleet and on States, and the qualitative/quantitative stakeholders' analysis, should be envisaged.

14 To ensure consistency, the same assumptions and scenarios should ideally be used by all models that form part of the comprehensive impact assessment, or clearly identified when this is not the case.

15 The assessment of impacts on the fleet should be accompanied by at least one sensitivity analysis and/or scenario testing in order to test the robustness of the model outcomes.

### **Task 3 Assessment of impacts on States**

#### *Objective*

16 The assessment of impacts on States should assess the impacts listed in the IMO GHG Strategy, including quantifying the impacts of the candidate measure(s) in terms of countries' trade and Gross Domestic Product (GDP) change, using the output of the assessment of impacts on the fleet as its main input at the global level.

#### *Input data, information to be provided in advance*

17 UNCTAD, in cooperation with other organizations as appropriate, should provide a detailed description of the methodology and data used, a discussion on the assumptions and limitations of the analysis, and aggregated results from the data sets used.

#### *Global modelling*

18 The assessment of impacts on States consists in translating the impacts on the fleet to impacts on States (e.g. trade and GDP changes), ideally using a computable general equilibrium (CGE) model combining economic trade modelling and transport/logistics modelling with a shipping module, if available.

19 As appropriate, the assessment of the impacts on States should consider:

- .1 using also other models such as gravity models with partial-equilibrium models, sectoral analysis, macro-economic analysis, econometrics, etc.;
- .2 geographical specificities and route-related impacts;

- .3 the possibility of transport modal shift with changes in maritime logistics costs;
- .4 transport costs of goods by origin/destination pairs, changes in port-calling frequencies, changes in connectivity index, changes in fleet composition over time;
- .5 macro-economic drivers such as long-term scenarios (IPCC) and energy source transition;
- .6 comparison of the impacts of the measure(s) with other maritime cost/freight rate developments;
- .7 impacts of the measure(s) on final consumer prices, following assessment of the ability of the firms to pass through costs; and
- .8 the loss of competitiveness of States in their main exports, as well as the consequent substitution of imports in their main destination markets.

### *Outputs*

20 The impacts on States should be presented in terms of impacts on transport costs, trade and GDP and be compared to historical fluctuations in transport costs. The difference between BAU projections and policy scenarios should be presented. The metrics presented as a result of the assessment should be easily comparable.

21 A transparent and rigorous approach to representing the likely impacts of the measure(s) on countries that are not well represented in data, or a default assumption, needs to be developed. As appropriate, other economic parameters than GDP, such as for example impact on consumer prices, may be considered for small economies with low connectivity index.

22 The analysis should be accompanied by at least one sensitivity analysis and/or scenario testing in order to test the robustness of the model outcomes.

### **Task 4 Complementary qualitative/quantitative stakeholders' analysis**

23 To complement the quantitative modelling of impacts on States, the qualitative/quantitative stakeholder's analysis should provide complementary modelling of possible impacts on States by further assessing possible negative impacts, in case where the global modelling:

- .1 has identified a lack of data that impedes quantitative modelling of impacts on States;
- .2 in case of small-scale economies with a low-connectivity index to identify possible impacts on States, also taking into account import of essential goods, food security and/or disaster response, as appropriate; and
- .3 has identified relatively high impacts compared to other States/regions, providing for a limited number of routes and commodities complementary modelling;

24 Selected stakeholders' analysis should be representative of a sufficiently diverse range of States and interests, whilst keeping the scope of the work at a manageable level. At least one stakeholders' analysis should focus on countries with poor input data (e.g. SIDS and LDCs).

25 Member States and stakeholders should be invited to submit relevant illustrative case studies representative of broader trade conditions that might be shared across States, including developing countries, in particular SIDS and LDCs and countries remote from their export/import markets, which can contribute to a qualitative and quantitative analysis of impacts on certain sectors/commodities, especially for regions where there is a lack of data. The identification of relevant stakeholders may be done at a local, national, regional or global level.

### **Task 5 Identification of areas of missing data, quality assurance and quality control (QA/QC), uncertainty and sensitivity analyses and integration between various tasks**

#### *Identification of areas of missing data*

26 The comprehensive impact assessment should identify areas of missing data affecting the impact assessment, categorize their relevance (high, medium, low, contextual), and provide recommendations on how IMO could help address these data gaps.

#### *Quality assurance and quality control (QA/QC), uncertainty and sensitivity analysis*

27 The study team should carry out an internal quality assurance and quality control of the draft final comprehensive impact assessment.

28 Sufficient access to data, modelling tools and disaggregated results should be provided to external reviewers in order to ensure transparency and replicability of the work.

29 Uncertainty or likelihood analyses should be conducted for the overall comprehensive impact assessment, as well as sensitivity analysis to test the robustness of the overall results.

30 Following the internal QA/QC, the steering committee should oversee an external review of QA/QC issues consulting experts.

#### *Integration between various tasks*

31 The impact assessment should be conducted in an integrated manner, with coherent assumptions, sources of input data and analytical approaches being taken for each task. The results should be comparable. Duplication and overlapping of data should be avoided.

32 If there are notable differences between the conclusions of the different tasks, these differences should be identified, and which impact they will have on the assessment of the impacts on States. Material differences between different elements should be addressed in sensitivity analyses and/or scenario testing, so that the Committee can evaluate them.

### **Contract and implementation of the comprehensive impact assessment**

33 The Secretariat will be responsible for initiating the contracting, implementation of, and facilitating the process of conducting the comprehensive impact assessment.

34 The Secretariat is invited to involve UNCTAD in the conduct of the comprehensive impact assessments. Other UN agencies, UN regional commissions and relevant stakeholders may be consulted.

35 The Secretariat should organize expert workshops/webinars on the draft final comprehensive impact assessments ahead of its finalization, as appropriate.

36 Interested Member States and international organizations are invited to provide relevant information that may inform the comprehensive impact assessments through the Secretariat.

37 Member States and international organizations are invited to financially contribute to the comprehensive impact assessments by means of a donation to the GHG-TC Trust Fund.

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