

MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
78th session  
Agenda item 7

MEPC 78/7/27  
15 April 2022  
Original: ENGLISH  
Pre-session public release:

## REDUCTION OF GHG EMISSIONS FROM SHIPS

**IPCC AR6 *Climate Change 2022: Mitigation of Climate Change***

**Submitted by WWF, Pacific Environment and CSC**

### SUMMARY

<i>Executive summary:</i>	This document comments on document MEPC 78/7/18 (WWF et al.) and draws attention to the Intergovernmental Panel on Climate Change's (IPCC) publication <i>Mitigation of Climate Change</i> , the third report of the Sixth Assessment Cycle (AR6), and to the accompanying words of the UN Secretary-General, which add further impetus to the recommendations contained in document MEPC 78/7/18
<i>Strategic direction, if applicable:</i>	3
<i>Output:</i>	3.2, 3.3
<i>Action to be taken:</i>	17
<i>Related documents:</i>	MEPC 77/7/18, MEPC 77/7/3 and MEPC 78/7/18

### Introduction

1 This document comments on document MEPC 78/7/18 (WWF et al.) and is submitted in accordance with the provisions of paragraph 6.12.5 of the *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.2).

2 Document MEPC 78/7/18 draws attention to the Intergovernmental Panel on Climate Change's (IPCC) publication of the second of three working group reports published as part of the Sixth Assessment Cycle (AR6).<sup>1</sup> It proposes action to cut Black Carbon (BC) emissions from shipping in and near the Arctic; develop measures to reduce Black Carbon emissions from shipping globally; raise the levels of ambition with respect to short-term carbon intensity reduction measures; and revise climate targets to ensure full decarbonization of international shipping well before 2050, including intermediate absolute emission reduction targets.

<sup>1</sup> *Climate Change 2022 Impacts, Adaptation and Vulnerability*  
[https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_FinalDraft\\_FullReport.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FinalDraft_FullReport.pdf)

3 This document provides further evidence of the need for urgent actions, as identified in document MEPC 78/7/18, paragraph 15, on the basis of the publication of the IPCC's third working group report entitled *Climate Change 2022: Mitigation of Climate Change*,<sup>2</sup> and statements by the UN Secretary-General and the co-authors of the report.

4 On Monday, 4 April 2022, the UN Secretary-General António Guterres made a statement<sup>3</sup> on the launch of the third report of the IPCC 6th Assessment, telling the world:

"The jury has reached a verdict. And it is damning. This report of the Intergovernmental Panel on Climate Change is a litany of broken climate promises. It is a file of shame, cataloguing the empty pledges that put us firmly on track towards an unliveable world.

We are on a fast track to climate disaster. Major cities under water. Unprecedented heatwaves. Terrifying storms. Widespread water shortages. The extinction of a million species of plants and animals. This is not fiction or exaggeration. It is what science tells us will result from our current energy policies.

We are on a pathway to global warming of more than double the 1.5°C limit agreed in Paris. Some Government and business leaders are saying one thing, but doing another. Simply put, they are lying. And the results will be catastrophic. This is a climate emergency.

Climate scientists warn that we are already perilously close to tipping points that could lead to cascading and irreversible climate impacts. But, high-emitting Governments and corporations are not just turning a blind eye, they are adding fuel to the flames."

5 These words by the Secretary-General of the United Nations underpin the need for this Organization and all of its constituent Member States to take decisive and transformative climate action addressing all portions of the maritime sector both domestic and international.

## Arctic and Black Carbon

6 The *Mitigation of Climate Change* report confirms that reducing emissions of short-lived climate forcers (SLCF) is critical to meeting long-term climate goals and might also help to reduce the rate of climate change in the short term (see *Full Report* 3.3.2.2). Deep SLCF emission reductions will also reduce pressure on the remaining carbon budget for specific temperature goals, e.g. 1.5°C. Early and deep reductions of methane emissions and other short-lived warming agents like Black Carbon provide space for residual CO<sub>2</sub>-induced warming until the point of net-zero CO<sub>2</sub> emissions can be reached (see *Full Report* 3.5.1).

7 Chapter 10.6 of the *Full Report* also focuses on the need to decarbonize shipping, with subsection 10.6.3 focusing on the impacts of shipping in the Arctic. While the report recognizes that the acceleration of Arctic cryosphere melt and reduced sea ice will enable Arctic shipping, the report highlights that reduced sea ice will also reduce the surface albedo and ultimately result in amplified climate warming. This is further exacerbated by the fact that Black Carbon emissions from shipping in or near the Arctic will also contribute to reduced albedo and absorb more heat (see *Full Report* 10.6.3). The report also recognizes that while changing shipping routes from the Suez Canal to Arctic routes (the North-Eastern sea route)

---

<sup>2</sup> *Climate Change 2022: Mitigation of Climate Change*  
[https://report.ipcc.ch/ar6wg3/pdf/IPCC\\_AR6\\_WGIII\\_FinalDraft\\_FullReport.pdf](https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf)

<sup>3</sup> <https://youtu.be/2E9Lfkw27sg>

may reduce total emissions for a voyage, this will shift emissions from low to high latitudes, which adds complexity to the assessment of the climate impacts of Arctic shipping. Specifically, SLCFs may have a different impact on clouds, precipitation, and albedo depending on the local environment. Importantly, the report also acknowledges that shipping emissions outside of the Arctic can also affect the Arctic climate, and that changes within the Arctic may have global climate impacts.

8 In addition, the report recognizes the unique hazards and challenges of operating ships in the Arctic climate and environment and proposes a holistic view of synergies, trade-offs and co-benefits, with impacts on not only the physical climate, but also the local environment and ecosystems included in assessments. It also notes that the need to include Indigenous peoples' voices when shaping policies and governance of shipping activities in the High North is increasing.

### **Transformational needs in the transportation sector**

9 Reducing demand along with deploying low carbon technology is key to reducing emissions in transportation. Emissions from shipping continue to grow rapidly with transport-related emissions in developing regions of the world increasing more rapidly than in Europe or North America.

10 Increased efficiencies have been insufficient to limit the emissions from shipping, and current shipping climate mitigation goals fall far short of what would be required to achieve the temperature goal of the Paris Agreement. The executive summary of the *Mitigation of Climate Change* report recognizes that there is growing awareness of the need for demand management solutions combined with new technologies, along with the emerging options such as hydrogen-based fuels for shipping. Natural gas-based fuels will not allow shipping to meet stringent decarbonization goals.

11 The report also recognizes the increasing need for systemic infrastructure changes that enable behavioural modifications and reductions in demand for transport services that can in turn reduce energy demand. Changes in urban form, behaviour programmes, the circular economy, the shared economy and digitalization trends can support systemic changes that lead to reductions in demand for transport services or expand the use of more efficient transport modes (see *Technical Summary 5.3*).

12 The need for improvement of national and international governance structures to enable the deployment of low-carbon aviation and shipping fuels that support decarbonization of the transport sector is acknowledged.

13 The potential for zero-emission electricity and low-cost hydrogen from electrolysis powered by solar and wind, or hydrogen from other very low-emission sources, may reshape where energy- and emissions-intensive basic materials production is located, how value chains are organized, trade patterns, and what gets transported in international shipping.

14 Climate change impacts such as extremely high temperatures, intense rainfall leading to flooding, more intense winds and/or storms, and sea level rise can seriously impact transport infrastructure, including shipping and the wider supply chain.

### **Co-sponsors' commentary**

15 Document MEPC 78/8/18 drew attention to the words of one of the IPCC AR6 Working Group II Co-Chairs:

"The scientific evidence is unequivocal: climate change is a threat to human well-being and the health of the planet. Any further delay in concerted global action will miss a brief and rapidly closing window to secure a liveable future".

Less than a month further on, this sentiment was repeated in the words of the IPCC Working Group III report Co-Chair Jim Skea:<sup>4</sup>

"It's now or never, if we want to limit global warming to 1.5°C. Without immediate and deep emissions reductions across all sectors, it will be impossible."

While Co-Chair Hoesung Lee stated:

"We are at a crossroads. The decisions we make now can secure a liveable future. We have the tools and know-how required to limit warming."

This is reinforced by the words of the UN Secretary-General:

"Choices made by countries now will make or break the commitment to 1.5°C. A shift to renewables will mend our broken global energy mix and offer hope to millions of people suffering climate impacts today. Climate promises and plans must be turned into reality and action, now. It is time to stop burning our planet and start investing in the abundant renewable energy all around us."

16 Never before have such stark warnings been issued. With these words in mind, the co-sponsors urge the Organization and its Members to agree to:

- .1 immediate cuts to Black Carbon emissions from shipping in and near the Arctic, and urgent development of measures to reduce Black Carbon emissions from shipping globally;
- .2 revision of the levels of ambition in the recently agreed short-term carbon intensity reduction measures to include a 1.5°C-compatible improvement in the carbon intensity of ships; and
- .3 revision of its climate targets to ensure full decarbonization of international shipping well before 2050, with intermediate absolute emission reduction targets that provide a clear trajectory for the industry.

### **Action requested of the Committee**

17 The Committee is invited to note the information from the third working report and associated statements of the IPCC's Sixth Assessment Report provided in paragraphs 4 to 14, together with the co-sponsors views in paragraphs 15 and 16, and to respond appropriately by taking the action outlined in document MEPC 78/7/18 and repeated for ease of reference in paragraph 16 of this document.

---

<sup>4</sup> <https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/>