

MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
71st session  
Agenda item 16

MEPC 71/INF.36  
28 April 2017  
ENGLISH ONLY

## ANY OTHER BUSINESS

### Alternatives to heavy fuel oil use in the Arctic: Economic and environmental tradeoffs

Submitted by CSC, FOEI,  
Pacific Environment and WWF<sup>1</sup>

#### SUMMARY

*Executive summary:* This document summarizes the key findings of a new report on the economic and environmental trade-offs of using alternative fuels (distillate and LNG) instead of heavy fuel oil in the Arctic

*Strategic direction:* 7.1, 7.2, 7.3

*High-level action:* 7.1.2, 7.2.2, 7.3.1

*Output:* No related provisions

*Action to be taken:* Paragraph 6

*Related documents:* MEPC 69/20/1, MEPC 69/21; MEPC 70/17/4, MEPC 70/17/9, MEPC 70/17/10, MEPC 70/17/11, MEPC 70/18; MEPC 71/14/4 and MEPC 71/16/4

#### Introduction

1 At MEPC 69, the Committee considered document MEPC 69/20/1, which identified the hazards and risks posed by heavy fuel oil (HFO) to the Arctic environment, and invited interested Member Governments and international organizations to submit proposals to a future session for a new output to address this matter.<sup>2</sup> At MEPC 70, the Committee considered four submissions relevant to the use of HFO in Arctic waters, including: (1) MEPC 70/17/4, submitted by the co-sponsors; (2) MEPC 70/17/10, submitted by FOEI, WWF and Pacific Environment; (3) MEPC 70/17/9, submitted by the Russian Federation; and (4) MEPC 70/17/11, submitted by Canada and the United States. In the ensuing discussion at MEPC 70, several delegations stressed the importance of examining the risks of HFO in the

<sup>1</sup> The International Council on Clean Transportation and the Ocean Conservancy helped prepare this document.

<sup>2</sup> Document MEPC 69/21 Report of the Marine Environment Protection Committee on its sixty-ninth session, paragraphs 20.3 to 20.4.

Arctic and the need for further discussion. As a result, the Committee invited Member States and other stakeholders to submit relevant information to future sessions.<sup>3</sup> Document MEPC 71/14/4, submitted by Canada, Finland, Germany, Iceland, the Netherlands, Norway and the United States, proposes a new output in the Committee's work programme to develop measures to reduce risks of use and carriage of heavy fuel oil as fuel by ships in Arctic waters.

2 The threats posed to the Arctic by the use of HFO as marine fuel have been elaborated in documents MEPC 69/20/1 and MEPC 70/17/4. For example, HFO is virtually impossible to clean up in the event of a spill compared to alternative fuels such as distillates and liquefied natural gas (LNG). Document MEPC 71/16/4 highlights recent developments regarding the future of Arctic shipping including the comparative costs of HFO versus alternative fuels. This document summarizes the key findings of a new report by the International Council on Clean Transportation (ICCT) on the economic and environmental trade-offs of using alternative fuels (distillate and LNG) instead of HFO in the Arctic.

### **Alternatives to heavy fuel oil use in the Arctic**

3 HFO represented 57% of fuel used and more than 75% of the mass of bunker fuel on board ships in the Arctic in 2015.<sup>4</sup> Given the continued use of HFO in the Arctic, the economic and environmental trade-offs of switching to alternative fuels such as distillate and LNG should be examined. A new report by the ICCT compares the economic and environmental trade-offs of switching from HFO to two alternative fuels, namely, distillate fuel and LNG, in the Arctic.<sup>5</sup>

4 The study finds that while LNG would eliminate the fuel oil spill risk in the Arctic, switching existing ships from HFO to LNG may be challenging in the short term because of the costs associated with converting to operate on LNG. Switching from HFO to cleaner distillate fuels, however, is more feasible. It would cost \$9 million to \$11 million per annum in constant 2015 U.S. dollars to switch all the ships in the Arctic fleet that use HFO, other residual fuels, and residual fuel blends to cleaner distillate fuels in 2020 and beyond. This would represent a 4% increase in fleet-wide fuel costs for Arctic ships and avoid the potential costs of cleaning up an HFO spill, which have routinely exceeded \$100 million.

5 The study also concludes that prohibiting any petroleum-based fuel oil would provide the greatest long-term protection from the environmental and economic risks of fuel oil spills and black carbon emissions. However, prohibiting the use and carriage of HFO (excluding carriage as cargo), desulfurized residual fuel, or residual fuel blends would offer a short-term solution that would immediately reduce the risks associated with the use and carriage of HFO as a marine fuel.

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

6 The Committee is invited to note the information provided in this document. The full report "Alternatives to heavy fuel oil in the Arctic: Economic and environmental tradeoffs," is available on the ICCT's website: <http://www.theicct.org/alternatives-to-Arctic-HFO-use-economic-and-environmental-tradeoffs>

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<sup>3</sup> MEPC 70/18 Report of the Marine Environment Protection Committee on its seventieth session, paragraph 17.20.

<sup>4</sup> According to ICCT figures, as presented in MEPC 71/INF.37, submitted by the co-sponsors.

<sup>5</sup> Roy, B. and Comer, B. (2017). *Alternatives to heavy fuel oil in the Arctic: Economic and environmental tradeoffs*. The International Council on Clean Transportation. Available at: <http://www.theicct.org/alternatives-to-Arctic-HFO-use-economic-and-environmental-tradeoffs>