



MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
60th session  
Agenda item 4

MEPC 60/4/11  
14 January 2010  
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## PREVENTION OF AIR POLLUTION FROM SHIPS

### Information on the prospect of energy efficiency improvement for new ships

Submitted by the European Association of Internal Combustion Engine Manufacturers  
(EUROMOT)

#### SUMMARY

<b><i>Executive summary:</i></b>	This submission is intended to facilitate discussions on the impact of the Selective Catalytic Reduction (SCR) operation on the Energy Efficiency Design Index (EEDI) and elaborates on adjusting elements of the EEDI, such as correction factors
<b><i>Strategic direction:</i></b>	7.3
<b><i>High-level action:</i></b>	7.3.1
<b><i>Planned output:</i></b>	7.3.1.3
<b><i>Action to be taken:</i></b>	Paragraph 6
<b><i>Related documents:</i></b>	MEPC 59/4/2 and MEPC 59/24/Add.1

1 This document provides information on the prospect of energy efficiency improvement for new ships based on the use of the Energy Efficiency Design Index (EEDI) baselines for different ship types. The EEDI baselines are considered as a reference benchmark for energy efficiency design and construction for new ships and therefore the determination of baselines is particularly important.

2 The attained new ship EEDI may be calculated by the formula given in document MEPC 59/4/2, annex 2. Of major impact are the values for specific fuel oil consumption for main (propulsion) engines: SFCME, and for auxiliary engines: SFCAE.

3 The formula contains a correction factor,  $f_j$ , to account for ship-specific design elements. The  $f_j$  for ice-classed ships is determined whereas other specific design elements have not yet been considered.

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4 Exhaust gas after-treatment by an SCR may allow the adjustment of the engine to a lower specific fuel oil consumption compared to an engine which complies to the NO<sub>x</sub> limits by using in-engine measures only. Consequently, the EEDI of a vessel driven by an SCR-equipped engine would be lower, probably by up to 5-10 per cent.

5 The SCR needs an additional agent, usually urea. The GHG emission from production of the reducing agent is not yet considered by a correction factor for the EEDI, e.g., like the *f<sub>j</sub>* for ice-classed ships, but seems to be necessary for a realistic benchmark.

**Action requested of the Committee**

6 The Committee is invited to consider the above information and take action as appropriate.

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