

MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
82nd session  
Agenda item 6

MEPC 82/INF.3  
12 June 2024  
ENGLISH ONLY  
Pre-session public release:

## ENERGY EFFICIENCY OF SHIPS

### EEDI database – Review of status of technological development (Regulation 24.6 of MARPOL Annex VI)

#### Note by the Secretariat

#### SUMMARY

*Executive summary:* This document provides the latest summary of data and graphical representations of the information in the EEDI database.

*Strategic direction,  
if applicable:* 3

*Output:* 3.6

*Action to be taken:* Paragraph 10

*Related document:* MEPC 81/INF.2

#### Background

1 In accordance with regulation 24.6 of MARPOL Annex VI, at the beginning of phase 1 (1 January 2015 to 31 December 2019) and at the midpoint of phase 2 (1 January 2020 to 31 March 2022 or to 31 December 2024, depending on the ship type), the Organization shall review the status of technological developments and, if necessary, amend the time periods, the EEDI reference line parameters for relevant ship types and the reduction rates set out in regulation 24.

2 MEPC 66 agreed to the minimum data needed to support the review (MEPC 66/21, paragraph 4.53), and accordingly the EEDI database currently includes the following data to support the review of the status of technological development under regulation 24.6 of MARPOL Annex VI:

- .1 ship identification number (IMO Secretariat use only);
- .2 ship type;
- .3 capacity of ship (GT/DWT, as appropriate);
- .4 dimensional parameters (length between perpendiculars ( $L_{pp}$ ), breadth ( $B_s$ ) and draught);

- .5 year of delivery;
- .6 applicable phase;
- .7 required EEDI;
- .8 attained EEDI;
- .9 ship speed ( $V_{ref}$ ) and power of main engine(s) ( $P_{ME}$ );
- .10 use of innovative energy efficiency technologies;
- .11 common commercial size reference;
- .12 type of fuel used in the calculation of the attained EEDI, and for dual-fuel engines, the  $f_{DFgas}$  ratio;
- .13 ice class designation; and
- .14 short statement describing the principal design elements or changes employed to achieve the attained EEDI (as appropriate), if available.

3 MEPC 71, having considered document MEPC 71/5/5 (Secretariat), agreed to the reporting of the EEDI information in the EEDI database to future sessions of the Committee, as follows:

- .1 the information should be posted in the MARPOL Annex VI module of GISIS; and
- .2 a summary and graphical representations of the EEDI information submitted should be presented to future sessions of the Committee as an information document.

4 MEPC 75 adopted, by means of resolution MEPC.324(75), amendments (entry into force on 1 April 2022) to:

- .1 regulation 22.3 of MARPOL Annex VI requiring that for each ship subject to regulation 24 of MARPOL Annex VI, the Administration or any organization duly authorized by it shall report to the Organization the required and attained EEDI values and relevant information, taking into account the guidelines developed by the Organization, via electronic communication:
  - .1 within seven months of completing the survey required under regulation 5.4 of MARPOL Annex VI; or
  - .2 within seven months following 1 April 2022 for a ship delivered prior to 1 April 2022; and
- .2 regulation 24 of MARPOL Annex VI:
  - .1 bringing forward the date of application of phase 3 for several ship types from 1 January 2025 to 1 January 2022, and consequently also amending phase 2 from 1 January 2020 to 31 March 2022 or to 31 December 2024, depending on the ship type; and

- .2 modifying the reference line for bulk carriers beyond 279,000 DWT to be represented by a horizontal line; and for containerships, the reduction factors for phase 3 to be enhanced according to the deadweight.

5 Following the entry into force of the above-mentioned amendments on 1 April 2022, it is now mandatory for Administrations or organizations duly authorized by them to report the relevant EEDI values to the Organization. Member States which do not have existing arrangements with IACS on reporting EEDI values to the Secretariat should use email address [eedi@imo.org](mailto:eedi@imo.org) for data submissions.

6 MEPC 81, having noted document MEPC 81/INF.2 (Secretariat), providing summaries of data and graphical representations for the 8,986 ships contained in the EEDI database on 3 October 2023, requested the Secretariat to continue submitting EEDI information to future sessions.

### Summary of the information in the EEDI database

7 As of 10 May 2024, the Secretariat received data for 9,473 ships in total (compared to 8,986 ships by 3 October 2023 as reported in document MEPC 81/INF.2) in the EEDI database. Table 1 shows the number of ships for each ship type category in the database.

**Table 1: Total number of reports by EEDI ship type and phase**

Applicable Phase	Non-mandatory	0	1	2	3	Total
Bulk carrier	161	1,744	1,462	488	3	<b>3,858</b>
Gas carrier	30	243	175	102	1	<b>551</b>
Tanker	212	882	1,337	286	19	<b>2,736</b>
Containership	142	376	595	271	22	<b>1,406</b>
General cargo ship	25	85	256	87	7	<b>460</b>
Refrigerated cargo carrier	-	9	20	11	-	<b>40</b>
Combination carrier	-	-	5	-	-	<b>5</b>
LNG carrier	3	2	125	27	-	<b>157</b>
Ro-ro cargo ship (vehicle carrier)	6	49	33	11	-	<b>99</b>
Ro-ro cargo ship	7	10	37	7	-	<b>61</b>
Ro-ro passenger ship	-	4	30	1	-	<b>35</b>
Cruise passenger ship having non-conventional propulsion	2	-	49	13	1	<b>65</b>
<b>Total</b>	<b>588</b>	<b>3,404</b>	<b>4,124</b>	<b>1,302</b>	<b>55</b>	<b>9,473</b>

8 The amendments to the *2022 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships*, adopted by resolution MEPC.364(79), include the following new data to support the review of the status of technological development under regulation 24.6 of MARPOL Annex VI:

- .1 common commercial size reference, if available;
- .2 short statement describing the principal design elements or changes employed to achieve the attained EEDI (as appropriate), if available;

- .3 type of fuel used in the calculation of the attained EEDI, and for dual-fuel engines, the  $f_{DFgas}$  ratio; and
- .4 ice class designation, if applicable.

9 Regarding the additional data specified in paragraph 9, the new information has been reported to the Secretariat, but only a handful of ships have included information beyond fuel type; several other submitters did not submit the new information. The new fields are included in the EEDI database posted in the MARPOL Annex VI module.

**Action requested of the Committee**

10 The Committee is invited to note the information provided in this document and the annex, as also posted in the MARPOL Annex VI module of GISIS.

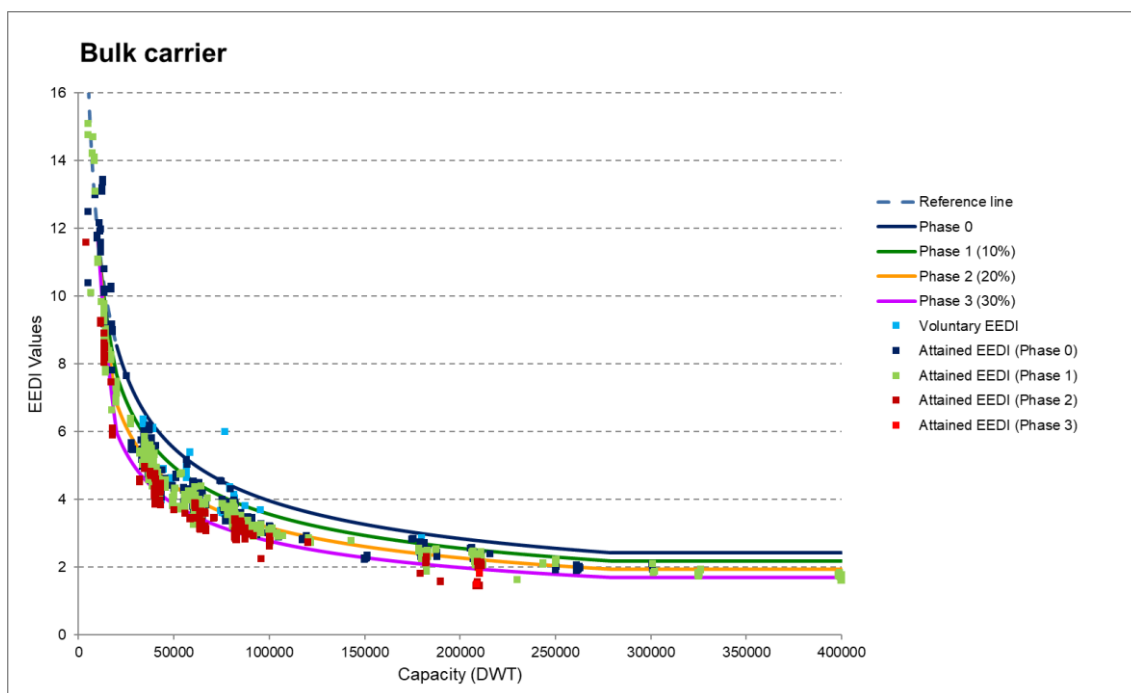
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ANNEX

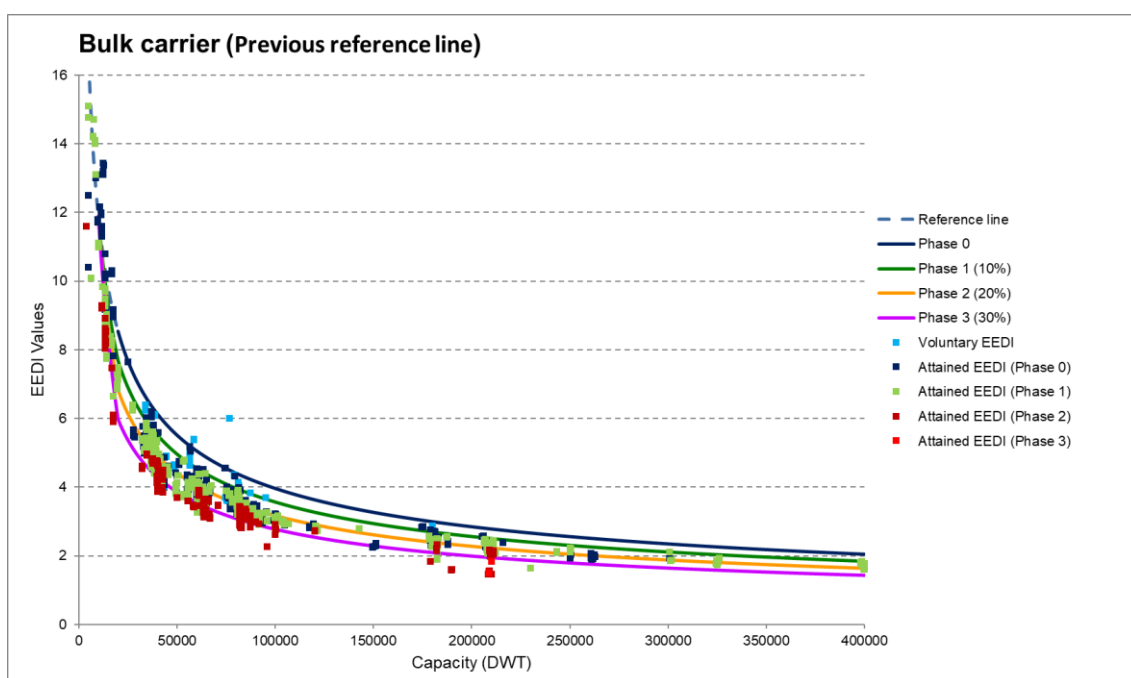
EEDI DATABASE – GRAPHICAL REPRESENTATIONS OF THE DATA PROVIDED

Figures 1 and 2: EEDI database for bulk carriers

(3,858 ships: 161 ships for non-mandatory, 1,744 ships for Phase 0, 1,462 ships for Phase 1, 488 ships for Phase 2 and 3 ships for Phase 3)

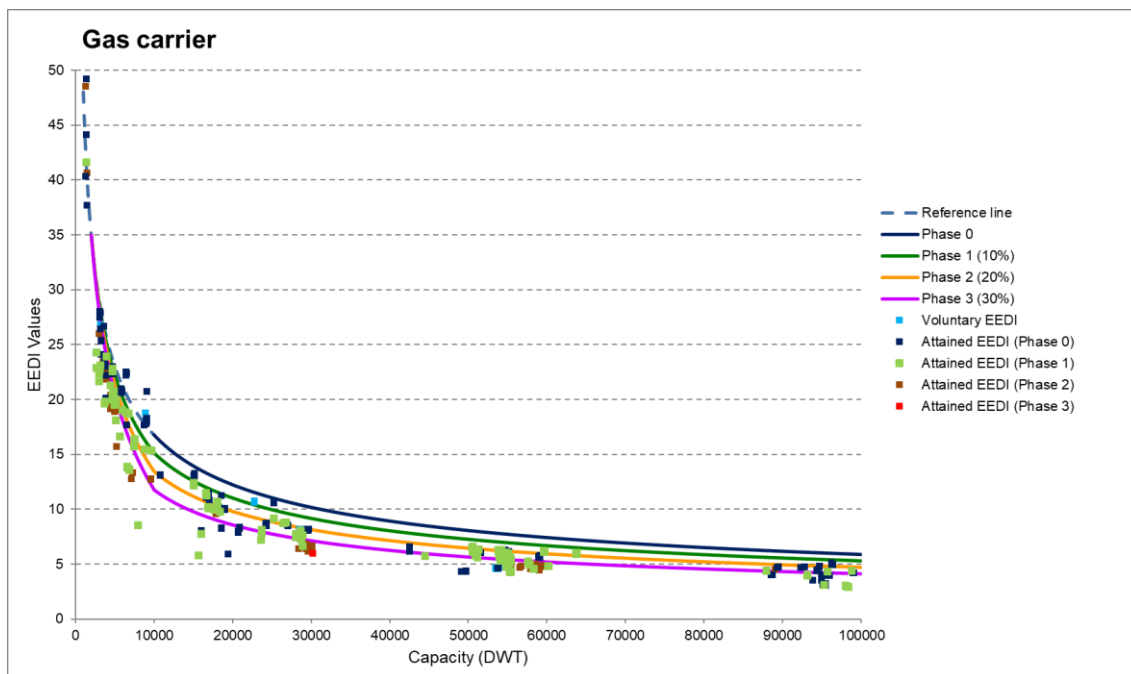


The previous reference line before the adoption of resolution MEPC.324(75), which entered into force on 1 April 2022, is shown below for reference:



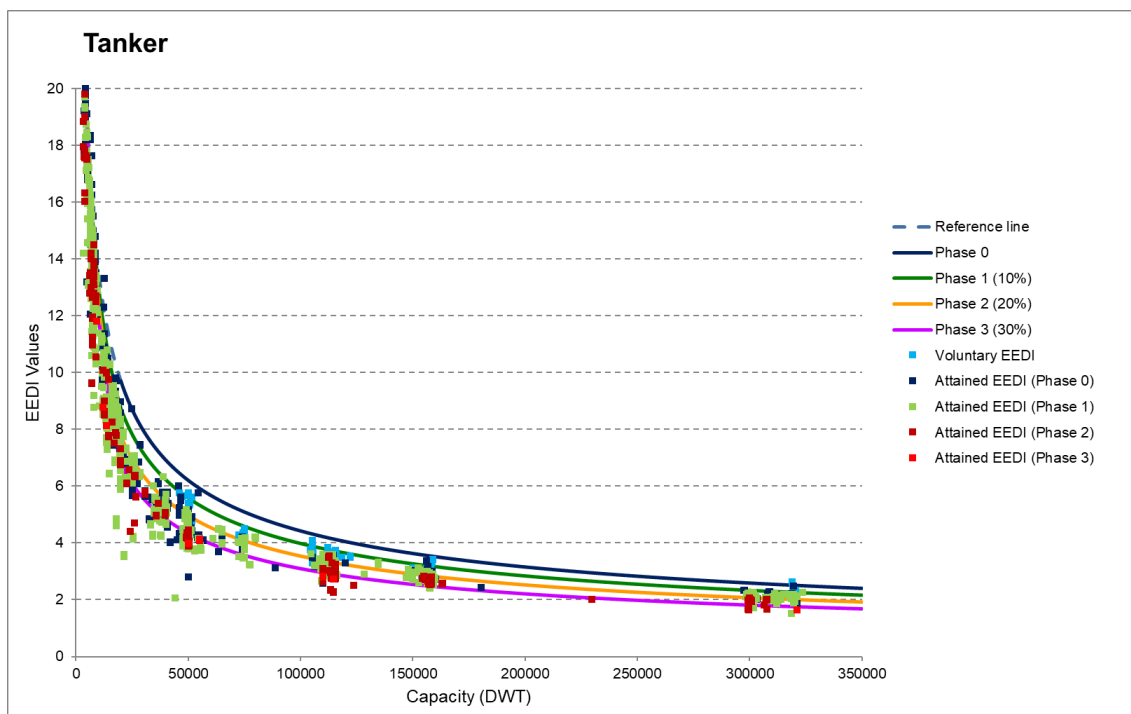
**Figure 3: EEDI database for gas carriers**

(551 ships: 30 ships for non-mandatory, 243 ships for Phase 0, 175 ships for Phase 1, 102 ships for Phase 2 and 1 ship for Phase 3)



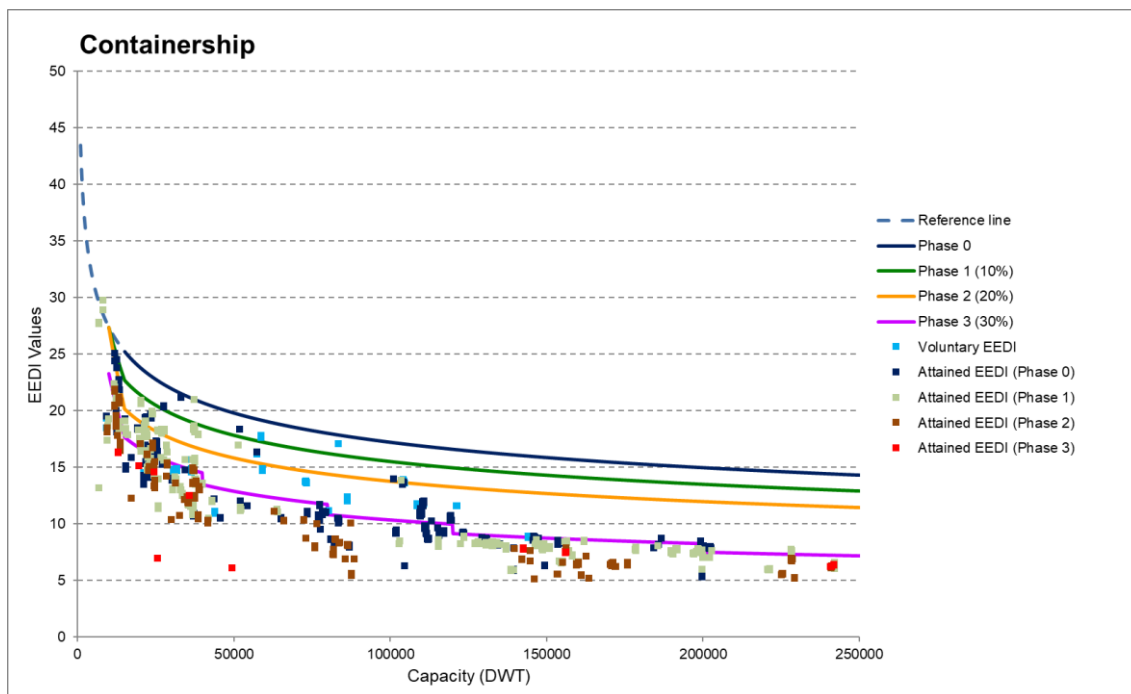
**Figure 4: EEDI database for tankers**

(2,736 ships: 212 ships for non-mandatory, 882 ships for Phase 0, 1,337 ships for Phase 1, 284 ships for Phase 2 and 21 ships for Phase 3)

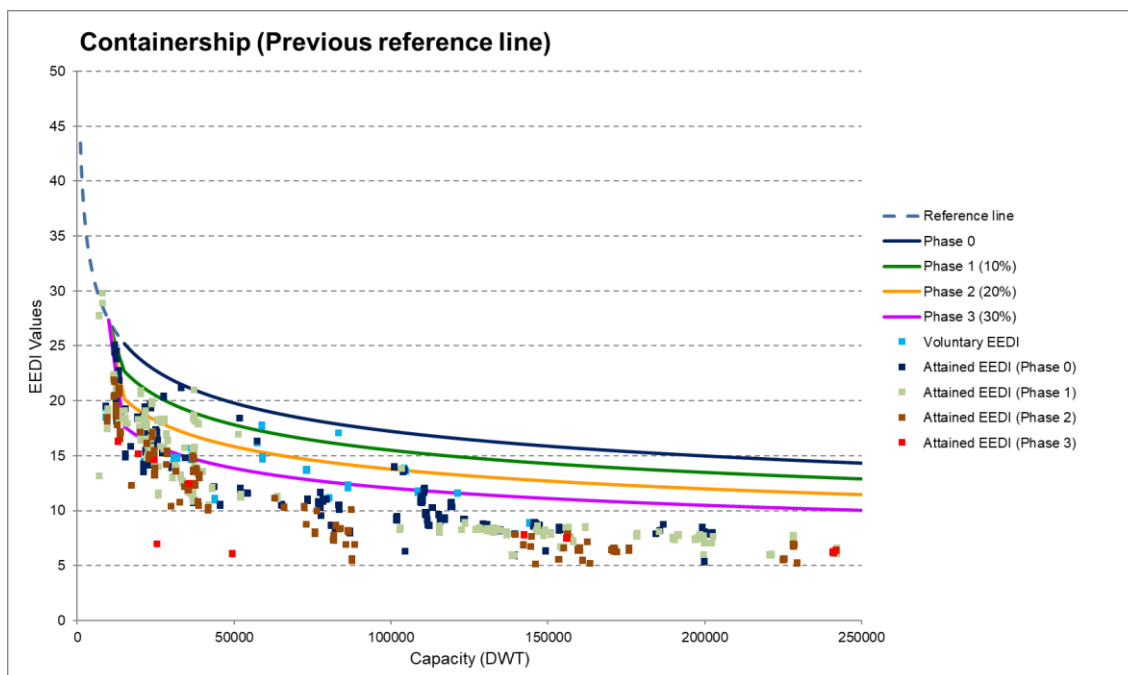


**Figures 5 and 6: EEDI database for containerships**

(1,406 ships: 142 ships for non-mandatory, 376 ships for Phase 0, 595 ships for Phase 1, 271 ships for Phase 2 and 22 ships for Phase 3)

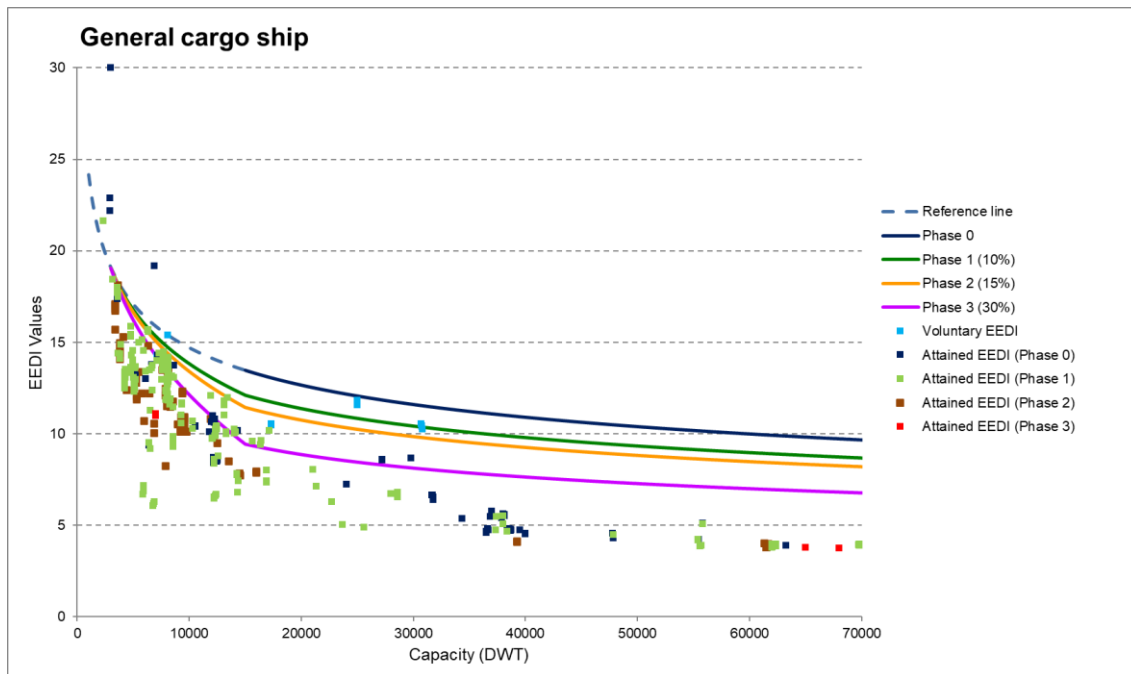


The previous reference line before the adoption of resolution MEPC.324(75), which entered into force on 1 April 2022, is shown below for reference:



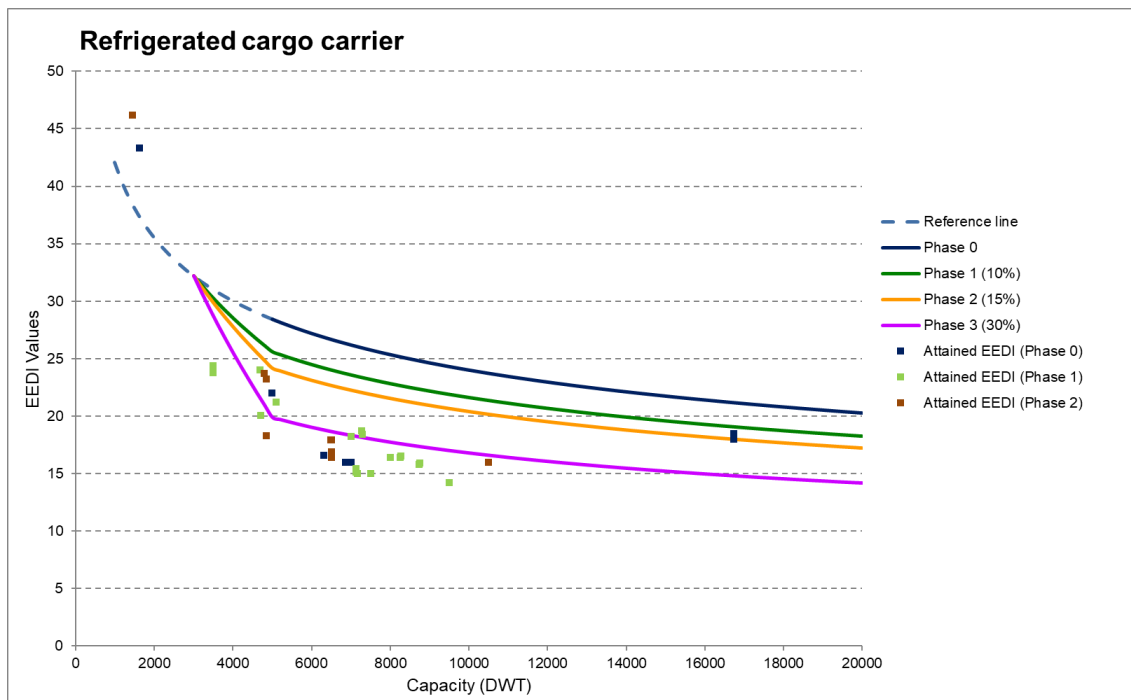
**Figure 7: EEDI database for general cargo ships**

(460 ships: 25 ships for non-mandatory, 85 ships for Phase 0, 256 ships for Phase 1, 87 ships for Phase 2 and 7 ship for Phase 3)



**Figure 8: EEDI database for refrigerated cargo carriers**

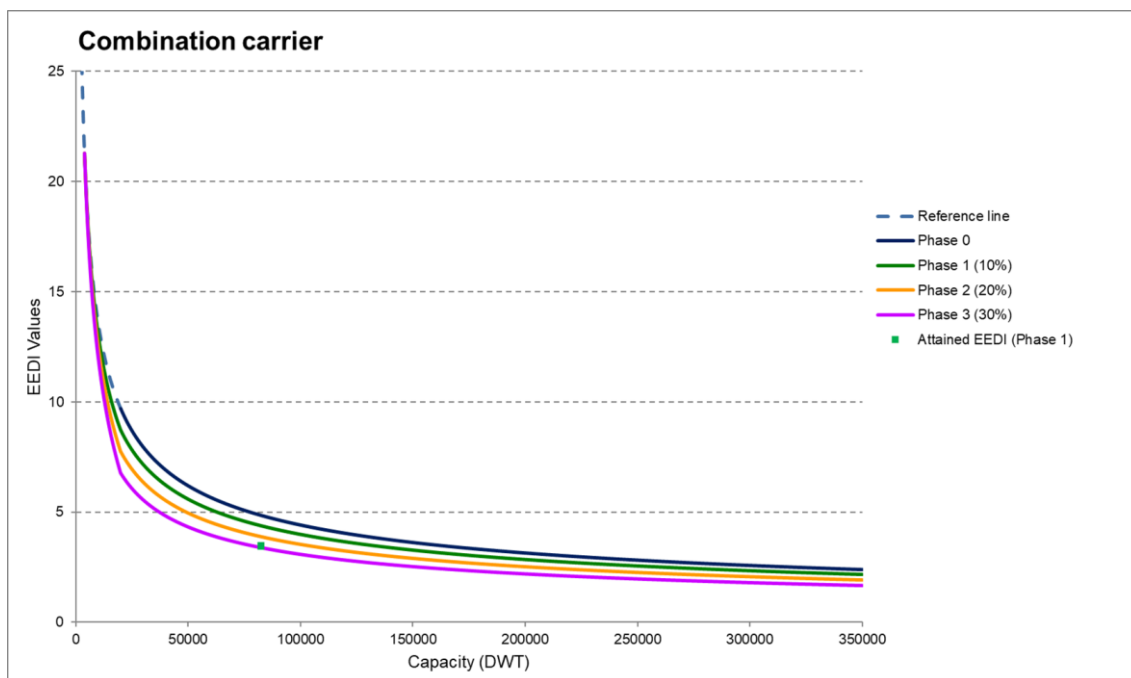
(40 ships: 9 ships for Phase 0, 20 ships for Phase 1 and 11 ships for Phase 2)





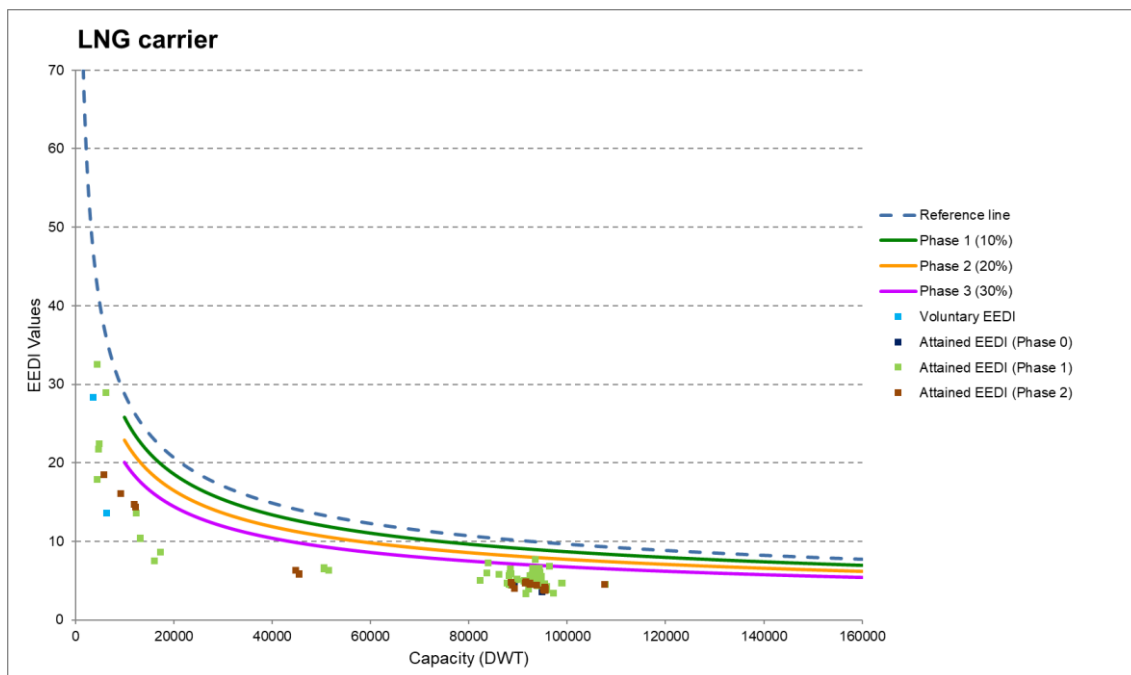
**Figure 9: EEDI database for combination carriers**

(5 ships: 5 ships for Phase 1)



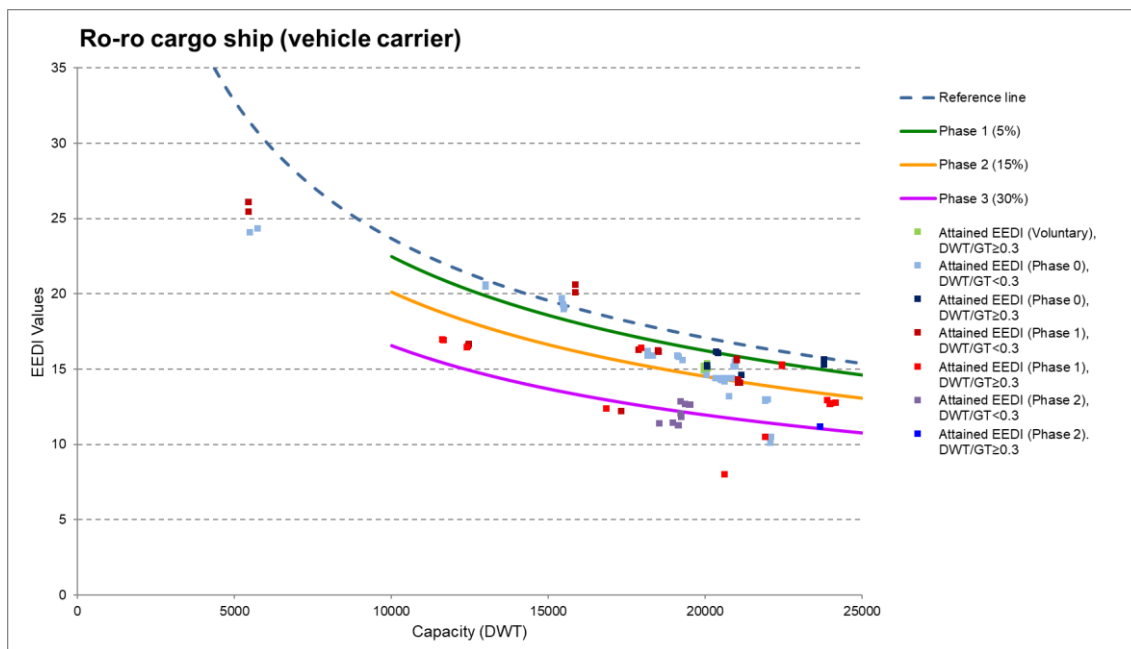
**Figure 10: EEDI database for LNG carriers**

(157 ships: 3 ships for non-mandatory, 2 ships for Phase 0, 125 ships for Phase 1 and 27 ships for Phase 2)



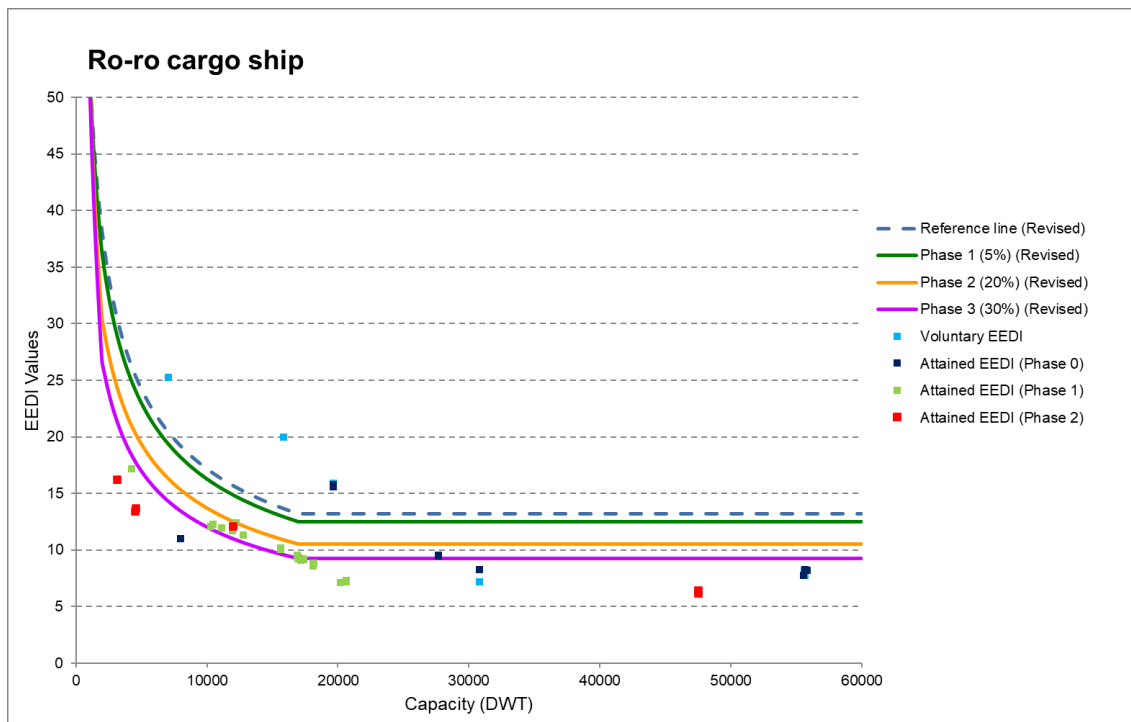
**Figure 11: EEDI database for ro-ro cargo ships (vehicle carriers)**

(99 ships: 6 ships for non-mandatory, 49 ships for Phase 0, 33 ships for Phase 1 and 11 ships for Phase 2)

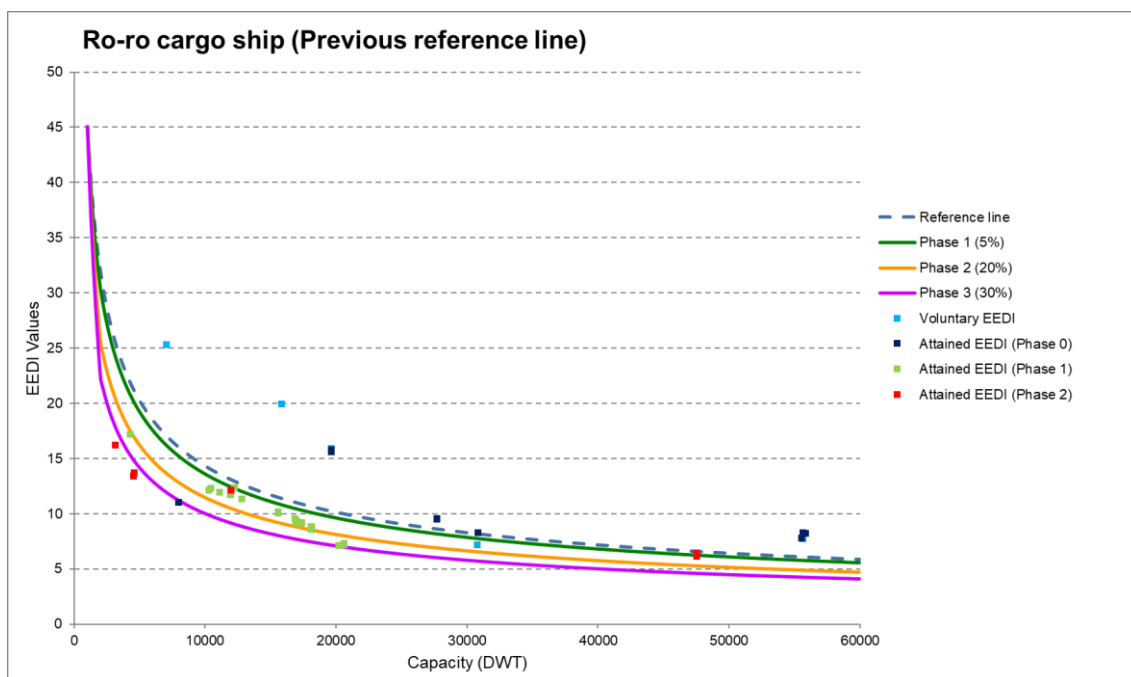


**Figures 12 and 13: EEDI database for ro-ro cargo ships**

(61 ships: 7 ships for non-mandatory, 10 ships for Phase 0, 37 ships for Phase 1 and 7 ships for Phase 2)

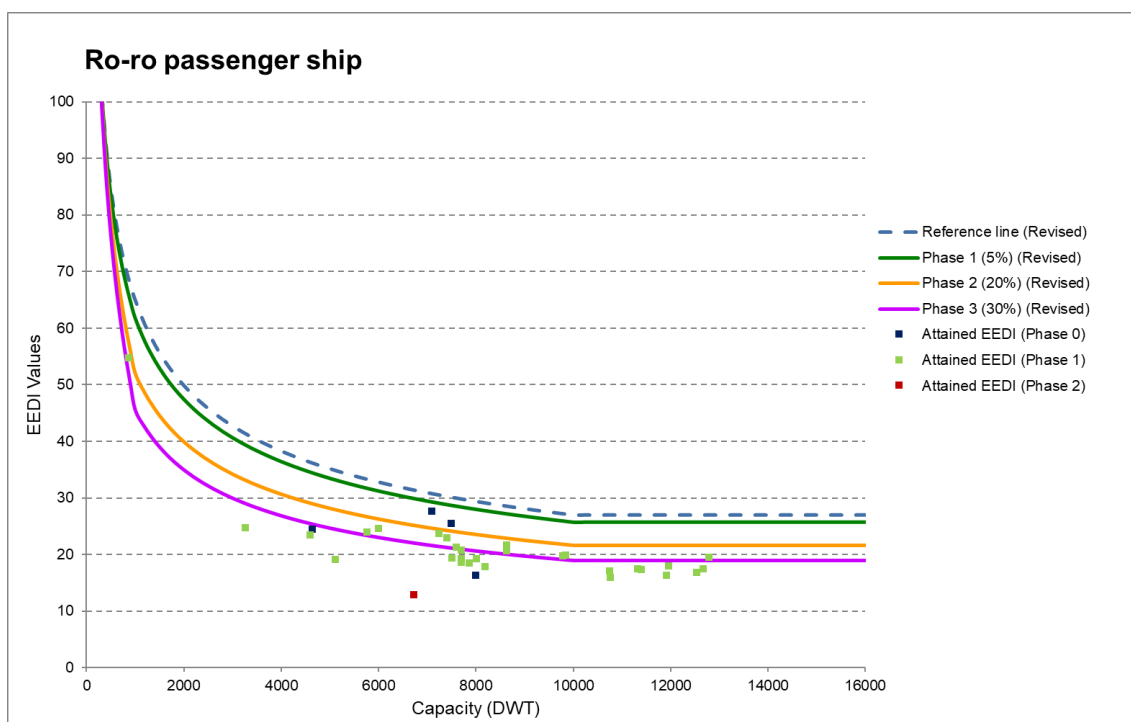


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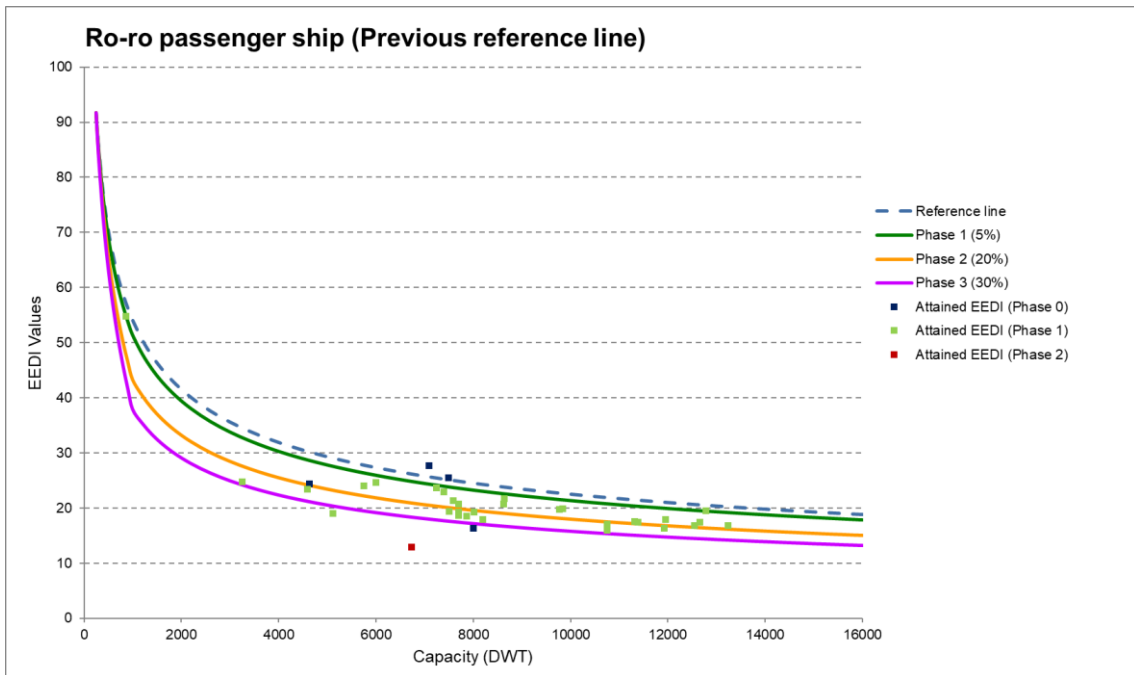


Figures 14 and 15: EEDI database for ro-ro passenger ships

(35 ships: 4 ships for Phase 0, 30 ships for Phase 1 and 1 ship for Phase 2)



The previous reference line is shown below:



**Figure 16: EEDI database for cruise passenger ships with non-conventional propulsion**

(65 ships: 2 ships for non-mandatory, 49 ships for Phase 1, 13 ships for Phase 2 and 1 ship for Phase 3)

