

MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
82nd session  
Agenda item 6

MEPC 82/INF.38  
26 July 2024  
ENGLISH ONLY  
Pre-session public release:

## ENERGY EFFICIENCY OF SHIPS

### Impact of idle time on the Carbon Intensity Indicator – BV analysis

Submitted by INTERCARGO

#### SUMMARY

*Executive summary:* This document provides information on a study carried out by BV (Bureau Veritas), on behalf of INTERCARGO, on the impact of idle time on the Carbon Intensity Indicator (CII). The document is supplementary to document MEPC 82/6/27 (INTERCARGO).

*Strategic direction, if applicable:* 3

*Output:* 3.2

*Action to be taken:* 3

*Related documents:* MEPC/6/27 and MEPC 82/INF.39

#### Introduction

1 Document MEPC 82/6/27 (INTERCARGO) provides information on a project carried out between INTERCARGO, ABS, BV and DNV. The project analysed the impact of idle time on the attained Carbon Intensity Indicator (CII).

2 This document and its annex contain the analysis and findings of the work carried out by BV analysing the 2022 IMO DCS data of 771 bulk carriers.

#### Action requested of the Committee

3 The Committee is invited to note the information provided in this document and its annex.

\*\*\*



## ANNEX

### IMPACT OF IDLE TIME ON THE CII RATING ANALYSIS BY BV

#### Introduction

1 INTERCARGO with three Classification Societies carried out work to assess the increase of the attained CII due to idle emissions (such as emissions at the port, at anchorage or during drydock).

2 BV has analysed the available verified IMO DCS database for the year 2022 and the findings are presented in this annex.

#### Methodology

3 BV analysed the 2022 verified IMO DCS Data, for a total of 771 Bulk carriers

4 The vessels were assigned in six segments based on their size (Handysize, Supramax/Ultramax, Panamax/Kamsarmax, Minicapes/Capes, Newcastlemax and VLOC) as per table 1.

**Table 1: Number of ships per size segment**

Segment	DWT range	No. of ships
Handysize	0 – 50,000 DWT	149
Supramax	>50,000 – 65,000 DWT	268
Panamax	>65,000 – 90,000 DWT	203
Capesize	>90,000 – 190,000 DWT	118
Newcastlemax	>190,000 – 220,000 DWT	33
VLOC	> 220,000 DWT	No data
Total		771

5 Idle time covers all time that the ship is not at sea under way.

$$Idle\ time\ [days] = \frac{365 \times 24 - Hours\ Underway}{24}$$

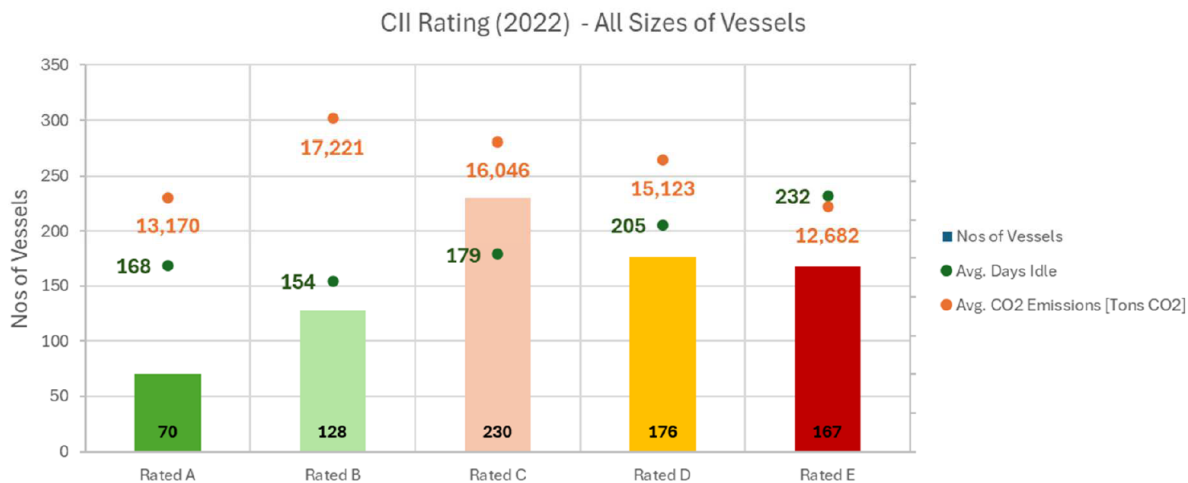
6 For each segment the vessels were grouped as per their 2022 CII rating (A, B, C, D and E) and the average idle time (days), and emissions (MT) per rating group were calculated

#### Analysis

7 The number of vessels, the average idle time and the average CO<sub>2</sub> emissions within each CII rating band were calculated and presented in figures 1 to 6 below.

*CII Ratings – All Sizes of Vessels*

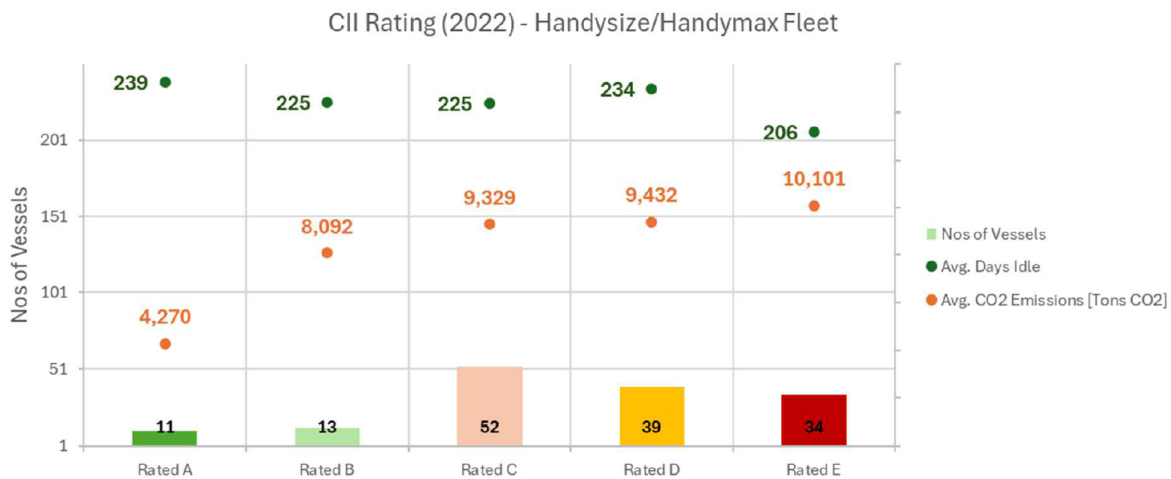
8 In figure 1 the CII rating for all of the 771 bulk carriers is shown with the number of vessels the average idle time and the average CO<sub>2</sub> emissions within each CII rating band.



**Figure 1: Rating distribution, average idle time and emissions for all bulk carrier sizes**

*CII Ratings – Handysize/Handymax fleet*

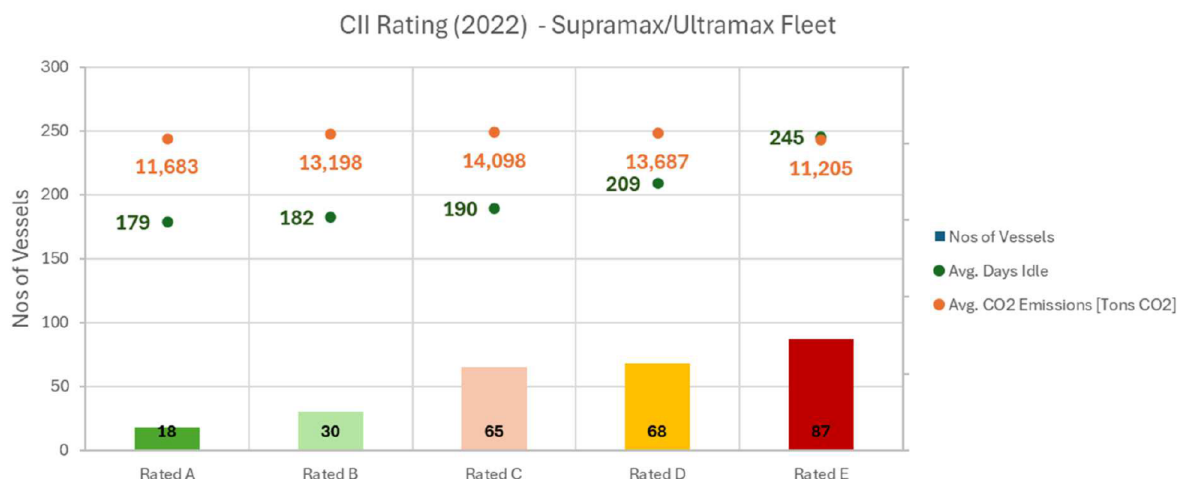
9 Figure 2 shows the CII rating for 149 bulk carriers with a DWT range of ≤ 50,000, with the number of ships for each rating and the average idle time for each rating.



**Figure 2: Rating distribution, average idle time and emissions for bulk carrier sizes DWT range: ≤ 50,000**

*CII Ratings – Supramax/Ultramax fleet*

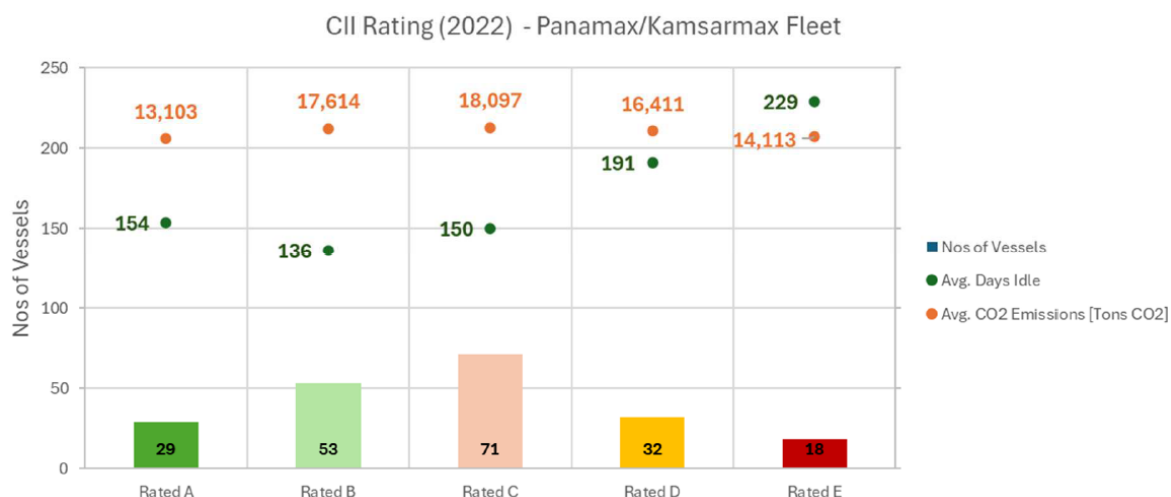
10 Figure 3 below shows the CII rating for 268 bulk carriers with a DWT range from >50,000 up to ≤65,000, with the number of ships for each rating and the average idle time for each rating.



**Figure 3: Rating distribution, average idle time and emissions for bulk carrier sizes DWT range: >50,000 up to ≤65,000**

*CII Ratings – Panamax/Kamsarmax fleet*

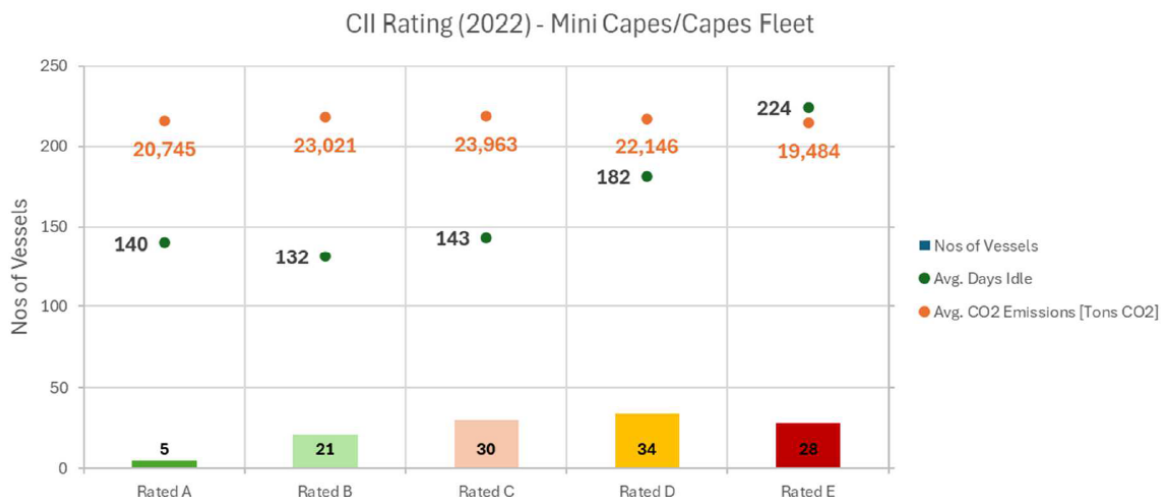
11 Figure 4 below shows the CII rating for 203 bulk carriers with a DWT range from >65,000 up to ≤90,000, with the number of ships for each rating and the average idle time for each rating.



**Figure 4: Rating distribution, average idle time and emissions for bulk carrier sizes DWT range: >65,000 up to ≤90,000**

*CII Ratings – Mini Capes/Capes fleet*

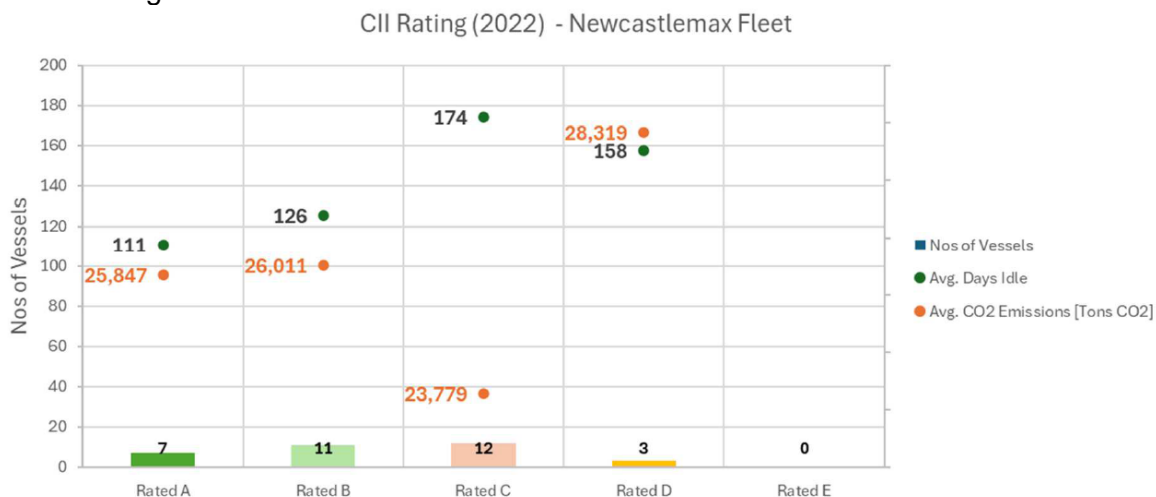
12 Figure 5 shows the CII rating for 118 bulk carriers with a DWT range from >90,000 up to ≤190,000, with the number of ships for each rating and the average idle time for each rating.



**Figure 5: Rating distribution, average idle time and emissions for bulk carrier sizes DWT range: >90,000 up to ≤190,000**

*CII Ratings – Newcastlemax fleet*

13 Figure 6 below shows the CII rating for 33 bulk carriers with a DWT range of from >190,000 up to ≤220,000, with the number of ships for each rating and the average idle time for each rating.



**Figure 6: Rating distribution, average idle time and emissions for bulk carrier sizes DWT range: of 191,000 - ≤220,000**

## High-level findings

14 Based on the findings illustrated in Figures 1 to 6, the following insights can be derived:

- .1 for most segments there is a clear correlation between idle time and the CII rating with D and E ratings generally attributed to increased idle time;
  - .2 across all segments D- and E-rated ships have reduced average annual emissions compared to the ships that are B- and C-rated;
  - .3 handy-sized ships have significant idle time compared to the other bulk carrier segments but there is no clear relation identified between the rating and the idle time. The CII ratings for this size do worsen as the average total emissions increase;
  - .4 with regard to the Supramax and Ultramax fleet, ships are being negatively impacted due to increased idle time. This size ships with an E rating have less total average emissions than the A, B, C and D-rated ships;
  - .5 Panamax/Kamsarmax ships are also being negatively impacted due to increased idle time. Similar to Supramax and Ultramax fleet the E-rated ships of this size have less average total emissions than the ships with ratings of B, C and D;
  - .6 for Minicapes/Capes it is also observed that increased idle time is directly related to a rating of D or E. Similar to points 4 and 5 above the E-rated ships of this size have less average total emissions than the ships with ratings of A, B, C and D; and
  - .7 the conclusions are not so clear for the Newcastlemax-sized bulk carriers although the ships rated A and B in this category have the least amount of idle time.
-