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ENERGY EFFICIENCY OF SHIPS

Report of fuel oil consumption data submitted to the IMO Ship Fuel Oil Consumption Database in GISIS (Reporting year: 2024)

Note by the Secretariat

SUMMARY

<i>Executive summary:</i>	This document provides the report of the fuel oil consumption data for 2024 submitted to the IMO Ship Fuel Oil Consumption Database in GISIS, in accordance with regulation 27 of MARPOL Annex VI and the <i>2022 Guidelines for the development and management of the IMO Ship Fuel Oil Consumption Database</i> (resolution MEPC.349(78)).
<i>Strategic direction, if applicable:</i>	3
<i>Output:</i>	3.7
<i>Action to be taken:</i>	Paragraph 14
<i>Related documents:</i>	MEPC 68/INF.24/Rev.1; MEPC 70/18; MEPC 71/17; MEPC 76/6/1; MEPC 77/6/1; MEPC 79/6/1; MEPC 81/6; MEPC 82/6/38; resolutions MEPC.278(70), MEPC.346(78), MEPC.349(78) and MEPC.364(79), and MEPC.1/Circ.913

Background

1 In accordance with regulation 27.3 of MARPOL Annex VI, except as provided for in paragraphs 4, 5 and 6 of the same regulation, within three months after the end of each calendar year, ships of 5,000 gross tonnage and above shall report to their Administration or any organization duly authorized by it, the aggregated values for the data specified in appendix IX of MARPOL Annex VI, via electronic communication using the standardized format set out in appendix 3 of the *2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)* (resolution MEPC.346(78)).

2 Upon receipt of the reported fuel consumption data, and in accordance with regulation 6.6 of MARPOL Annex VI, the Administration or any organization duly authorized

* This document was reissued on 23 January 2026 to correct an error in the determination of containerships' EEDI ship size category. Following recalculations, the error was corrected in this document by replacing values for containerships in tables 2, 3 and 4 of the annex. The error had only impacted values disaggregated by size category, therefore the values aggregated at ship type level (containerships) were left unchanged.

by it shall determine whether the data has been reported in accordance with regulation 27 of MARPOL Annex VI and, if so, issue a Statement of Compliance not later than five months from the beginning of the calendar year.

3 In accordance with regulation 27.9 of MARPOL Annex VI, not later than one month after issuing the Statement of Compliance, by 30 June at the latest, the Administration shall ensure that the fuel consumption data reported by its registered ships in the scope of regulation 27 of MARPOL Annex VI are transferred to the IMO Ship Fuel Oil Consumption Database (IMO DCS) in GISIS.

4 Regulation 27.10 of MARPOL Annex VI requires the Secretary-General to submit an annual report to the Committee, summarizing the data collected, the status of missing data, and such other relevant information as may be requested by the Committee.

5 Following the adoption of amendments to appendix IX of MARPOL Annex VI (set out in resolutions MEPC.362(79) and MEPC.385(81)), which entered into force on 1 May 2024 and on 1 August 2025, respectively, the Secretariat has updated the IMO DCS GISIS module to allow for:

- .1 reporting of attained Energy Efficiency Existing Ship Index (EEXI) and Carbon Intensity Indicator (CII) values by the end of 2023; and
- .2 reporting of enhanced granularity and transport work, on a voluntary basis from 1 January 2025, and on a mandatory basis from 1 January 2026.

Enhancements to the IMO DCS

6 The Secretariat has tested and updated the IMO DCS GISIS module to enable the reporting of enhanced granularity and transport work on a voluntary basis from 1 January 2025, and on a mandatory basis from 1 January 2026, as per the *Guidance on the application of the amendments to appendix IX of MARPOL Annex VI on inclusion of data on transport work and enhanced granularity in the IMO Ship Fuel Consumption Database (IMO DCS) as adopted by resolution MEPC.385(81)* (see also MEPC.1/Circ.913).

7 To further improve user-friendliness and the completeness of the database, the Secretariat has made additional enhancements to the module to ensure that ships report both transport work and CII together, and to require ships not reporting CII to provide a reason why the CII calculation was not possible.

8 As the enhanced reporting granularity was voluntary, this report follows the same reporting granularity as was used for the 2023 reporting. However, data submitters wishing to report data using enhanced granularity on a voluntary basis could already do so following the changes made by the Secretariat in the IMO DCS GISIS module (i.e. databases, user interface and web service).

Report on the fuel oil consumption data submitted to the IMO DCS

9 In accordance with regulation 27.10 of MARPOL Annex VI and section 6 of the *2022 Guidelines for the development and management of the IMO Ship Fuel Oil Consumption Database* (resolution MEPC.349(78)), the Secretariat has prepared a summary report of the fuel oil consumption data for the 2024 reporting period, as set out in the annex to this document.

10 The Secretariat carried out a quality control and verification process of the data submitted to GISIS to identify missing ships and obvious errors in the submitted data.

11 Administrations can download non-anonymized data for the ships flying their flag for which data has been submitted to GISIS by that Administration or on their behalf. In accordance with regulation 27.12 of MARPOL Annex VI, Parties to MARPOL Annex VI also have access to the data of all ships submitted to GISIS in an anonymized format.

12 The following general findings with regard to the fuel consumption data for the 2024 reporting period are noted:

- .1 Data was reported by 29,690 ships (28,620 for 2023, 28,834 for 2022 and 28,171 for 2021) with a combined gross tonnage of 1,357 million gross tonnes (1,301 million gross tonnes for 2023) by 108 Administrations out of 132 possible Administrations (compared to 105 out of 135 for 2023). The total number of ships and total gross tonnage is given in terms of the number of different ships which reported data, not the number of reports in GISIS. Ships with obvious errors in the submitted data were removed from these totals;
- .2 By cross-referencing with data from the GISIS Ship and Company Particulars module, 29,690 ships out of a potential 36,177 ships (82.1%) (compared to 81.4% for 2023) that were estimated to fall under the scope of regulation 27 of MARPOL Annex VI[†], submitted data. On the basis of gross tonnage, the reported data represents 91.0% of the ships that are estimated to fall under the scope of regulation 27 of MARPOL Annex VI (compared to 90.5% for 2023);
- .3 By 31 July 2025, the number of ships identified with potential errors was reduced to 265 ships (compared to 229 ships in 2023). At the time of the report, these potential errors had not been modified by the concerned Administration or recognized organization. Such ships can have a relatively large impact on the aggregated data, and have therefore not been included in the annexed report for the 2024 reporting period;
- .4 223 million tonnes of fuel (211 million tonnes for 2023), on a quantity basis, were used by the aforementioned 29,690 ships. Total fuel used was 5.7% more in 2024 compared to 2023, as shown in figure 1, below. Conjunctural changes in seaborne navigation patterns (e.g. ships rerouting from the Red Sea/Suez Canal to the Cape of Good Hope) are potentially important factors contributing to the increase in fuel consumption in 2024 compared with previous years owing to the increase in distance travelled;
- .5 92.53% of the fuel used for the 2024 reporting period (compared to 93.52% for 2023) was either Heavy Fuel Oil, Light Fuel Oil or Diesel/Gas Oil. Fuels that are not in those categories represent 7.47% of the fuel used in 2024 (compared to 6.48% in 2023 and 5.35% in 2022);
- .6 The majority of the reported fuel oil was consumed by the following three ship types: containerships, bulk carriers and tankers;

[†] The actual number of ships falling under the scope of regulation 27 of MARPOL Annex VI is lower than 36,177, for reasons described in paragraph 8 of the annex.

- .7 For the 2024 reporting period, CII ratings were reported by 25,917 out of the 28,453 ships subject to CII reporting[‡] (91.1%). This is an increase in the reporting rate when compared to the 2023 reporting period, where CII was reported by 89.4% of ships in the same scope. Table 1, below, summarizes the reported operational CII ratings, while table 4 in the annex summarizes the CII ratings for each ship type; and
- .8 For the 2024 reporting period, attained EEXI was reported by 27,856 out of 28,453 ships subject to EEXI reporting[‡] (97.9%). The reporting rate significantly increased when compared to 2023 (68.8% of ships had reported attained EEXI in 2023). 25,542 ships have reported attained EEDI, noting that the scope of IMO DCS also covers pre-EEDI ships.

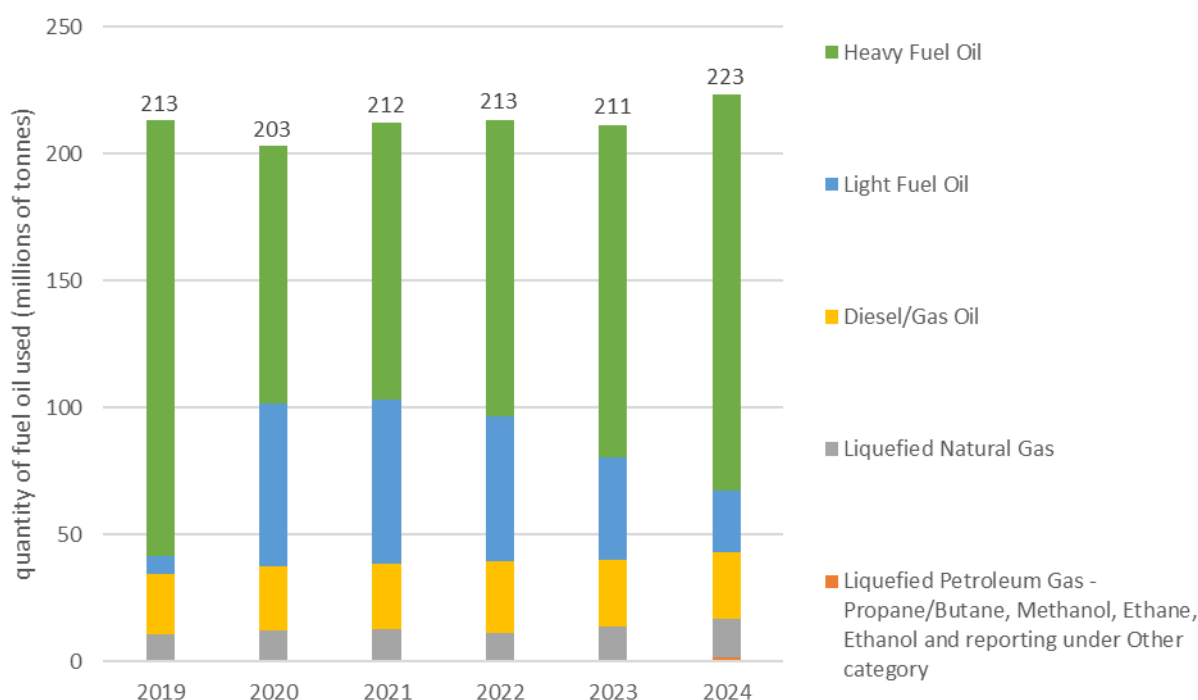


Figure 1: Aggregated annual amount of each type of fuel oil reported by all ships of 5,000 GT and above, from 2019 to 2024

Table 1: Summary of reported operational CII ratings

	A	B	C	D	E	Rating not reported
Total ships for 2024	5,605	6,075	8,355	4,319	1,563	2,536
Rating distribution (as a percentage of 28,453 reporting ships) for 2024	19.7%	21.4%	29.4%	15.2%	5.5%	8.9%

[‡] "Passenger ships" and "Others" are subject to fuel oil consumption reporting but are not subject to CII and EEXI calculation.

13 Similar to previous reporting years, biofuels have been reported under the "Other" fuel category with many different names, including brand names. Under the current reporting provisions, it is not possible to identify the exact composition of the reported biofuels. A small number of fuels falling under the "Heavy Fuel Oil" category were labelled incorrectly under the "Other" fuel category, and were subsequently moved under the "Heavy Fuel Oil" category in line with the Fourth IMO GHG Study 2020 in that Low Sulphur Heavy Fuel Oil has the same emission factors as conventional HFO. Further outcomes of the data quality checks carried out are explained in the annex.

Action requested of the Committee

14 The Committee is invited to consider the summary report of the fuel oil consumption data submitted to the IMO DCS for 2024 and relevant information set out in this document, and in particular to:

- .1 approve, in principle, the summary of the fuel oil consumption data submitted to the IMO DCS for 2024 (annex);
- .2 note the ongoing improvements to the reporting process in the IMO DCS module in GISIS;
- .3 approve, in principle, the reporting on carbon intensity developments on the basis of supply-based measurements, using AER and cgDIST indicators (annex, table 3);
- .4 approve, in principle, the reporting of CII values (annex, table 4); and
- .5 note that in the absence of cargo-related data to calculate transport work, the Secretariat has submitted document MEPC 84/6/2 reporting on the demand-based carbon intensity of international shipping using model-based estimates for the period from 2019 to 2024 (annex, paragraph 36).

ANNEX

SUMMARY REPORT OF FUEL OIL CONSUMPTION DATA SUBMITTED TO THE IMO SHIP FUEL OIL CONSUMPTION DATABASE FOR 2024

Total number of ships for which fuel consumption data was reported

1 In accordance with paragraph 5.1 of the *2022 Guidelines for the development and management of the IMO Ship Fuel Oil Consumption Database* (resolution MEPC.349(78)), hereinafter referred to as the "2022 Guidelines", in January 2024 every Administration that had designated a contact person in the IMO DCS module in GISIS was sent an indicative list of their ships falling under the scope of regulation 27 of MARPOL Annex VI, totalling 36,177 ships (compared to 35,143 ships in January 2023) under 132 Administrations. The lists were produced by cross-referencing with data from the Ship and Company Particulars module in GISIS.

2 For the period from 1 January 2024 until 31 December 2024 (2024 reporting period), by 31 July 2025 fuel consumption data had been reported to the IMO DCS by 108 Administrations, consisting of 80 Parties to MARPOL Annex VI and 28 non-Parties, for 29,690 ships (compared to 28,620 ships for 2023) in total out of a potential 35,143 ships (82.1%) that were estimated to fall under the scope of regulation 27 of MARPOL Annex VI. The actual number of ships falling under this scope is lower, for reasons described in paragraph 8 below. On the basis of gross tonnage, the reported data represents 91.0% of the ships that fell under this scope in January 2024 (compared to 90.5% for 2023).

3 This summary report reflects the fuel consumption data in GISIS up until 31 July 2025; any changes made to the 2024 reporting year data in GISIS after this date are not reflected. Additional reported data in GISIS or changes made to the data after 31 July 2025 are not included in this report but will be available in the data directly downloadable from GISIS.

Measures to ensure the completeness of the database

4 In addition to the indicative list of ships falling under the scope of regulation 27 of MARPOL Annex VI, sent to every Administration in January of the reporting period, in accordance with section 5 of the 2022 Guidelines, in July 2025 the Secretariat sent each Administration that had designated a contact person a list of ships identifying those missing ships for which data had not yet been submitted to the IMO DCS. Where applicable, Administrations were also sent a list of ships for which the analysis of the reported fuel consumption data pointed to potential errors.

5 The Secretariat did not modify any of the reported data in GISIS itself but, in the case of any identified missing ships or potential errors, contacted the relevant Administrations and recognized organizations (ROs) so that they could correct and update the data in GISIS and provide further feedback in case of any discrepancies, as necessary.

6 This list of missing ships was created for each Administration by comparing the ships that had been reported by July 2025 to the list of ships under the scope of regulation 27 of MARPOL Annex VI that were sent to each Administration in January 2024. In July 2025, Administrations were requested to provide fuel consumption data for 8,946 missing ships (compared to 9,066 missing ships for the 2023 reporting year).

7 In response to the request by the Secretariat, a number of Administrations and ROs corrected and updated the reported data in GISIS. The number of potential errors was slightly higher than in previous years but lower than in 2019.

8 Some Administrations also informed the Secretariat on the status of missing ships for which no data had been reported. Some missing ships were still expected to report data for 2024 and were being investigated by the Administration concerned. The majority of Administrations stated that some of the missing ships were not falling under the scope of regulation 27 of MARPOL Annex VI. The reasons for this included: ships operating domestically; ship types and types of propulsion not being relevant; and ships not having operated during the 2024 reporting period. Several Administrations also noted that some missing ships were no longer registered under their flag, and therefore, their status was unknown.

9 The feedback received from Administrations, indicating the ships not relevant to regulation 27 of MARPOL Annex VI, is used to assist the Secretariat in further updating the process of cross-referencing with the Ship and Company Particulars module in GISIS to produce the indicative lists of ships falling under the scope of the regulation.

10 The Secretariat has included data in GISIS up until 31 July 2025 in this report. Ships with errors have been removed from this report. Administrations and ROs may still submit 2024 data for missing ships and correct errors in GISIS after this date, but the report to the Committee will not be updated. However, it is important that data for missing ships and errors is notified to the Secretariat to allow the data for these individual ships to be verified and used in future analysis.

Verification of the submitted data

11 While not specified in the 2022 Guidelines, the Secretariat carried out a quality control and verification process of the data submitted to GISIS to verify its accuracy, to identify missing ships for which no data had been reported and also to identify obvious errors in the submitted data. An automated process identified ships with obvious errors in the submitted data. This included ships with unrealistic characteristics that were not technically possible, checking for duplicate reporting, and ships that may have been categorized under an incorrect ship type, as defined by regulation 2 of MARPOL Annex VI. Ships with errors that were identified using this process were further examined to determine the cause of any errors. This information can then be provided to the Administrations and ROs concerned.

12 During the analysis of the reported data, as of 31 July 2025, 2,875 instances of multiple reporting entries for a single ship were found. This does not include errors in reporting, including instances of duplicate reporting, which were removed. The multiple reporting is mostly due to ships changing between different Administrations and ROs.

13 Following the correction of data in GISIS by Administrations and ROs, the number of errors in the submitted data was reduced. At the time of this report, 31 July 2025, the number of identified errors that could potentially have a large impact on aggregated data was reduced to 265 ships. These ships show errors that have not been corrected by the responsible Administrations or ROs and have not been included in the data analysis process in this report.

14 Sixty-five ships out of the aforementioned 265 ships were excluded because they had reported "hours under way" which were more than the total number of hours in a year. In addition, 154 records were removed as they were duplicate reporting. Eight ships were excluded for reporting unrealistic ship parameters which had not been corrected by the submitters. The aggregated gross tonnage of those 265 ships removed from this report represents 0.99% of all ships which reported fuel consumption data, in terms of gross tonnage.

15 Overall, after corrections to the data, the number of errors identified in the submitted data in the 2024 reporting period, including the number of ships categorized incorrectly, was slightly higher than in 2023, 2021 and 2020 but significantly less than the 2019 reporting period.

Number of ships for which fuel consumption data has been reported

16 Table 1 shows a summary of the ships for which Administrations reported fuel consumption data for the 2024 reporting period and compares the total number of ships for which data had been reported with the indicative lists of ships falling under the scope of regulation 27 of MARPOL Annex VI, as sent to each Administration in January 2024.

Table 1: Number of ships reported by Administrations in the reporting period

	Total	Party	Non-Party
Ships contained in the lists of ships falling under the scope of regulation 27 as sent to Administrations in January 2024	36,177 ships estimated to fall under the scope of 132 Administrations	33,856 ships under the scope of 95 Administrations	2,231 ships under the scope of 37 Administrations
Total ships for which fuel consumption data was submitted	29,690 ships reported by 108 Administrations	28,635 ships reported by 80 Administrations	1,055 ships reported by 28 Administrations

17 Table 1 shows a high reporting rate; data was reported for 82.1% of the total number of ships that were estimated to fall under the scope of regulation 27 of MARPOL Annex VI. The reporting rate is also high in terms of the number of Administrations, both Parties and Non-Parties to MARPOL Annex VI, that reported data for their ships; in total, 108 Administrations out of a potential 132 Administrations submitted data. The number of Administrations in table 1 also includes national registries or sub-registries through which data was submitted.

18 Figure 1 below compares the total number of ships for which data had been reported to the lists of ships falling under the scope of regulation 27 MARPOL Annex VI, in terms of gross tonnage.

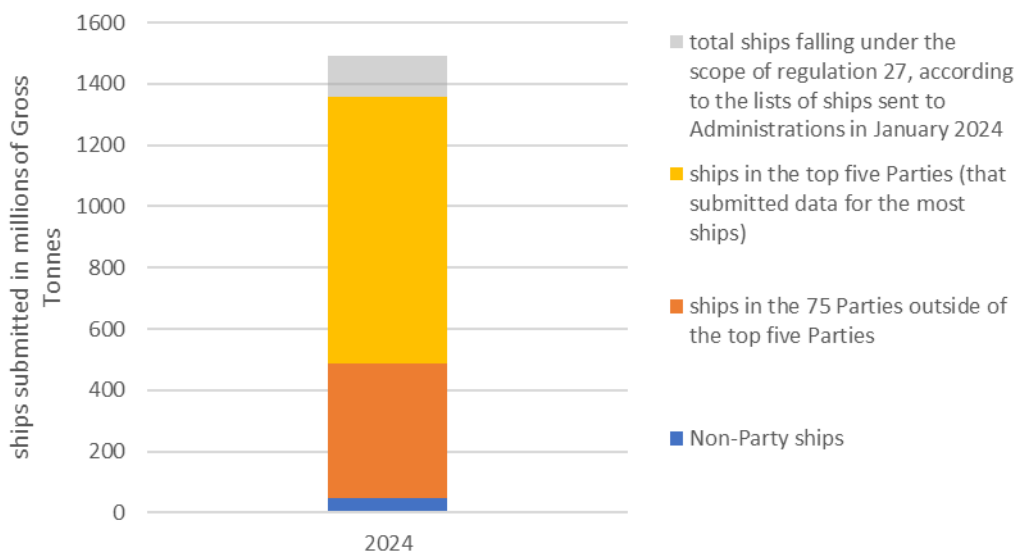


Figure 1: Gross tonnage of ships reported by Administrations

19 As shown in figure 1, the 36,177 ships that were estimated to fall under the scope of regulation 27 of MARPOL Annex VI in January 2024 represent a total of 1,490 million gross tonnes. The 29,690 ships for which fuel consumption data was reported for the 2024 reporting period represent a combined gross tonnage of 1,357 million gross tonnes (91.0% of 1,490 million gross tonnes).

Aggregated annual amount of each type of fuel oil consumed, distance travelled and hours under way

20 In this document, data is aggregated by EEDI ship type and EEDI size category, along with "Others" and "Passenger ship" categories for ships not subject to EEDI.

21 In total, on a quantity basis, 223 million tonnes of fuel were used in the 2024 reporting period (compared to 211 million tonnes for 2023). Figure 2 shows that 92.53% of the fuel oil used during 2024 was either Heavy Fuel Oil, Light Fuel Oil or Diesel/Gas Oil. The remaining fuels outside of these three fuel types amounted to 7.47% of the fuel used during the 2023 reporting period.

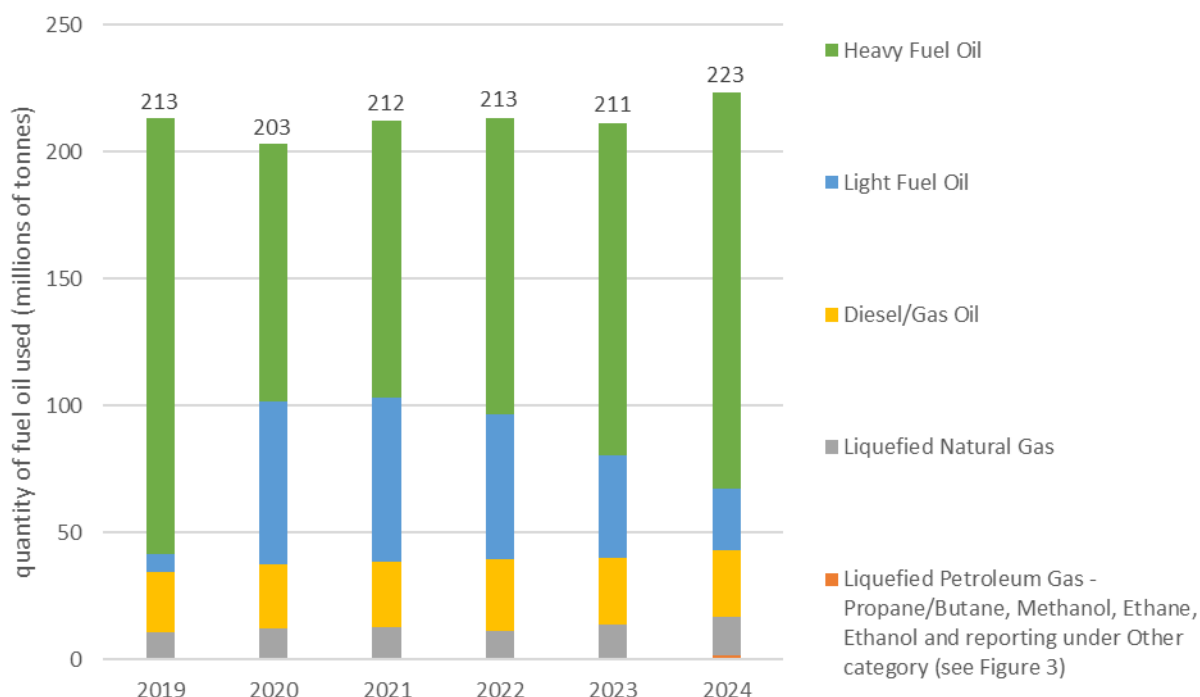


Figure 2: Aggregated annual amount of each type of fuel oil reported by all ships of 5,000 GT and above, from 2019 to 2024

22 Total fuel used by the reported ships was 5.7% higher during the 2024 reporting period when compared to the 2023 reporting period. The use of LNG increased when compared to previous years, to 14,954,694 tonnes of LNG in 2024 (6.69% of the reported fuel oil in 2024).

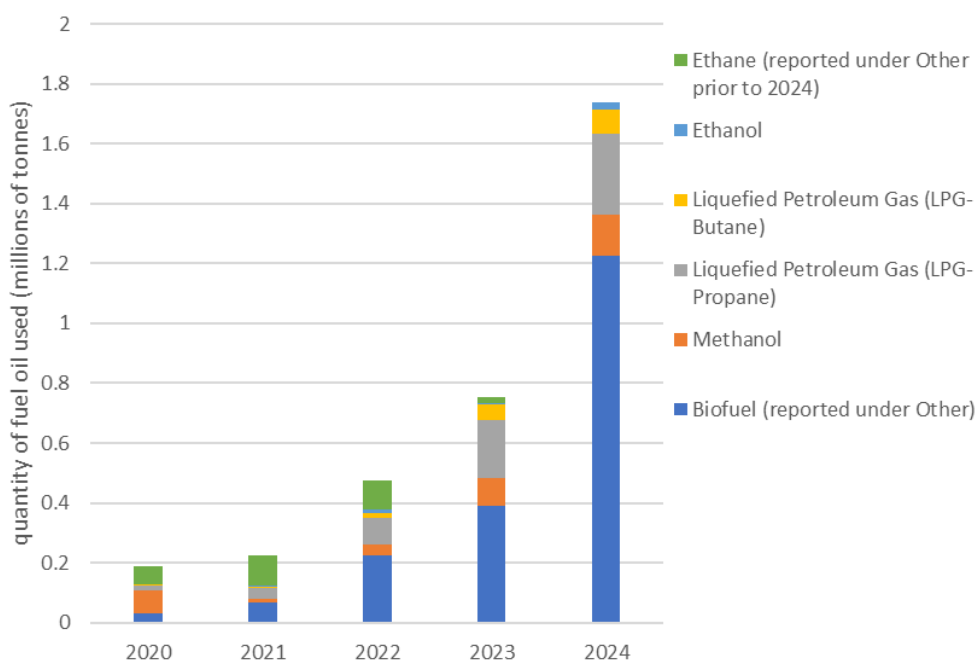


Figure 3: Aggregated annual amount of LPG, Ethane, Ethanol, Methanol, Ethanol and biofuel (reported under the "Other" category) consumed by all ships of 5,000 GT and above for the 2024 reporting period

23 Figure 3 above shows fuels used from 2020 to 2024 that are neither Heavy Fuel Oil, Light Fuel Oil, Diesel/Gas Oil nor Liquid Natural Gas. In total, the fuels in figure 3 amount to 0.78% of the reported fuel oil in 2024.

24 The reported amounts of fuel used for 2024 that are neither Heavy Fuel Oil, Light Fuel Oil, or Diesel/Gas Oil can be broken down as follows:

- .1 14,954,694 tonnes of LNG (12,890,011 tonnes in 2023);
- .2 269,507 tonnes of LPG – Propane (192,405 tonnes in 2023);
- .3 80,562 tonnes of LPG – Butane (49,887 tonnes in 2023);
- .4 137,844 tonnes of Methanol (93,876 tonnes in 2023);
- .5 23,474 tonnes of Ethanol (4,137 tonnes in 2023);
- .6 0 tonnes of Ethane (19,036 tonnes in 2023); and
- .7 1,225,531 tonnes of Biofuel, reported under Other (390,846 tonnes in 2023).

25 Following the adoption of the *2022 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.364(79)), Ethane and its associated C_F value were added as fuel to the IMO DCS in GISIS for reporting for 2023.

26 Compared to previous reporting years, Ethane was made a separate category so that only Biofuels were reported under the "Other" category in 2024, and biofuels were reported using many different names, including brand names, which do not reflect composition. It is therefore not possible to identify the exact composition of the reported biofuels under existing reporting provisions.

27 Considering that biofuels are reported in small amounts, it may be better to continue the current reporting process by users reporting biofuels under the "Other" fuel category, which allows users to submit a custom name and associated C_F value.

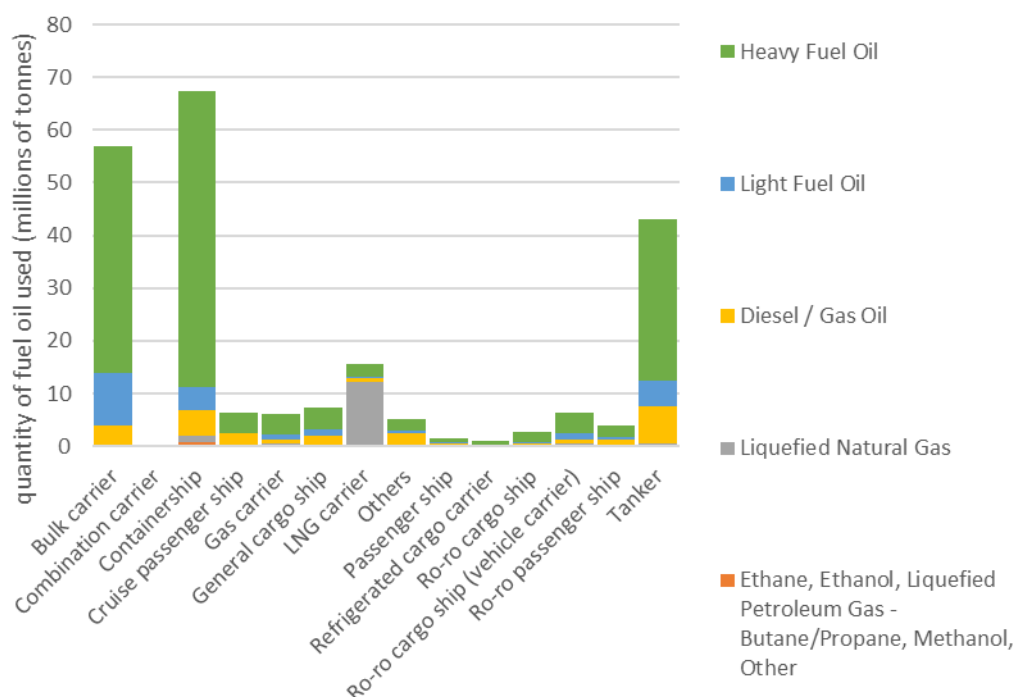


Figure 4: Aggregated annual amount of each type of fuel oil consumed for ships of 5,000 GT and above by ship type for the 2024 reporting period

28 Figure 4 above shows how different fuels were used by different ship types during the 2024 reporting period. During the reporting period, the majority of fuel oil was consumed by three ship types: containerships, bulk carriers and tankers. When compared to the 2023 reporting period, the fuel consumed by bulk carriers and containerships increased significantly.

29 In accordance with paragraph 6.2 of the 2022 Guidelines, table 2 contains the aggregated annual amount of each type of fuel oil consumed for ships of 5,000 GT and above by ship type and size category.

30 In accordance with paragraphs 6.2 and 6.3 of the 2022 Guidelines, table 3 contains the number of ships that reported, including the aggregated gross tonnage, aggregated deadweight, and the aggregated annual amount of distance travelled and hours under way for ships of 5,000 GT and above by ship type and size category.

Table 2: Aggregated annual amount of each type of fuel oil consumed for ships of 5,000 GT and above by ship type and size category for the 2024 reporting period

	Diesel / Gas Oil (MDO / MGO)	Heavy Fuel Oil (HFO)	Light Fuel Oil (LFO)	Ethane	Ethanol	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG) - Butane	Liquefied Petroleum Gas (LPG) - Propane	Methanol	Other
Bulk carrier	3,879,436	42,970,657	9,904,804	0	2	121,791	3	6,162	1	21,775
Less than 10,000 DWT	37,915	21,643	33,499	0	0	0	0	0	0	0
10,000 ≤ DWT < 20,000	123,873	245,620	189,955	0	0	0	0	0	0	0
20,000 DWT and above	3,717,648	42,703,394	9,681,350	0	2	121,791	3	6,162	1	21,775
Combination carrier	11,188	131,592	4,742	0	0	0	0	0	0	0
Less than 10,000 DWT	0	0	0	0	0	0	0	0	0	0
10,000 ≤ DWT < 20,000	210	549	0	0	0	0	0	0	0	0
20,000 DWT and above	10,978	131,043	4,742	0	0	0	0	0	0	0
Containership	4,820,629	56,348,774	4,364,612	0	0	1,276,070	0	2,852	21,289	656,263
Less than 10,000 DWT	178,998	484,879	141,267	0	0	0	0	0	0	5,319
10,000 ≤ DWT < 15,000	390,939	1,835,632	402,121	0	0	3,608	0	2,852	183	19,575
15,000 ≤ DWT < 40,000	925,758	9,153,142	1,523,545	0	0	35,209	0	0	1,380	25,539
40,000 ≤ DWT < 80,000	1,087,984	12,585,053	1,175,733	0	0	12,622	0	0	0	172,102
80,000 ≤ DWT < 120,000	915,313	12,290,941	720,606	0	0	176,286	0	0	0	250,823
120,000 ≤ DWT < 200,000	1,135,239	15,347,960	384,664	0	0	712,849	0	0	19,726	170,489
200,000 DWT and above	186,398	4,651,167	16,676	0	0	335,469	0	0	0	12,416
Cruise passenger ship	2,096,178	3,785,430	74,436	0	0	241,014	0	0	0	45,493
Less than 5,000 GT	0	0	0	0	0	0	0	0	0	0
5,000 ≤ GT < 25,000	187,458	2,641	498	0	0	0	0	0	0	0
25,000 ≤ GT < 85,000	880,353	837,830	49,157	0	0	2,356	0	0	0	8,664
85,000 GT and above	1,028,367	2,944,959	24,781	0	0	238,658	0	0	0	36,829
Gas carrier	653,176	3,964,120	1,050,529	0	23,472	198,246	62,280	244,602	0	679
Less than 2,000 DWT	0	0	0	0	0	0	0	0	0	0
2,000 ≤ DWT < 10,000	154,029	186,599	66,713	0	0	5,572	78	4,790	0	0
10,000 DWT and above	499,147	3,777,521	983,816	0	23,472	192,674	62,202	239,812	0	679
General cargo ship	1,904,130	4,022,738	1,318,438	0	0	27,537	0	0	0	10,050
Less than 3,000 DWT	90,464	6,647	981	0	0	0	0	0	0	0

	Diesel / Gas Oil (MDO / MGO)	Heavy Fuel Oil (HFO)	Light Fuel Oil (LFO)	Ethane	Ethanol	Liquefied Natural Gas (LNG)	Liquefied Petroleum Gas (LPG) - Butane	Liquefied Petroleum Gas (LPG) - Propane	Methanol	Other
3,000 ≤ DWT < 15,000	913,293	948,891	417,270	0	0	24,770	0	0	0	291
15,000 DWT and above	900,373	3,067,200	900,187	0	0	2,767	0	0	0	9,759
LNG carrier	882,251	2,424,514	176,226	0	0	12,058,444	0	0	28,410	60
Less than 10,000 DWT	5,199	0	1,247	0	0	29,583	0	0	0	0
10,000 DWT and above	877,052	2,424,514	174,979	0	0	12,028,861	0	0	28,410	60
Others	2,299,712	2,246,672	444,722	0	0	178,661	0	0	0	1,453
5,000 GT and above	2,297,419	2,245,288	441,227	0	0	178,661	0	0	0	1,453
Passenger ship	408,249	779,988	159,449	0	0	148,235	0	0	0	0
5,000 GT and above	408,249	779,988	159,449	0	0	148,235	0	0	0	0
Refrigerated cargo carrier	132,918	692,022	243,310	0	0	0	0	0	0	25
Less than 3,000 DWT	0	0	0	0	0	0	0	0	0	0
3,000 ≤ DWT < 5,000	367	2,455	0	0	0	0	0	0	0	0
5,000 DWT and above	132,551	689,567	243,310	0	0	0	0	0	0	25
Ro-ro cargo ship	390,669	1,957,831	269,053	0	0	31,262	0	0	0	15,414
Less than 1,000 DWT	112	0	0	0	0	0	0	0	0	0
1,000 ≤ DWT < 2,000	0	0	0	0	0	0	0	0	0	0
2,000 DWT and above	390,557	1,957,831	269,053	0	0	31,262	0	0	0	15,414
Ro-ro cargo ship (vehicle carrier)	694,426	3,863,409	1,213,793	0	0	190,970	0	0	0	268,653
Less than 10,000 DWT	43,225	136,737	18,187	0	0	0	0	0	0	4,455
10,000 DWT and above	651,201	3,726,672	1,195,606	0	0	190,970	0	0	0	264,198
Ro-ro passenger ship	1,077,879	2,188,346	446,152	0	0	160,811	0	0	0	5,728
Less than 250 DWT	0	0	0	0	0	0	0	0	0	0
250 ≤ DWT < 1,000	256,269	0	9,583	0	0	10,816	0	0	0	3,255
1,000 DWT and above	821,610	2,188,346	436,569	0	0	149,995	0	0	0	2,473
Tanker	7,118,084	30,658,883	4,775,843	0	0	321,653	18,279	15,891	88,144	28,803
Less than 4,000 DWT	340	775	0	0	0	0	0	0	0	0
4,000 ≤ DWT < 20,000	1,285,767	2,124,930	784,605	0	0	36,001	0	0	0	5,941
20,000 DWT and above	5,831,977	28,533,178	3,991,238	0	0	285,652	18,279	15,891	88,144	22,862
Total (223,370,487)	26,368,925	155,863,841	24,446,109	0	23,474	14,954,694	80,562	269,507	137,844	1,225,531

Table 3: Number of reporting ships, aggregated gross tonnage, deadweight tonnage, distance travelled, hours under way, CO₂ emissions and average calculated Attained annual operational CII for ships of 5,000 GT and above, by ship type and size category for the 2024 reporting period

	Number of ships	Gross tonnage	Deadweight tonnage	Distance travelled	Hours under way	CO ₂ emissions	Calculated average AER for each EEDI ship size	Calculated average cgDIST for each EEDI ship size
Bulk carrier	10,457	481,247,784	879,939,293	559,652,401	52,608,644	177,860,590	3.40	-
Less than 10,000 DWT	65	391,602	530,503	2,262,649	240,879	294,507	15.80	-
10,000 ≤ DWT < 20,000	300	3,007,086	4,499,027	0	0	1,760,546	10.39	-
20,000 DWT and above	10,092	477,849,096	874,909,763	0	2,137	175,805,537	3.37	-
Combination carrier	25	1,045,958	1,705,155	1,470,626	131,465	460,588	4.41	-
Less than 10,000 DWT	0	0	0	0	0	0	-	-
10,000 ≤ DWT < 20,000	1	5,614	8,100	19,538	1,842	2,383	15.06	-
20,000 DWT and above	24	1,040,344	1,697,055	1,451,088	129,623	458,205	4.39	-
Containership	5,459	308,715,711	354,894,996	408,629,258	30,880,144	209,345,450	7.99	-
Less than 10,000 DWT	2,48	1,730,516	2,103,857	12,812,731	1,149,213	2,540,528	28.11	-
10,000 ≤ DWT < 15,000	634	6,298,807	8,003,195	36,796,829	3,157,632	8,302,289	22.85	-
15,000 ≤ DWT < 40,000	1,726	38,382,656	48,066,311	116,129,444	9,265,447	36,414,555	13.83	-
40,000 ≤ DWT < 80,000	1,179	56,565,307	68,380,941	94,277,828	7,044,186	46,672,149	10.22	-
80,000 ≤ DWT < 120,000	744	64,504,961	73,938,323	65,018,549	4,495,252	44,439,539	7.77	-
120,000 ≤ DWT < 200,000	752	104,990,773	114,302,426	67,386,416	4,662,527	54,913,399	5.80	-
200,000 DWT and above	176	36,242,691	40,099,943	16,207,461	1,105,887	16,062,990	4.76	-
Cruise passenger ship	265	21,915,242	2,064,332	20,941,492	1,532,514	19,500,807	-	10.20
Less than 5,000 GT	0	0	0	0	0	0	-	-
5,000 ≤ GT < 25,000	40	509,171	70,697	2,198,902	229,785	610,784	-	20.74
25,000 ≤ GT < 85,000	103	5,589,943	604,095	7,604,433	562,485	5,605,621	-	13.12
85,000 GT and above	122	15,816,128	1,389,540	11,138,157	740,244	13,284,402	-	9.13
Gas carrier	868	27,337,044	30,275,019	61,072,088	4,611,459	19,238,991	-	8.67
Less than 2,000 DWT	0	0	0	0	0	0	-	-
2,000 ≤ DWT < 10,000	177	1,207,190	1,282,026	7,330,504	647,520	1,315,028	24.52	-
10,000 DWT and above	691	26,129,854	28,992,993	53,741,584	3,963,939	17,923,962	7.49	-
General cargo ship	2,346	36,200,605	53,391,858	99,794,376	9,838,073	22,885,155	8.85	-

	Number of ships	Gross tonnage	Deadweight tonnage	Distance travelled	Hours under way	CO ₂ emissions	Calculated average AER for each EEDI ship size	Calculated average cgDIST for each EEDI ship size
Less than 3,000 DWT	18	141,736	41,091	217,674	53,121	313,817	642.53	-
3,000 ≤ DWT < 15,000	1,187	8,920,141	11,771,334	43,307,723	4,575,689	7,265,979	16.30	-
15,000 DWT and above	1,141	27,138,728	41,579,433	56,268,979	5,209,263	15,305,358	7.15	-
LNG carrier	700	75,234,348	59,571,916	63,133,667	4,484,127	43,956,844	7.81	-
Less than 10,000 DWT	18	175,885	108,267	331,125	43,557	101,920	55.34	-
10,000 DWT and above	682	75,058,463	59,463,649	62,802,542	4,440,570	43,854,924	7.80	-
Others	1,132	17,327,851	17,507,847	37,899,857	5,044,520	16,264,437	22.34	-
5,000 GT and above	1,127	17,312,319	17,462,474	37,787,851	5,030,131	16,241,763	22.34	-
Passenger ship	105	5,126,572	753,462	6,135,834	496,930	4,647,799	88.96	-
5,000 GT and above	105	5,126,572	753,462	6,135,834	496,930	4,647,799	88.96	-
Refrigerated cargo carrier	243	2,330,573	2,576,139	12,900,901	983,532	3,347,832	21.61	-
Less than 3,000 DWT	0	0	0	0	0	0	-	-
3,000 ≤ DWT < 5,000	1	5,566	4,695	35,439	3,403	8,821	53.02	-
5,000 DWT and above	242	2,325,007	2,571,444	12,865,462	980,129	3,339,011	21.58	-
Ro-ro cargo ship	340	10,541,743	4,900,949	23,637,059	1,716,615	8,304,741	-	10.19
Less than 1,000 DWT	1	6,556	721	1,797	267	359	-	30.48
1,000 ≤ DWT < 2,000	0	0	0	0	0	0	-	-
2,000 DWT and above	339	10,535,187	4,900,228	23,635,262	1,716,348	8,304,382	-	10.19
Ro-ro cargo ship (vehicle carrier)	692	38,441,744	12,666,491	63,517,903	4,428,387	19,060,203	-	5.33
Less than 10,000 DWT	48	767,203	287,449	3,162,895	253,836	623,846	-	12.16
10,000 DWT and above	644	37,674,541	12,379,042	60,355,008	4,174,551	18,436,356	-	5.23
Ro-ro passenger ship	363	9,299,821	1,812,221	23,801,202	1,505,825	12,122,849	-	17.48
Less than 250 DWT	0	0	0	0	0	0	-	-
250 ≤ DWT < 1,000	43	359,802	29,068	2,237,206	126,251	883,476	-	42.22
1,000 DWT and above	320	8,940,019	1,783,153	21,563,996	1,379,574	11,239,372	-	16.71
Tanker	6,695	321,775,401	583,363,201	349,316,513	32,441,490	134,496,456	3.84	-
Less than 4,000 DWT	1	5,619	2,435	12,655	1,216	3,503	130.18	-
4,000 ≤ DWT < 20,000	1,602	13,767,174	20,935,361	68,021,953	6,706,107	13,323,115	14.39	-
20,000 DWT and above	5,092	308,002,608	562,425,405	281,281,905	25,734,167	121,169,837	3.55	-
Total	29,690	1,356,540,397	2,005,422,879	1,731,903,177	150,703,725	691,492,741	-	-

Table 4: Operational carbon intensity rating, EEDI and EEXI reporting rates for each ship type and size for the 2024 reporting period

	Number of ships	Reported operational carbon intensity rating							Reporting of Attained EEDI		Reporting of attained EEXI	
		A	B	C	D	E	No reported CII	CII Reporting rate	number of ships	EEDI reporting rate	number of ships	EEXI reporting rate
Bulk carrier	10,457	1,577	1,918	3,415	2,004	625	918	91.2%	9,364	89.5%	10,327	98.8%
Less than 10,000 DWT	65	23	7	18	9	5	3	95.4%	57	87.7%	61	93.8%
10,000 ≤ DWT < 20,000	300	113	70	70	30	10	7	97.7%	292	97.3%	296	98.7%
20,000 DWT and above	10,092	1,441	1,841	3,327	1,965	610	908	91.0%	9,015	89.3%	9,970	98.8%
Combination carrier	25	7	9	5	0	0	4	84.0%	24	96.0%	25	100.0%
Less than 10,000 DWT	0	0	0	0	0	0	0	-	0		0	
10,000 ≤ DWT < 20,000	1	0	0	0	0	0	1	-	1	100.0%	1	100.0%
20,000 DWT and above	24	7	9	5	0	0	3	87.5%	23	95.8%	24	100.0%
Containership	5,459	1,186	1,162	1,614	842	307	348	93.6%	4,893	89.6%	5,384	98.6%
Less than 10,000 DWT	248	35	27	80	52	39	15	94.0%	188	75.8%	232	93.5%
10,000 ≤ DWT < 15,000	634	157	111	130	104	84	48	92.4%	548	86.4%	628	99.1%
15,000 ≤ DWT < 40,000	1,726	552	415	403	157	65	134	92.2%	1,586	91.9%	1,702	98.6%
40,000 ≤ DWT < 80,000	1,179	176	250	419	182	55	97	91.8%	1,057	89.7%	1,165	98.8%
80,000 ≤ DWT < 120,000	744	104	101	255	190	46	48	93.5%	674	90.6%	737	99.1%
120,000 ≤ DWT < 200,000	752	141	191	261	137	17	5	99.3%	675	89.8%	744	98.9%
200,000 DWT and above	176	21	67	66	20	1	1	99.4%	165	93.8%	176	100.0%
Cruise passenger ship	265	49	58	86	35	27	10	96.2%	262	98.9%	265	100.0%
Less than 5,000 GT	0	0	0	0	0	0	0	-	0		0	
5,000 ≤ GT < 25,000	40	16	10	6	1	4	3	92.5%	40	100.0%	40	100.0%
25,000 ≤ GT < 85,000	103	10	25	41	13	13	1	99.0%	100	97.1%	103	100.0%
85,000 GT and above	122	23	23	39	21	10	6	95.1%	122	100.0%	122	100.0%
Gas carrier	868	236	269	150	81	30	102	88.2%	796	91.7%	855	98.5%
Less than 2,000 DWT	0	0	0	0	0	0	0	-				
2,000 ≤ DWT < 10,000	177	53	41	24	32	11	16	91.0%	152	85.9%	173	97.7%
10,000 DWT and above	691	183	228	126	49	19	86	87.6%	644	93.2%	682	98.7%
General cargo ship	2,346	594	518	568	202	98	366	84.4%	1,850	78.9%	2,075	88.4%

	Number of ships	Reported operational carbon intensity rating							Reporting of Attained EEDI		Reporting of attained EEXI	
		A	B	C	D	E	No reported CII	CII Reporting rate	number of ships	EEDI reporting rate	number of ships	EEXI reporting rate
Less than 3,000 DWT	18	0	0	0	0	0	18	0.0%	0	0.0%	0	0.0%
3,000 ≤ DWT < 15,000	1,187	338	233	245	112	54	205	82.7%	891	75.1%	1,038	87.4%
15,000 DWT and above	1,141	256	285	323	90	44	143	87.5%	959	84.0%	1,037	90.9%
LNG carrier	700	229	193	126	69	41	42	94.0%	653	93.3%	692	98.9%
Less than 10,000 DWT	18	0	0	1	1	15	1	94.4%	16	88.9%	18	100.0%
10,000 DWT and above	682	229	193	125	68	26	41	94.0%	637	93.4%	674	98.8%
Others	1,132	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5,000 GT and above	1,127	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Passenger ship	105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	44	41.9%	N/A	N/A
5,000 GT and above	105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	44	41.9%	N/A	N/A
Refrigerated cargo carrier	243	25	50	101	33	17	17	93.0%	197	81.1%	219	90.1%
Less than 3,000 DWT	0	0	0	0	0	0	0	-	0			
3,000 ≤ DWT < 5,000	1	0	0	0	0	1	0	100.0%	1	100.0%	1	100.0%
5,000 DWT and above	242	25	50	101	33	16	17	93.0%	196	81.0%	218	90.1%
Ro-ro cargo ship	340	63	75	100	52	22	28	91.8%	322	94.7%	336	98.8%
Less than 1,000 DWT	1	0	0	1	0	0	0	-	1	100.0%	1	100.0%
1,000 ≤ DWT < 2,000	0	0	0	0	0	0	0	-	0		0	
2,000 DWT and above	339	63	75	99	52	22	28	91.7%	321	94.7%	335	98.8%
Ro-ro cargo ship (vehicle carrier)	692	129	108	306	107	19	23	96.7%	640	92.5%	686	99.1%
Less than 10,000 DWT	48	17	8	15	6	1	1	97.9%	38	79.2%	46	95.8%
10,000 DWT and above	644	112	100	291	101	18	22	96.6%	602	93.5%	640	99.4%
Ro-ro passenger ship	363	47	69	112	47	52	36	90.1%	354	97.5%	362	99.7%
Less than 250 DWT	0	0	0	0	0	0	0	-	0		0	
250 ≤ DWT < 1,000	43	5	5	16	7	1	9	79.1%	42	97.7%	43	100.0%
1,000 DWT and above	320	42	64	96	40	51	27	91.6%	312	97.5%	319	99.7%
Tanker	6,695	1,463	1,646	1,772	847	325	642	90.4%	6,143	91.8%	6,630	99.0%
Less than 4,000 DWT	1	0	0	0	0	0	1	0.0%	1	100.0%	1	100.0%
4,000 ≤ DWT < 20,000	1,602	347	405	437	202	102	109	93.2%	1,364	85.1%	1,566	97.8%

	Number of ships	Reported operational carbon intensity rating							Reporting of Attained EEDI		Reporting of attained EEXI	
		A	B	C	D	E	No reported CII	CII Reporting rate	number of ships	EEDI reporting rate	number of ships	EEXI reporting rate
20,000 DWT and above	5,092	1,116	1,241	1,335	645	223	532	89.6%	4,778	93.8%	5,063	99.4%
Total	29,690 (28,453 ships subject to CII)	5,605	6,075	8,355	4,319	1,563	2,536	91.1%	25,542	89.4%	27,856	97.9%
Total (%)		19.7%	21.4%	29.4%	15.2%	5.5%						

Annual development in operational carbon intensity for each ship type and international shipping

31 In accordance with paragraph 6.5 of the 2022 Guidelines, as stated in paragraph 1.5 of the *2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines (CII reduction factors guidelines, G3)* (resolution MEPC.338(76)):

"The Organization should continue to monitor development in annual carbon intensity improvement using both demand-based and supply-based measurement in parallel to the annual analysis of the fuel consumption data reported to the IMO DCS."

32 In this regard, table 3 includes AER and cgDIST, supply-based measurements of carbon intensity. Either AER or cgDIST is calculated for each relevant ship type and size category. This has been calculated for each ship type and size category by dividing the total CO₂ emissions (paragraphs 36, 37 and 38 explain the use of C_F, conversion factor for calculating CO₂ emissions) by the sum of the Deadweight multiplied by Distance Travelled (AER) (or Gross Tonnage multiplied by Distance Travelled for cgDIST).

33 According to table 4 summarizing the reported CII ratings and EEXI for each EEDI ship type and size, 87.8% of the 29,690 ships reported a CII rating and 97.7% of ships reported Attained EEXI. For the ships that reported a CII rating, 19.3% reported an A rating, 21.1% a B rating, 26.6% a C rating, 13.7% a D rating and 5.4% an E rating.

34 Some Administrations informed the Secretariat on the status of ships, for which CII data had not been reported. The Administrations stated that a number of these ships were not required to report CII for the main following reasons:

- .1 the flag of the ship had changed during the 2024 reporting period, and the obligation to report CII rested with the receiving flag Administration;
- .2 the ship type did not fall under the scope of regulation 28 of MARPOL Annex VI;
- .3 the ship operated only within domestic waters during the 2024 reporting period;
- .4 the ship was exempted from CII reporting by the Administration; and
- .5 the ship was removed from the register of the Administration during the 2024 reporting period.

35 Administrations also stated that some ships were not able to calculate CII in practice because they had travelled very little or no distance or had not been in operation during the 2024 reporting period.

36 The Secretariat could not calculate demand-based measurements of carbon intensity from the data available in IMO DCS. In response to the request in the *2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines (CII Reduction Factor Guidelines, G3)* (resolution MEPC.338(76)) to continue to monitor development in annual carbon intensity improvement using both demand-based and supply-based measurements, and in the absence of cargo-related or actual transport work related data reported in the IMO DCS, the Secretariat has procured data to estimate the demand-based measurements of carbon intensity and has prepared a separate report (MEPC 84/6/2) to the Committee.

C_F, conversion factor between fuel consumption and CO₂ emissions

37 The IMO DCS in GISIS automatically assigns a value for the carbon conversion factor (C_F) for each fuel that is submitted for each ship according to the type of fuel that has been entered by the user. The C_F values are consistent with the *2022 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.364(79)).

38 Following the updated EEDI calculation Guidelines, the list of fuels shown in table 5 has been updated in the GISIS module to include Ethane as a fuel option from the 2023 reporting year. A user can also select "Other" for fuel types that are not on the list, this allows a user to enter a user defined fuel name and C_F value. CO₂ emissions, in table 3, have been calculated by multiplying the quantity of fuel used by the corresponding carbon conversion factor (C_F).

**Table 5: Types of fuels and C_F factors selectable in the
IMO Ship Fuel Oil Consumption Database**

Type of fuel	Carbon conversion factor (C_F)
Diesel/Gas Oil	3.206
Light Fuel Oil (LFO)	3.151
Heavy Fuel Oil (HFO)	3.114
Liquefied Petroleum Gas (LPG) - Propane	3.000
Liquefied Petroleum Gas (LPG) - Butane	3.030
Liquefied Natural Gas (LNG)	2.750
Methanol	1.375
Ethane	2.927
Ethanol	1.913

39 The C_F value of each fuel that is used for each ship is available in both the anonymized and non-anonymized data that can be downloaded from the IMO Ship Fuel Oil Consumption Database in GISIS. Ships reporting the use of Low Sulphur Heavy Fuel Oil may also report under the Heavy Fuel Oil fuel category in line with the Fourth IMO GHG Study 2020 in that the emission factors for Low Sulphur Heavy Fuel Oil are the same as for conventional HFO.

Downloading data from the IMO DCS in GISIS

40 Administrations can download non-anonymized data for ships flying their flag, i.e. data that has been submitted to GISIS by the Administration or on their behalf. In accordance with regulation 27.12 of MARPOL Annex VI, Parties to MARPOL Annex VI also have access to the data of all ships submitted to GISIS in an anonymized format (ship-related data is rounded to two significant figures).