

MONITORING OF CO2 EMISSIONS
COMPARISON OF IMO AND EU DATA COLLECTION SYSTEMS

(Revised January 2017)

The tables in this document provide comparisons between various aspects of the European CO2 Monitoring, Reporting and Verification system¹ and the MEPC70 approved IMO Data Collection System for fuel oil consumption that is currently undergoing further development.

Table.1 provides an overall simple comparison of key characteristics. Subsequent tables provide more detailed comparison of individual characteristics.

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¹ REGULATION (EU) 2015/757 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2015 on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport, and amending Directive 2009/16/EC

Table. 1 - Comparison of Key Characteristics

EU System	IMO System
Annual reporting of a wide range of aggregated on an annual basis information that have been monitored on a per-voyage basis, including transport work ² and average ship's energy efficiency in addition to fuel oil consumption, CO ₂ emissions, distance travelled and relevant ship characteristics (See more detailed table. 2 and table. 3).	Annual reporting of fuel oil consumption, distance travelled and relevant ship characteristics (See more detailed table. 2 and table. 3).
Complex prescriptive requirements for verification activities. Mandatory use of verifiers accredited by European national accreditation bodies irrespective of ship's Administration (See more detailed table. 4).	Verification to be carried out by the Administration in accordance with IMO guidelines that are currently under development.
Publication into the public domain of an annual report on CO ₂ emissions and other relevant information from maritime transport, including aggregated and explained results, with the aim of informing the public and allowing for an assessment of the CO ₂ emissions and the energy efficiency of maritime transport per size, type of ships, activity. (See more detailed table. 5).	Ship fuel consumption, CO ₂ emissions and relevant ship characteristics to be stored within an IMO database for analysis in support of ongoing IMO policy decisions. Individual ship identities etc. to be available internally within the IMO database to facilitate quality, consistency and completeness of data. However, data provided from the database to Member States for analysis and policy making purposes will be anonymised.

² Transport work shall be determined by multiplying the distance travelled with the amount of cargo carried.

Table 2. - Comparison of items required to be monitored Per Voyage³

EU System	IMO System (N/A)
Port of departure and port of arrival including the date and hour of departure and arrival	-
Amount and emission factor for each type of fuel consumed in total	-
CO2 Emitted	-
Distance travelled	-
Time Spent at Sea	-
Cargo carried ⁴	-
Transport work ⁵	-
Information relating to the ship's ice class and to navigation through ice, where applicable	-

Table 3. - Comparison of items required to be monitored on an Annual Basis⁶

EU System	IMO System
Amount and emission factor for each type of fuel consumed in total	Total Annual Fuel Consumption
Total aggregated CO ₂ emitted	-
Total aggregated CO ₂ emitted from voyages between EU Ports	-
Total aggregated CO ₂ emitted from voyages departing from an EU Port	-
Total aggregated CO ₂ emitted from voyages arriving at an EU Port	-
Total aggregated CO ₂ emitted within EU ports	-
Total distance travelled	Total Distance travelled from berth to berth
Total time spent at sea	Hours not at berth
Total transport work ⁷	-
Average energy efficiency	-
Information relating to the ship's ice class and to navigation through ice, where applicable	-

³ Exemption from the Per voyage monitoring in case: (a) all of the ship's voyages during the reporting period either start from or end at a port under the jurisdiction of a Member State; and (b) the ship, according to its schedule, performs more than 300 voyages during the reporting period.

⁴ According to Annex II of the EU MRV regulation for passenger, ro-ro and container ships and according to COMMISSION IMPLEMENTING REGULATION (EU) 2016/1928 of 4 November 2016 on determination of cargo carried for categories of ships other than passenger, ro-ro and container ships pursuant to Regulation (EU) 2015/757 of the European Parliament and of the Council on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport. Additional guidelines on the determination of cargo carried under development.

⁵ Transport work shall be determined by multiplying the distance travelled with the amount of cargo carried.

⁶ Based on the monitoring plan assessed in accordance with Article 13(1), for each ship and for each calendar year, companies shall monitor in accordance with Part A of Annex I and with Part B of Annex II the parameters listed under Table.3.

⁷ Transport work shall be determined by multiplying the distance travelled with the amount of cargo carried.

Table. 4 - Comparison of items to be verified

EU System	IMO System
Verification by EU accredited verifier of Monitoring Plan ⁸	Verification by the Administration that the SEEMP for the ship has been amended to include appropriate procedures.
Verification by EU accredited verifier of the Emission Report ⁹ incl. following elements:	
Ship Name	-
IMO Number	IMO Number
Port of Registry	-
Name of Shipowner	-
Name of company with address, email and details of contact person	-
EEDI or Estimated Index Value	EEDI if applicable
Identity of verifier	-
Ice Class if applicable	Ice Class if applicable
Results from annual monitoring (See table. 3), including the monitoring method ¹⁰	Results from annual monitoring (See table. 3), including methods used for collecting data
Detailed and prescriptive procedures for the assessment of monitoring plans and verification of emissions reports ¹¹ ; including e.g. site visits, assessment of non-conformities possibly by comparison of reported data with estimated data based on ship tracking and ship technical characteristics. Full formal verification is required for any additional information provided by the shipowner on a voluntary basis.	SEEMP to include procedures in accordance with IMO guidelines. Administration will verify that this is the case.
Use of standardised EU templates of Monitoring Plan and Emission Report ¹²	Use of standardised IMO templates

⁸ By 31 August 2017, companies shall submit to the verifiers a monitoring plan for each of their ships indicating the method chosen to monitor and report CO₂ emissions and other relevant information.

⁹ From 2019, by 30 April of each year, companies shall submit to the Commission and to the authorities of the flag States concerned, an emissions report concerning the CO₂ emissions and other relevant information for the entire reporting period for each ship under their responsibility, which has been verified as satisfactory by a verifier in accordance with Article 13.

¹⁰ REGULATIONS COMMISSION DELEGATED REGULATION (EU) 2016/2071 of 22 September 2016 amending Regulation (EU) 2015/757 of the European Parliament and of the Council as regards the methods for monitoring carbon dioxide emissions and the rules for monitoring other relevant information.

¹¹ According to COMMISSION DELEGATED REGULATION (EU) 2016/2072 of 22 September 2016 on the verification activities and accreditation of verifiers pursuant to Regulation (EU) 2015/757 of the European Parliament and of the Council on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport.

¹² Templates: COMMISSION IMPLEMENTING REGULATION (EU) 2016/1927 of 4 November 2016 on templates for monitoring plans, emissions reports and documents of compliance pursuant to Regulation (EU) 2015/757 of the European Parliament and of the Council on monitoring, reporting and verification of carbon dioxide emissions from maritime transport.

Any modification of the monitoring plan to be approved by the verifier	
Verification only by verifiers accredited by a European national accreditation body in accordance with EU Regulation (EC) No 765/200, irrespective of ship's Administration.	Verification by the Administration in accordance with IMO guidelines currently under development.
Carriage of EU Document of Compliance	Carriage of IMO statement of compliance

Table. 5 - Summary of data submitted by the ship that will be made public^{13 14}

EU System	IMO System
Identity of the ship	Anonymised data made available to IMO Member States for policy development use
Technical efficiency of the ship (EEDI or EIV)	-
Annual CO ₂ Emissions	-
Annual total fuel consumption	-
Annual average fuel consumption and CO ₂ emissions per distance travelled, and transport work ¹⁵	-
Annual total time spent at sea	-
Monitoring method	-
Validity dates for document of compliance	-
Identity of verifier	-
Any additional information that the shipowner has reported on a voluntary basis.	-

¹³ The Commission shall publish an annual report on CO₂ emissions and other relevant information from maritime transport, including aggregated and explained results, with the aim of informing the public and allowing for an assessment of the CO₂ emissions and the energy efficiency of maritime transport per size, type of ships, activity, or any other category deemed relevant.

¹⁴ Where, due to specific circumstances, disclosure of a category of aggregated data under paragraph 2, which does not relate to CO₂ emissions, would exceptionally undermine the protection of commercial interests deserving protection as a legitimate economic interest overriding the public interest in disclosure pursuant to Regulation (EC) No 1367/2006 of the European Parliament and of the Council (1), a different level of aggregation of that specific data shall be applied, at the request of the company, so as to protect such interests. Where application of a different level of aggregation is not possible, the Commission shall not make those data publicly available.

¹⁵ Transport work shall be determined by multiplying the distance travelled with the amount of cargo carried.

Table. 6 - Key Dates for the EU System

01 July 2015	Entry into Force
31 August 2017	Monitoring plan for the ship to be submitted to verifiers by this date. Ships becoming subject to this regulation (e.g. entering EU waters) for the first time after this date to submit a monitoring plan to the verifier without delay and no later than two months after first EU port call.
01 January 2018	CO ₂ emissions to be monitored (First monitoring year)
30 April 2019	From 2019, by 30 April each year companies are to submit an emissions report to the flag State and the EC.
30 June 2019	By 30 June in the year following the end of a reporting period ships that have carried out relevant voyages during a reporting period are to carry a valid document of compliance.

Table. 7 - Key Dates for the IMO system

MEPC 70 in October 2016	Adoption of Data Collection System
Spring 2018	Adoption of an initial IMO CO ₂ reduction strategy
January 2019	Data Collection commences
Summer 2020	Data for 2019 to be reported to IMO
Autumn 2020	Beginning of IMO analysis of fuel consumption data
Summer 2021	Data for 2020 to be reported to IMO
Spring 2021	IMO decisions on future policy to be made based on analysis of fuel consumption data.
Spring 2023	Adoption of revised IMO strategy including any additional CO ₂ reduction measures as appropriate.