

A comparative analysis between EU MRV and IMO DCS – the need to adopt a harmonised regulatory system.

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Abstract

This paper analyses and compares the two methods proposed for monitoring, reporting and verifying CO₂ emissions from shipping, namely the European Union MRV Regulation (EU 2015/757) and the Global Data Collection System of the IMO for fuel oil consumption of ships adopted as an amendment to MARPOL Annex VI in 2016. The two systems differ considerably in many aspects, such as, for example, the IMO DCS requires the reporting of ships' fuel consumption data, while the EU MRV involves the reporting of CO₂ emission; the weight of cargo carried and energy efficiency. As recently as February 2019, efforts have been made to achieve a harmonised approach to both systems, thus supporting compliance and minimising extra administrative costs incurred on shipping companies. The EU MRV system maintains the provisions on publication of individual ships' data of CO₂ emissions and energy efficiency, thus keeping transparency as one of its key advantages.

Keywords: CO₂ emissions, EU MRV, IMO DCS, MARPOL Annex VI, fuel consumption.

1. Introduction

Shipping contributes approximately 2,2% to global CO₂ emissions, making it the most environmentally friendly method for transporting goods internationally. A most recent IMO Study (GHG Study, 2014) proved that shipping is the most efficient way of transporting goods internationally. Based on the same study, the gradual increase of shipping transportation will subsequently increase the shipping emissions of CO₂ by 50% to 250% by 2050. This event, coupled with the rising global warming and various other emerging threats to the environment forced IMO and EU to implement strategies to prevent these events.

Firstly IMO enacted with MARPOL 73/78 International Convention for the Prevention of Pollution from Ships (Annex VI), which contributed to a great extent in reducing the environmental footprint of shipping, as far as atmospheric pollution from ships is concerned. The action of the IMO on carbon dioxide emissions came in 2013 with the adoption, for the first time since the Kyoto Protocol, of mandatory and operational measures which together provide an energy efficiency framework for the shipping sector (Psaraftis, 2018).

2. Comparative analysis of EU MRV and IMO DCS

2.1 European Union MRV Method

The European Union considers the IMO measures insufficient to achieve satisfactory emission reductions from international shipping. As a result, the EU tried to implement a revolutionary strategy based on monitoring, reporting and verification of CO₂ emissions, the so-called MRV method (Europa, 2016). The MRV method came into force with Regulation (EU) 2015/757, amending Directive 2009/16/EC and entered into force on 1 July 2015. With MRV, the European Union tried to overcome IMO by adopting a new legal framework, aiming at accurately quantifying ship fuel consumption and CO₂ emissions. From August 31, 2017, companies must submit to verifiers a monitoring plan for each ship in their fleet. Starting in 2019, companies must submit a CO₂ emissions report to the EU Commission and the authorities of the flag States concerned. (Laurent, 2017).

2.2 IMO DCS Method

The IMO on the other hand as early as October 2014 agreed, to develop a data collection system for fuel consumption of ships and that its operation should follow a three-step approach: data collection, data analysis, followed by decision-making on what further measures, if any, are required. Finally in October 2016 IMO adopted mandatory MARPOL Annex VI requirements for ships to record and report their fuel oil consumption, by resolution MEPC.278(70), entering into force on 1 March 2018. In addition, on or before 31 December 2018, in the case of a ship of 5,000 gross tonnage and above, the Ship Energy Efficiency Management Plan (SEEMP) shall include a description of the methodology that will be used to collect the data and the processes that will be used to report the data to the ship's flag State (Rony et al., 2019).

2.3 Comparison of the two systems

The following table will present essential differences between the two systems in comparison with each other.

Table 1. EU MRV and IMO fuel data system compared.

	EU MRV	IMO DCS
Entry into force	1 st July 2015	1 st March 2018
Scope	Ships 5000 GT or above Voyages to/from EEA ports of call	Ships 5000 GT or above International voyages
1st monitoring period	2018	2019
Procedures	Monitoring Plan (37 sections)	Data Collection Plan (SEEMP Part II) (9 sections)
Compliance (procedures)	Assessment Report (no need to be on-board)	Confirmation of Compliance (must be on-board)
Reporting	-Fuel consumption (port / sea) -Carbon emissions -Transport work (actual cargo carried) -Distance sailed -Time at sea excluding anchorage	-Total fuel consumption -Distance travelled -Hours underway -Design deadweight used as a proxy
Verification	Independently accredited verifiers (ISO 14064)	Flag administrations or Authorized Organizations
Compliance (reporting)	Document of Compliance (June 2019)	Statement of Compliance (May 2020)
Publication/ Disclosure	Annual reporting data including the individual ship information made publicly available	Anonymised data will be made available to IMO member states
A centralised database of fuel consumption	THETIS, MRV operated by EMSA.	IMO management Database of Fuel Consumption, (GISIS)
Data range for monitoring	Per voyage	Not specified
Data on cargo carried	The actual amount of cargo	Deadweight (design)

From the analysis above (Verifania Shipping, 2018), it can be observed that the transparency linked to the EU regulation eliminates a significant constraint that has prevailed. Also, the fact that the adoption of the tool is the first step towards adopting a European Union strategy for more forward-looking measures such as market-based ones indeed exerts a significant pressure on the IMO to step up effective policies to help mitigate carbon emissions. Even though the International Maritime Organization has responded to the demands of the European Union, adopting and ultimately putting into place the data collection system, there is a significant disadvantage over the regional regulation. So far, there are no references in its agenda to future policy, leaving many ambiguities and concerns about whether its implementation can be useful. On the contrary, the European Regulation explicitly states that fuel pricing at a later stage is a feasible option (European Commission, 2019).

3. Conclusion

The implementation of EU MRV and IMO DCS presents a significant compliance challenge for shipowners and operators. Central to this is the regulatory requirement to undertake data collection and independent verification. There has been a call by industry to reduce any associated administrative burden and provide transparency of process (Scott et al., 2017). The E.C. has mainly concentrated on key international concepts and definitions, redesigning the minimum content of the EU MRV Regulation monitoring plan. The E.C. maintains the provisions on publication of individual ships' data of CO₂ emissions and energy efficiency, thus keeping transparency as one of its key advantages, as well as aiming at collecting enough data both inside the EU and beyond, to propose an effective market-based mechanism, in the future. It remains to be seen whether the International Maritime Organization will go one step further to incorporate future policies that will allow both systems to merge fully and thus facilitate compliance through a harmonised approach. Finally, the comparative analysis of the abovementioned systems proves the necessity for a unanimous international maritime policy, based on proactive legislation, technological utilisation and a global cooperation plan.

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