

MEMO

THETIS-MRV: A web-based tool to facilitate the monitoring, reporting & verification of CO2 emissions

Background Information

The adoption of Regulation (EU) 2015/757 in April 2015 created an EU-wide legal framework for the monitoring, reporting and verification of CO2 emissions and other relevant information from maritime transport, which includes a system for monitoring, reporting and verification (MRV system) of CO2 emissions based on the fuel consumption of ships. The latter is considered as the first step of a staged approach for the inclusion of maritime transport emissions in the EU's greenhouse gas reduction commitment, alongside emissions from other sectors that are already contributing to that commitment. Public access to the emissions data is expected to contribute to removing market barriers that prevent the uptake of many cost-negative measures which would reduce greenhouse gas emissions from maritime transport.

The introduction of a EU MRV system is expected to lead to emission reductions of up to 2% compared to business-as-usual, and aggregated net costs reductions of up to EUR 1.2 billion by 2030 as it could contribute to the removal of market barriers, in particular those related to the lack of information about ship efficiency, by providing comparable and reliable information on fuel consumption and energy efficiency to the relevant markets. This reduction of transport costs should facilitate international trade. Furthermore, a robust MRV system is a prerequisite for any market-based measure, efficiency standard or other measure, whether applied at Union level or globally. It also provides reliable data to set precise emission reduction targets and to assess the progress of maritime transport's contribution towards achieving a low carbon economy.

Regulatory Framework

Regulation (EU) 2015/757 is the first of several steps in the EU's efforts to include the maritime transport sector in its overall policy to reduce greenhouse gas emissions. Through the Regulation a number of obligations for companies, Member States and the Commission have been introduced. These obligations are linked with key dates which could be summarised as follows:

- From 31 August 2017, companies shall submit a Monitoring Plan to an accredited verifier. This plan shall be specific to each ship over 5000 gross tonnes, irrespective of its Flag State, and should document the choice made and provide further details on the application of the selected monitoring method.
- From 1 January 2018, companies shall monitor and report, to an accredited verifier, data on each ship's CO2 emissions (over 5000 gross tonnes, irrespective of its Flag State) and other relevant information allowing for the determination of ships' efficiency or for the further analysis of the drivers for the development of emissions, while preserving the confidentiality of commercial or industrial information.
- From 2019, by 30 April of each year, companies shall submit a verified Emissions Report for each of the ships concerned (over 5000 gross tonnes, irrespective of their Flag State) to the European Commission and to the authorities of the Flag States concerned. The emissions report should contain the CO2 emissions and other relevant information for the entire reporting period for each ship under their responsibility.

- From 2019, by 30 June of each year, all ships over 5000 gross tonnes, irrespective of their Flag State having performed activities in the preceding reporting period and visiting EU ports shall carry on board a Document of Compliance issued by an accredited verifier. The Document of Compliance shall include the identity of the ship (name, IMO identification number and port of registry or home port); the name, address and principal place of business of the shipowner; the identity of the verifier; the date of issue of the document of compliance, its period of validity and the reporting period it refers to.
- From 30 June 2019, EU Member State authorities performing Port State Control Inspections will be required to verify that ships over 5000 gross tonnes, irrespective of their Flag State visiting EU ports carry a valid Document of Compliance issued by an accredited verifier. In the case of ships that have failed to comply with the monitoring and reporting requirements for two or more consecutive reporting periods and where other enforcement measures have failed to ensure compliance, the competent authority of the Member State of the port of entry may issue an expulsion order which shall be notified to the Commission, EMSA, the other Member States and the Flag State concerned.

In order to complete the relevant legal framework, the European Commission adopted on 22 September 2016, two Delegated Regulations (DR) amending the monitoring methods and rules in Annexes I and II to Regulation (EU) 2015/757, and further specifying rules for verification and accreditation of MRV shipping verifiers. These two delegated regulations are designed to help companies fulfil their monitoring and reporting obligations in a harmonised way, and set additional rules for verification and accreditation of MRV shipping verifiers.

Finally two Implementing Regulations (IR) have been adopted by the European Commission, on determination of cargo carried for categories of ship other than ro-ro passenger and container ships and on setting templates for monitoring plans (MP), emissions reports (ER) and documents of compliance (DoC).

Setting up the THETIS-MRV system

The European Maritime Safety Agency (EMSA) was tasked to develop a robust system for the monitoring and reporting of verified data on CO₂ emissions, annual fuel consumption and other energy efficiency parameters by the European Commission's Directorate General for Climate Action. A four-year cooperation agreement between the two parties was signed in March 2016 mapping out the delivery of cost-efficient services based on the use of existing infrastructure and supporting arrangements, as well as proven concepts and expertise.

The European Commission's Directorate General for Climate Action was keen to achieve a cost-efficient delivery of the requested services through the use of existing infrastructure, available experience and proven concepts to reduce budgetary impact for the Member States. It was also interested in drawing on EMSA's experience in developing technical solutions for the uniform implementation of EU law.

Extending the possibilities of the original THETIS information system, EMSA designed a purpose-built monitoring, reporting and verification system, THETIS-MRV. Through this web-based application all relevant parties foreseen by Regulation (EU) 2015/757 (companies, verifiers, EU Member States, Flag State of non-EU ships visiting EU ports and the European Commission) can fulfil their monitoring and reporting obligations in a centralised and harmonised way.

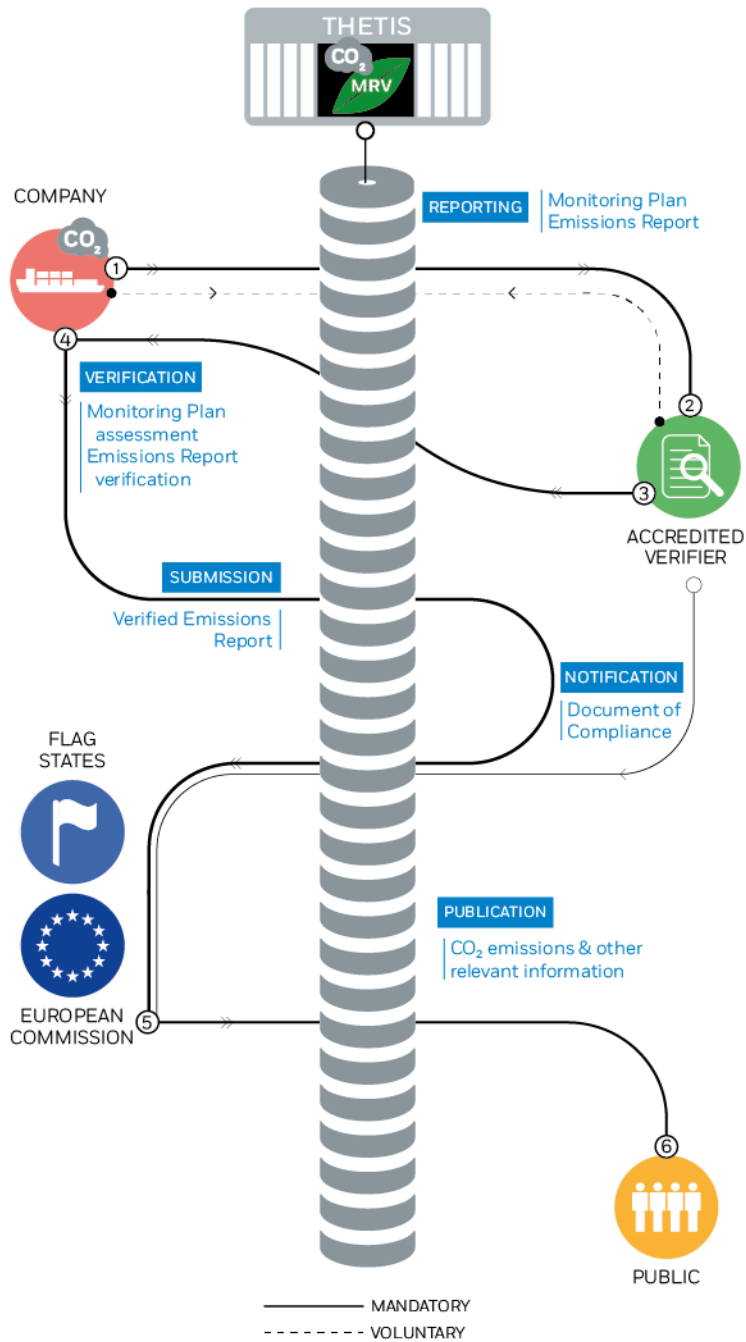


Figure 1: The THETIS-MRV System workflow

Understanding THETIS-MRV

THETIS-MRV has both a mandatory and a voluntary module. The mandatory module caters for the automated generation and submission of Emission Reports by companies which will then be assessed by an accredited verifier. The mandatory module also supports the issuance of Documents of Compliance in the system by the verifiers and their subsequent distribution to the European Commission and Flag States. The module will also support the European Commission to publish annual aggregated data per ship covering fuel consumption, CO2 emissions and average energy efficiency indicators, among others.

The voluntary module caters for all the provisions of Regulation (EU) 2015/757 for which the use of an automated system and templates has not been foreseen. Through the voluntary module, companies may:

- easily identify an accredited verifier
- draft their monitoring plans and make them available for verifier assessment using predefined templates that contain all the required information as per the IR provisions
- clone monitoring plans for sister ships
- retrieve ship particulars already uploaded into the system
- calculate aggregate emissions if emissions per voyage are uploaded into the system.

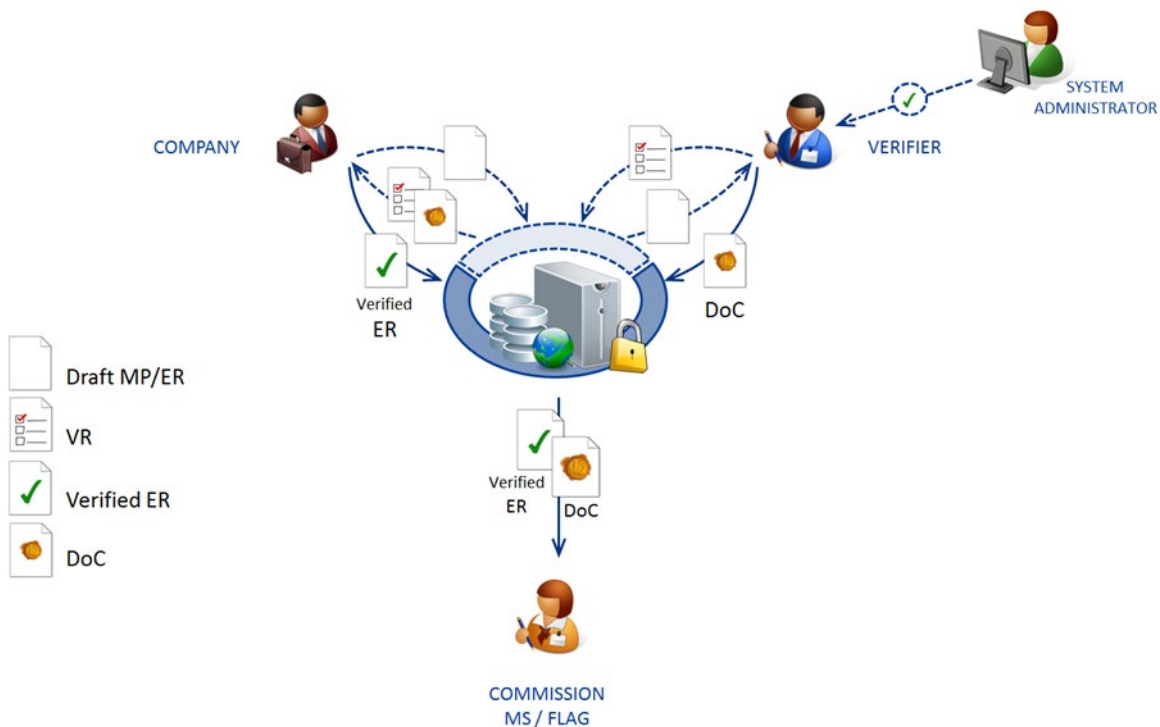


Figure 2: System Modularity - Mandatory & Voluntary

- Mandatory through the system: Emissions Report (ER) & Document of Compliance (DoC)
- Voluntary (in dashed lines): Companies may build their Monitoring Plan (MP) while the system will make it available for verifier assessment. This template contains all the required information as per the IR provisions.



European Maritime Safety Agency

THETIS-MRV is an integrated web-based automated reporting and notification system that allows the publication of reliable data on ships' CO2 emissions and other relevant information. The system is developed to offer a harmonised approach among all interested parties (companies, verifiers, Flag States & European Commission) while preserving the confidentiality of commercial or industrial information. This scope also aligns the EU MRV system with international initiatives to introduce efficiency standards for existing ships, also covering operational measures, and contributes to the removal of market barriers related to the lack of information.

The system has been available from 7 August 2017. To access this system one should be either: a company (shipowner/operator), accredited verifier or Member State/Flag State. The system can be reached at <https://mrv.emsa.europa.eu>

EMSA in its effort to support end-users setting up their accounts and performing the most relevant tasks has developed a series of video tutorials which are available at <http://emsa.europa.eu/thetis-mrv-videos.html>

Related queries, can be sent to thetis@emsa.europa.eu