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EU's emissions database is still a work in progress

It has been more than 10 months since the EU published its first comprehensive carbon emissions database. The insights are numerous. The challenges, however, still persist for a data set that could prove more consequential than its successors

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by Anastassios Adamopoulos | @Anastassios_LL | Anastassios.Adamopoulos@informa.com

EU's Monitoring, Reporting and Verification data offers an extensive picture of emissions in Europe. But that picture can keep changing and still has questionable data that could be the foundation for big decisions



THE 2019 MONITORING, REPORTING AND VERIFICATION DATA WILL BE PUBLISHED ON JUNE 30, 2020.

Source:
sympiot/Shutterstock.com

THE database behind the European Union's much vaunted effort to track and control shipping's carbon emissions is still undergoing regular modifications and amendments to the data almost a year after it first became public.

More than 200 different versions of the data behind the EU's Monitoring, Reporting and Verification data have been published, raising serious questions about its use as a baseline for future regulations on ships.

When the MRV database went live for the first time on June 30, 2019, ships calling at EU ports had emitted 152.15m tonnes of CO₂ in 2018.

An initial error, identified by Lloyd's List, was found to have inflated the actual values by almost 18m tonnes of CO₂, bringing down emissions to 134.21m tonnes of CO₂.

At the time the European Commission had described the database as “a work in progress”.

But over ten months later, the data — which should set the benchmark for international shipping emissions data collection and be used as the basis for the EU’s position in defining their rules — is still in flux.

Here today, gone tomorrow

After the early revision, emissions did not settle for long, hitting 137.3m tonnes of CO₂ just a few days later in July. Since that first correction was made, the reported CO₂ emissions for 2018 have jumped by 6% to 142.14m tonnes, as of the latest version of May 22, 2020.

Those are the emissions from 11,386 ships above 5,000 tonnes that loaded or unloaded cargo or embarked and disembarking passengers at a port in European Economic Area.

Another 637 ships are in the MRV, but without any emissions reported. Those are vessels that owners have voluntarily reported voluntarily to get document of compliance to facilitate possible future port state control inspections at EEA ports.

All in all, in the 335 days since June 30, 2019, there have been 203 different published versions of the 2018 MRV database.

Part of the reason behind the updates, according to those companies responsible for verifying shipping firms’ data, is that the latter give in their data even after April 30, the regulation’s deadline for companies to hand over a verified report to the commission on their previous year’s emissions.

Shipping companies are the ones that input data into the EU system, known as THETIS, and the verifiers confirm them afterwards. The database is still open to input new data and existing ones after April 30, even to this day for the 2018 year.

“It’s been a learning curve for many ship companies trying to establish processes to monitor and report the necessary data on a voyage level,” DNV GL MRV expert Jan Schreiber told Lloyd’s List.

Verifavia chief operating officer Nicolas Duchene said some owners had perhaps not realised the significance of the regulation until port state control authorities in Europe surveyed one of their vessels and asked for the MRV document of compliance, which they are meant to have on board from June 30.

Another challenge according to Rina’s senior director of marine excellence Andrea Cogliolo is that owners have all the necessary information they need to send on physical logbooks on board vessels. Scanning and sending those to verifiers, especially from a ship that is in the middle of the ocean, can be complicated and can often leave a very short timeframe for verifiers to assess the data.

“There is the deadline to have the data verified. There is no deadline for the owners,” he said.

The European Commission and EMSA have made it clear that they are not responsible for the contents of the database or any changes made to it. That lies with the companies and their verifiers.

They are also not responsible for its enforcement. That is the job of individual EU member states that are meant to set up penalties for ships failing to comply.

In the absence of direct enforcement from the EU, penalisation from port state control authorities may prove the main deterrent to delayed data submission.

The European Commission declined to comment.

However, Lloyd’s List understands that the Commission sees shipping companies as the ones with the responsibility to ensure the accuracy and completeness of their data.

“On our side, we have also had to learn through experience the mistakes that can occur in reporting, and how they can be detected and remedied as early as possible,” he added.

DNV GL has improved its verification process based on last year’s experiences, according to Mr Schreiber.

“We are correcting data from last year’s cycle as soon as we identify mistakes, which accounts for some of the revisions that can be seen on the database,” he said.

A spokesperson for the ABS, a verifier of more than 2,150 ships, also said that where it sees anomalies with data reporting it contacts the relevant parties to seek clarification.

Part of the problem appears to be the way the entire system is set up. Verifiers must compare what shipping companies submit to the THETIS database with what they have given them beforehand. This comparison must be done manually.

“It sounds easy enough to ask operators to enter verified data in the system but in practice, because the data entry is often a manual process and can be rather tedious, and because the final verification of THETIS data can only be visual, the risk that errors remain exists,” said Mr Duchene.

That there are mistakes and missing elements are hardly a secret nor are they intended to be. The European Commission said in its recently published report on the 2018 MRV database that while verified data from the MRV system is generally complete and sound, there were some inconsistencies and missing information seen for this first year.

“The first reporting year involved a learning curve for all actors. The lessons learned from this first year will inform improvements made to the MRV process,” it said in the report.

The errors, anomalies and changes, however, raise the question of when and to what extent the 2018 database can be considered reliable.

Mr Duchene believes it is reliable and that there is no better available option today.

“But there are some limitations associated with it that are important to have in mind. But the obvious inaccuracies compared to the overall number of ships are still a minor percentage,” he added.

Several verifiers noted that a useful tool that could at least mitigate the obvious errors, would be automatic alerts from the system when companies insert a value that is deemed to be unrealistic or when they leave a mandatory field empty.

The commission has acknowledged this in its report. It said the THETIS software could be updated to include warning and error messages when companies are entering seemingly incorrect or incomplete data.

Mr Duchene said he has voiced his suggestions for improvements for the past two years but has not received feedback from the EU. He said that during a January 2020 meeting between the commission and verifiers, in response to suggestions for simple changes to the system, such as preventing people from not inputting a value in a field, the commission said it could not make changes for the sake of the system’s stability.

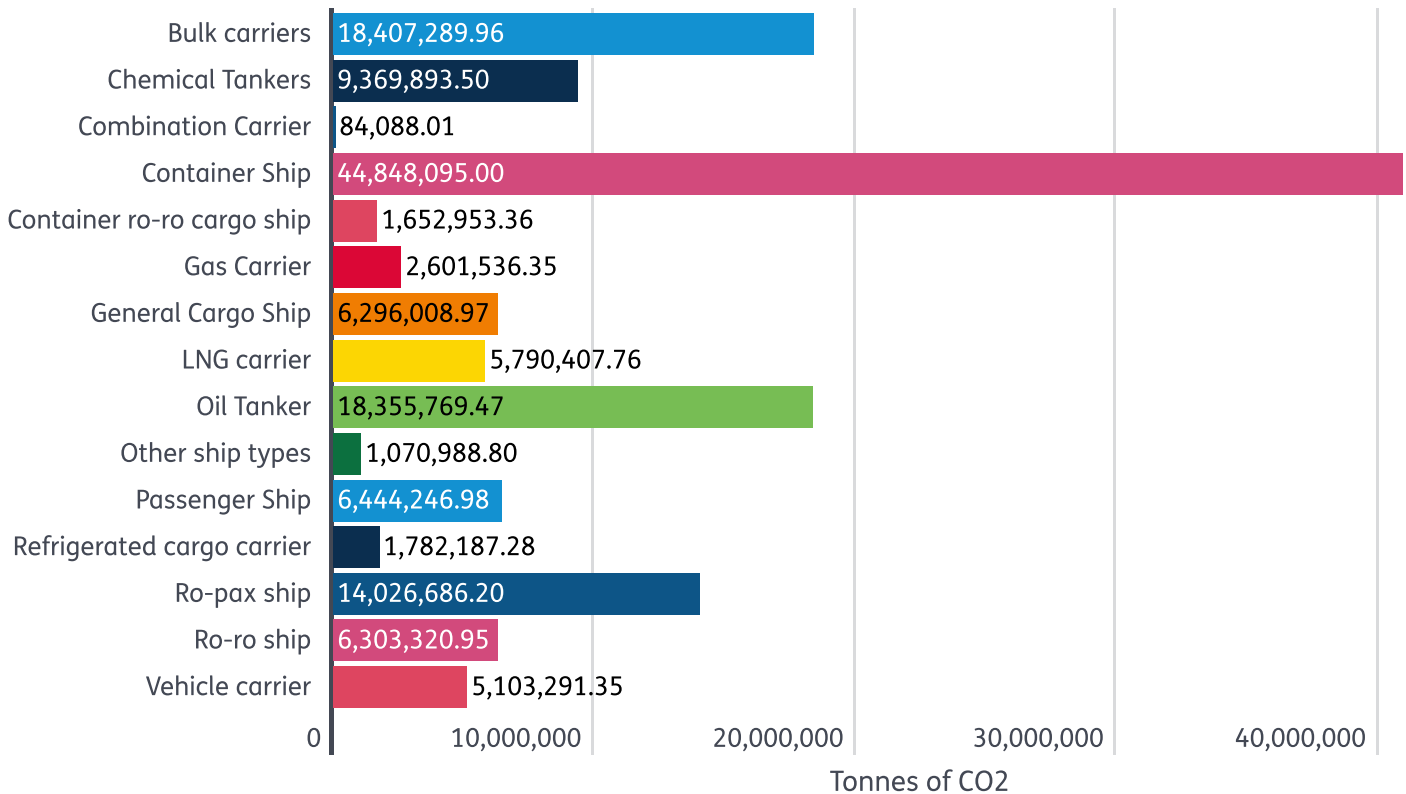
Mr Schreiber also said that DNV GL has proposed that EMSA develops an application program interface to communicate and exchange data system-to-system without having to use the manual web interface.

The 40% CO2 reduction question

An area where apparent anomalies are especially evident and highly consequential is for CO2 per transport work values. These measure the efficiency of a ship in moving cargo or passengers and the exact metric can differ depending on the type of vessel.

Some of the more obvious examples of questionable figures, are the 106 vessels that claim to emit at least 1,000 grams of CO2 per tonne-mile, including 49 that emit more than a tonne of CO2 per transport work.

Containerships dominated emissions at EU ports in 2018



Source: EMSA/ THETIS-MRV



Excessive values, outliers and a tedious verifications process

Other issues in the database are potential inaccuracies, missing data or values that deviate excessively from what would be considered normal.

Verifiers have admitted that the first year had been a challenging one in many respects, indicating that they too are learning along the way.

A spokesperson for Bureau Veritas, which has verified more than 900 ships, said that the MRV requirements and data validation process is new and different to verification and inspection processes in other marine activities.

“There is a lot of data to process. There have been some general anomalies in verification in a small number of cases shared across verification bodies,” they said.

Mr Schreiber said that there is a lot of new ground to cover when it comes to interpretation of whether certain operations are within the scope of MRV. There has also been limited guidance to verifiers from the commission and EMSA on this interpretation.

It is unclear how many of these and others are clerical errors, misreporting or actually accurate, no matter how unrealistic they seem.

Verifiers who were asked about their ships that had such abnormal values did not address them. A common suggestion, however, was that part of the anomalies in CO₂ per transport work more broadly is because of the focus on very specific voyages.

“In some cases, carbon intensity can be very high due, for example, to low cargo volumes or shorter journeys travelled within the MRV scope,” said Mr Schreiber.

UCL Energy Institute reader Dr Tristan Smith said his team filtered out the MRV data for obvious outliers in CO₂ per transport work values. The result was that out of 11,946 ships on the database at the time of the analysis, 81.4% — or 9,739 ships — were left.

“Like any data, there are quality issues, inaccuracy and uncertainty and this needs to be taken into consideration whenever it is used,” he said.

Mr Smith, however, added that his team did not investigate the outliers in detail because the sample of ships that was left is still large enough for their planned applications.

His latter point highlights that the intended use of the data is paramount in judging its potential value and flaws.

The 2018 MRV database is not significant simply because it is the first of its kind or because it gives an unprecedented image of emissions in European waters. It could also be the benchmark for potential regulations on ships calling at EU ports, including direct reductions in CO₂ per transport work.

The arrival of the new European Commission late last year reinvigorated a push from Brussels to regulate shipping emissions by including it in its Emissions Trading System. The move is staunchly opposed by the shipping industry which wants global regulation.

One of the crucial figures in this broader effort is Greens MEP Jutta Paulus who is spearheading a reform of the MRV regulation.

Perhaps the most striking feature of her extensive proposal is a mandatory requirement for ships calling at European ports to reduce their CO₂ per transport work by at least 40% by 2030 compared with 2018. The baseline would be based on the average performance per category of ships of the same size and type included in the 2018 MRV.

Given some of the irregularities already mentioned under this metric, there are also questions to be asked about that benchmark.

A spokesperson for Ms Paulus said questions around the MRV database are best addressed to the European Commission.

“We do believe that this data is reliable and sound, but, as with all new legislation, there certainly is a learning curve, because companies need to get used to the new system,” they said.

The Environmental Committee will vote on the final version of the MRV proposal in late June and the European Parliament will vote on it in early July, kicking off legislative negotiations with the European Commission and Council.

Despite his belief in the reliability of the database overall, Mr Duchene questioned whether 2018 would be a good reference point.

“Especially for putting together a baseline and having objectives and mandatory reductions requirements, 2018 alone is probably not the best year,” he said.