



# EU MRV Regulation

## Overview & Update

---

Verify. Comply. Navigate.®

September 2016

[www.verifavia-shipping.com](http://www.verifavia-shipping.com)





Monitoring



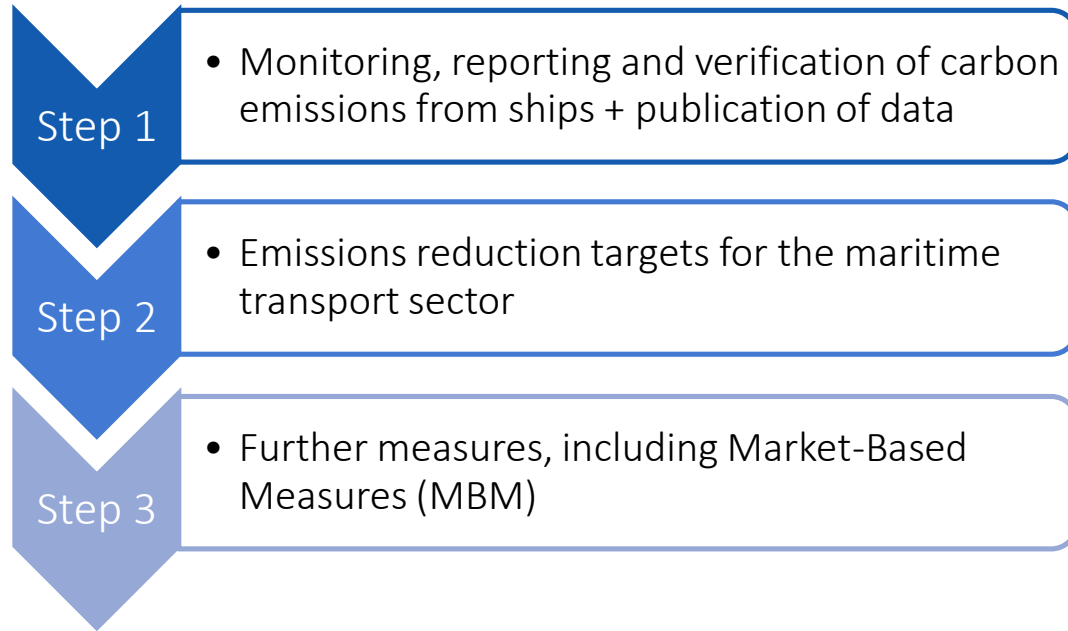
Reporting



Verification

...of fuel consumption,  
CO<sub>2</sub> emissions, and  
transport work of ships







Contribute to building an international data collection system



Set carbon efficiency standards for existing ships



Cut CO<sub>2</sub> emissions from the journeys covered by up to 2%, compared with a business as usual situation



Reduce net costs to owners by up to €1.2 billion per year in 2030



Provide insights into the performance of individual ships, their associated operational costs and potential resale value

19.5.2015

EN

Official Journal of the European Union

L 123/55

## 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

(Text with EEA relevance)



DRAFT DELEGATED REGULATION

## Shipping Emissions Monitoring Methods

DRAFT IMPLEMENTING REGULATION

## Shipping Emissions Cargo Carried

DRAFT IMPLEMENTING REGULATION

## Shipping Emissions Templates

DRAFT DELEGATED REGULATION

## Shipping Emissions Verification and Accreditation

**Consultation ended on 25/26 Aug. Acts will now be finalized and will enter into force before 31 December 2016**



# Which ships are included in the EU MRV Regulation?



Ships exceeding 5'000 GT



Regardless of Flag or country of ownership



Calling at an EU port from 1 January 2018



And carrying cargo or passengers for commercial purposes



The accountable entity is the **Ship**

Every ship must:

- ✓ Develop its own Monitoring Plan and have it assessed
- ✓ Monitor and report its emissions and activity data
- ✓ Have its Emissions Report independently verified
- ✓ Carry on-board a Document of Compliance (DOC)



# Which parameters must be monitored and reported?



Fuel  
Consumption  
at Sea



Fuel  
Consumption  
at berth



Time  
at Sea



Distance  
Sailed



Cargo  
On-board



Transport  
work



Energy  
Efficiency  
parameters



Emission sources to consider:

- Main engines
- Auxiliary engines
- Boilers
- Gas turbines
- Inert gas generators

- The Monitoring Plan is a **fundamental** document of the EU MRV (Art. 6 of the regulation).
- The Monitoring Plan is **ship-specific** and must describe the procedures in place to **monitor, collect, control and report** data for the EU MRV (fuel, emissions, cargo, distance, time).
- The Monitoring Plan must be submitted **before 31 Aug 2017 to an independent verifier** for assessment
- The assessment of Monitoring Plans must be **successfully completed before 31 Dec 2017**

DRAFT IMPLEMENTING REGULATION

# Shipping Emissions Templates

## Four available monitoring methodologies available

**Method A**  
Bunker Fuel Delivery  
Note (BDN) and  
periodic stocktakes  
of fuel tanks

**Method B**  
Bunker fuel tank  
monitoring on  
board

**Method C**  
Flow meters for  
applicable  
combustion  
processes

**Method D**  
Direct CO<sub>2</sub> emission  
measurements.

$$\text{CO}_2 \text{ Emissions} = \text{Fuel consumption} * \text{Emission factor}$$



Type of Fuel	Emission factors, IMO Values 2012/63 (t CO <sub>2</sub> / t fuel)
Heavy Fuel Oil	3.1144
Light Fuel Oil	3.1510
Diesel/Gas Oil	3.2060
Liquefied Petroleum Gas (Propane)	3.0000
Liquefied Petroleum Gas (Butane)	3.0300
Liquefied Natural Gas	2.7500

$$\text{CO}_2 \text{ Emissions} = \text{Fuel consumption} * \text{Emission factor}$$

# Which voyages must be reported?



- A Port of Call is a port where a ship stops to load or unload cargo or to embark or disembark passengers
- A voyage is a journey between two Ports of Call
- A reportable voyage is a voyage where at least one Port of Call is in the EU

# Cargo parameter depends on the type of ship



Ship Type	Cargo to be monitored per ship type
Oil tankers, chemical tankers, gas carriers, bulk carriers, refrigerated cargo ships and combination carriers	Actual mass of the cargo on-board
LNG carriers	Volume of cargo on discharge
Pax ships	Number of passengers
Ro-ro ships	Occupied lane-meters * default weight OR, nb of cargo units * default weight OR, actual mass of the cargo on-board
Container ships	Actual mass of the cargo OR, nb of TEU * default weight
Ro-pax	Passengers: number of pax Freight: same Ro-ro ships
Con-ro ships	Volume of cargo on-board
Vehicle carriers and general cargo ships	Mass of cargo and / or deadweight carried

# EU MRV compliance timeline

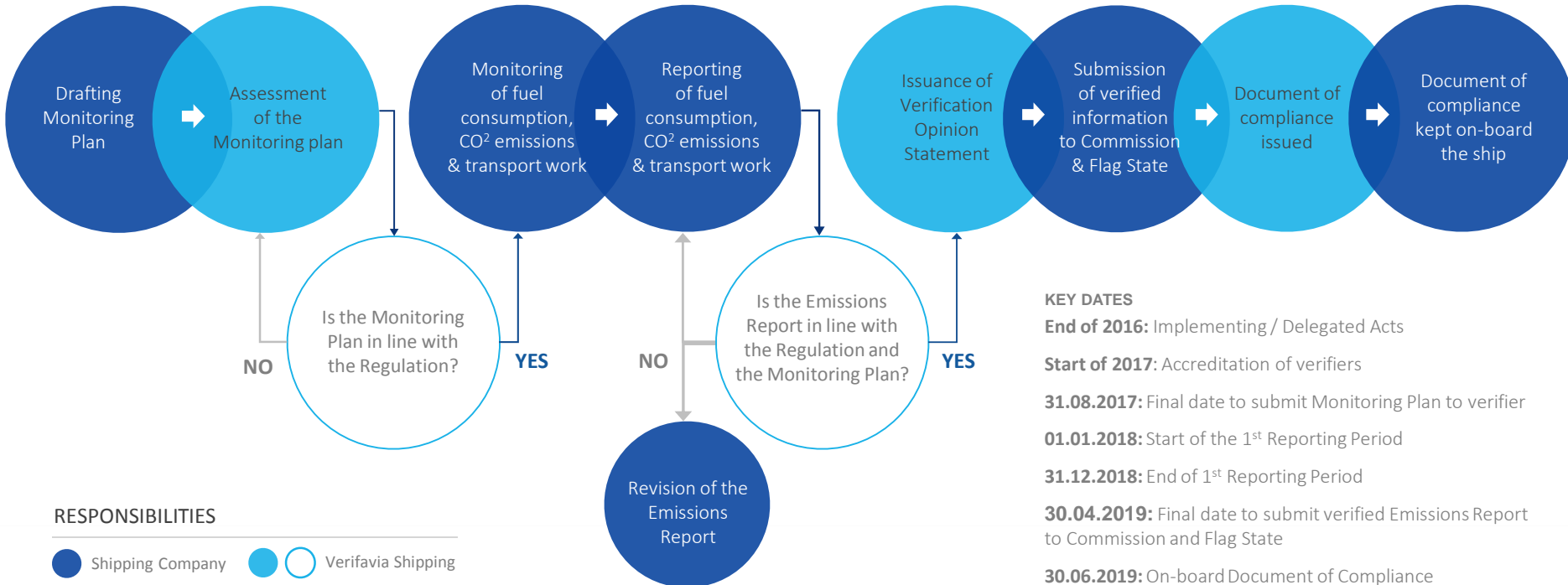
Before the start of the monitoring period (2017)

Monitoring period (2018 onwards)

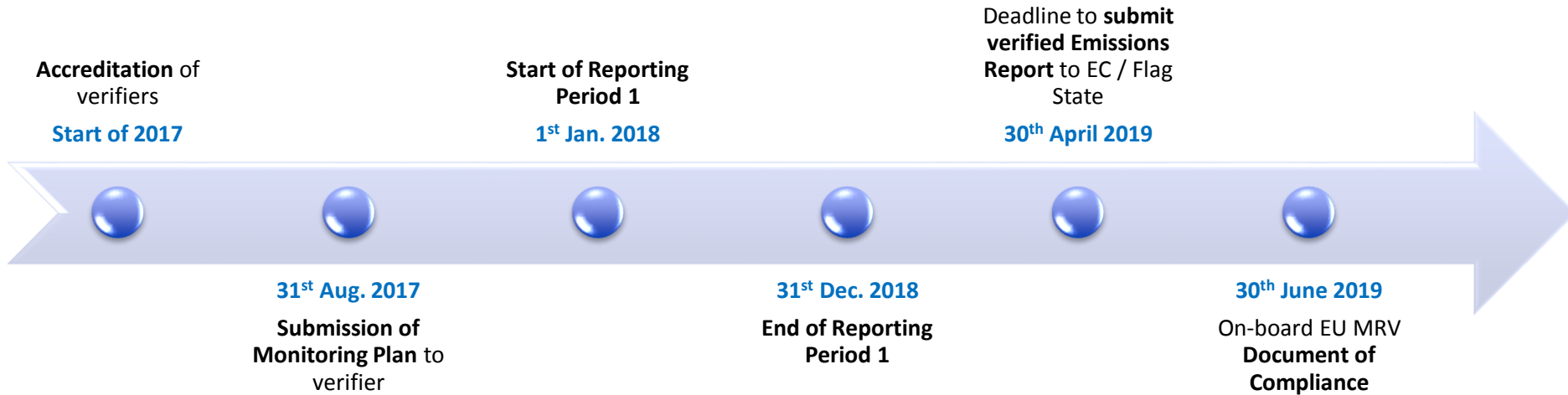
After the monitoring period (Jan-Apr 2019 Onwards)

Deadline 30 April 2019

Deadline 30 June 2019



# What are the key deadlines?





# What are the roles of the verifier?

## Administrative role:

- ✓ Communication with ship operator
- ✓ Delivery of Document of Compliance (DoC)

## Auditing role:

- ✓ Assessment of Monitoring Plan
- ✓ Verification of Emissions Report
- ✓ Delivery of Verification Opinion Statement

# Emissions Report to be submitted to the Commission and Flag State by 30 April of each year starting from

## Annual reporting data:

- ✓ Amount and emissions factor for each type of fuel consumed in total
- ✓ Total aggregated CO<sub>2</sub> emissions from all reportable voyages
- ✓ Aggregated CO<sub>2</sub> emissions from all domestic voyages
- ✓ Aggregated CO<sub>2</sub> emissions from all outbound voyages
- ✓ Aggregated CO<sub>2</sub> emissions from all inbound voyages
- ✓ CO<sub>2</sub> emissions within ports at berth
- ✓ Total distance travelled
- ✓ Total time spent at sea
- ✓ Total transport work

## Energy efficiency parameters:

- ✓ Fuel consumption per distance = total annual fuel consumption/total distance travelled
- ✓ Fuel consumption per transport work = total annual fuel consumption/total transport work
- ✓ CO<sub>2</sub> emissions per distance = total annual CO<sub>2</sub> emissions/total distance travelled
- ✓ CO<sub>2</sub> emissions per transport work = total annual CO<sub>2</sub> emissions/total transport work

# What happens in case of non-compliance?

## Non-compliance penalties:

- ✓ Defined by each Member State
- ✓ Must be effective, proportionate and dissuasive

## In case of non-compliance for two or more consecutive years:

- ✓ Expulsion order issued by the Member State of the port of entry
- ✓ Ban from entering any EU port



**EU MRV requirements are now fully defined, it is time to engage into the MRV compliance process!**



**Become MRV-Ready now:  
Boost your sustainability credentials,  
Ensure compliance in advance, and  
gain an Operational & Commercial  
competitive advantage!**



# Thank You

Get in touch with us!

**Julien Dufour, CEO**

**Nicolas Duchêne, Technical Director**

**Nikolas Theodorou, Managing Director**

Verifavia (UK) Ltd. :

20-22 Wenlock Road, London N1 7GU (UK), +44 207 117 2540

Verifavia SARL:

15 rue des boulangers, 75005 Paris (FR), +33 665 697 489

Verifavia Shipping (Hellas) Ltd:

Athens (GR), +30 6956 302 131

[contact@verifavia-shipping.com](mailto:contact@verifavia-shipping.com)

[www.verifavia-shipping.com](http://www.verifavia-shipping.com)

