

MARE NOSTRUM

The Adoption of Carbon Footprint Code in the Shipping Industry

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Section 1 Background Knowledge

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1. Background Knowledge



1. Background Knowledge

1) Climate Changes in Recent Days



Total Emissions of CO₂ in the Shipping Industry



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Ranking of Total CO₂ Emissions in International Shipping in 2016



Source:

https://web.archive.org/web/20180330212825/http://edgar.jrc.ec.europa.eu/booklet2017/CO2_and_GHG_emissions_of_all_world_countries_booklet_online.pdf

Ranking of Total CO₂ Emissions in International Shipping in 2016



Source:

8/34 https://web.archive.org/web/20180330212825/http://edgar.jrc.ec.europa.eu/booklet2017/CO2 and GHG emissions of all world countries booklet online.pdf

1. Background Knowledge





6 Greenhouse Gases in Kyoto Protocol



According to the IMO 4th GHG Study, CO₂ accounts for 98% of total GHG Emissions from the Shipping Industry.

Section 2 Carbon Footprint?

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Definition

:: the total amount of carbon released from the beginning of production till the product being consumed or discarded

Role

:: Become the standard for calculating GHG emissions to help accurately obtain the actual GHG in the shipping industry







"A calculation that estimates the amount of emissions in carbon dioxide equivalent that a country, a business, an organization, an individual or another stakeholder is responsible for."

Source: https://unfccc.int/sites/default/files/resource/CNN%20Guidelines.pdf



"A carbon footprint is a measure of the impact your activities have on the amount of CO_2 produced through the burning of fossil fuels and is expressed as a weight of CO_2 emissions produced in tonnes."

Source: WHO, Reducing your Carbon Footprint



"Sum of GHG emissions and GHG removals in a product system, expressed as CO₂ equivalents and based on a life cycle assessment using the single impact category of climate change."

Source: https://www.iso.org/obp/ui/#iso:std:iso:14067:ed-1:v1:en

ISO 14067:2018

Greenhouse gases — Carbon footprint of products Requirements and guidelines for quantification



Zero-Emission Vessels 2030. How do we get there?

We're considering the drivers that will make Zero-Emission Vessels viable. Part of the Low Carbon Pathways 2050 series.



Reduce your <mark>carbon footprint.</mark> But first, find out what it is.



The aviation industry has a goal of halving total carbon emissions by 2050, relative to 2005 levels.

2. Carbon Footprint?

Total emissions of CO₂



	2	nd IMO GHG Study (2009)	3	rd IMO GHG Stuc (2014)	ly	4 th IMO GHG Study (2020)	5 ^t (Fi	^h IMO GHG Study urther to be Conveyed)
2007		1046 million		1100 million		-		
2012		-		938 million		962 million		
2018		-		-		1056 million		

As IMO's research progresses with new technologies, data will become more accurate.

Who used this term? When the term was first used?





A shared perception of what CF signifies exists, but the meaning and extent needs to be *clarified*

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Our Proposal to IMO

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How will it be implemented?

Under the lead of MEPC

What is the range?

from its definition to Market Based Measurement

Composition?

Chapter 1:: Definition

Chapter 2:: Method of Measurement

Chapter 3:: CF LEVY

Chapter 4:: CF BOARD



Part IX - Marine Environment Protection Committee

The Marine Environment Protection Committee shall consist of all the Members.

The Marine Environment Protection Committee shall consider any matter within the scope of the Organization concerned with the prevention and control of marine pollution from ships and in

a. Perform such functions as are or may be conferred upon the Organization by or under international conventions for the prevention and control of marine pollution from ships, particularly with respect to the adoption and amendment of regulations or other provisions, as

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the IMO's term of Carbon Footprint should focus on the ship itself



"Total Carbon released from *Shipbuilding to Scrap*"





Shipbuilding, Operating, and Scrap Phase

(1) Shipbuilding Phase



- Amendment to Adopt Additional Article in **MARPOL Annex VI Regulation 2: Definition** *"Ship construction starts when the structural steel is cut for the first time"*
- Assuming the amount of carbon emitted from the construction existing ship as the construction of newly built ships with similar G/T
- Additional articles regulating carbon measurement

(2) Operating Phase



Amendment to Adopt Additional Article in **MARPOL** :: Ship operation phase is "neither Shipbuilding nor Scrap"

Utilize IMO Data Collection System (DCS) for Fuel Consumption

(3) Scrap Phase



- Amendment to Adopt Additional Article in **Ship Recycling Convention Article 2: Definition** *"Scrap" means when dismantling has progressed, and the ship is no longer functional"*
- The need for additional compulsory regulations to calculate carbon
- Scrap phase, like the Shipbuilding phase, assumes the carbon emitted from existing ships to newly built ships with similar gross tonnage.

CF LEVY







Suggest IMO conduct further studies on Market Based Measure (MBM)

CF LEVY can be a way to **compromise** the two Principles

Based on the total amount of carbon emission through **S2S** measurement



Uniform tax rate per ton of fuel

An extremely low tax rate in the initial few years.

Emission reduction targets based on ship types

Ships that fail to meet targets) Additional Tax as a punitive taxation method







Act as Technical Group for Code amendment in the future



The CF Board is responsible for researching **Future Amendments** of the Code.



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Conclusion & Summary

4. Conclusion & Summary

Our Idea Came From…

4.6 The list of candidate measures is non-exhaustive and is without prejudice to measures the Organization may further consider and adopt.

MO has opened the possibility of various methods **not limited to** measures mentioned in the Initial Strategy

Unprecedented Trial EEDI EEOI CII CII SEEMP Technical Measure Operational Measure Market Based Measure For the MBM, accurate carbon emission should be measured

MARE NOSTRUM Aims to Propose





Thank You for Your Attention