Decarbonization: Challenges and Possibilities after COVID-19

Harilaos N. Psaraftis
Professor
DTU Management
Disclaimer

• *This talk is only a reflection of some random thoughts on the subject.*
• *No guarantee of any academic rigor, correctness or clairvoyance.*
• *Any opinions expressed herein are only my own.*
• *If you quote me, I will point to this disclaimer! 😊*
First, the good news!

• Jan. 11, 2021: Covid-19 rapid test (ATH): negative
• Jan. 11, 2021: Covid-19 rapid test (CPH): negative
• Jan. 15, 2021: Covid-19 PCR test (CPH): negative
“Initial IMO strategy”

CENTRAL AMBITION

- Reduce annual GHG emissions by ≥ 50% by 2050 (vs 2008 levels)
- Reduce annual CO2 emissions per transport work by ≥ 40% by 2030, pursuing efforts towards 70% by 2050 (vs 2008 levels)

APRIL 2018, MEPC 73
# Timeline to 2023

<table>
<thead>
<tr>
<th>Streams of activity</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
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<tbody>
<tr>
<td>Candidate short-term measures (Group A) that can be considered and addressed under existing IMO instruments</td>
<td>Invite concrete proposals</td>
<td>Consideration of proposals</td>
<td>Consideration and decisions on candidate short-term measures that can be considered and addressed under existing IMO instruments e.g. further improvement of the existing energy efficiency framework with a focus on EEDI and SEEMP, ITCP</td>
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<td>Candidate short-term measures (Group B) that are not work in progress and are subject to data analysis</td>
<td>Invite concrete proposals</td>
<td>Consideration of proposals</td>
<td>Consideration and decisions on candidate short-term measures that are not work in progress and are subject to data analysis, consistent with the Roadmap</td>
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<tr>
<td>Candidate short-term measures (Group C) that are not work in progress and are not subject to data analysis</td>
<td>Invite concrete proposals</td>
<td>Consideration of proposals</td>
<td>Consideration and decisions on candidate short-term measures that are not work in progress and are not subject to data analysis e.g. National Action Plans guidelines, lifecycle GHG/carbon intensity guidelines for fuels, research and development</td>
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<tr>
<td>Candidate mid-/long-term measures and action to address the identified barriers</td>
<td>Invite concrete proposals</td>
<td>Consideration of proposals including identification of barriers and action to address</td>
<td>Progress made and timelines agreed on the development of mid- and long-term measures</td>
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<td>Impacts on States</td>
<td>Invite concrete proposals</td>
<td>Finalization of procedure</td>
<td>Measure-specific impact assessment, as appropriate, consistent with the Initial Strategy, in particular paragraphs 4.10 to 4.13</td>
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<tr>
<td>Fourth IMO GHG Study</td>
<td>Scope</td>
<td>Initiation of the Study</td>
<td>Progress report</td>
<td>Final report</td>
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<tr>
<td>Capacity-building, technical cooperation, research and development</td>
<td>Development and implementation of actions including support for assessment of impacts and support for implementation of measures</td>
<td>Ship fuel oil consumption data collection pursuant to regulation 22A of MARPOL Annex VI (DCS)</td>
<td>Initiation of revision of the Initial Strategy taking into account IMO DCS data and other relevant information</td>
<td>Acceptance of revised Strategy</td>
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2 Includes ongoing work pursuant to regulation 21.6 of MARPOL Annex VI.

3 "In aiming for early action, the timeline for short-term measures should prioritize potential early measures that the Organization could develop, while recognizing those already adopted, including MARPOL Annex VI requirements relevant for climate change, with a view to achieve further reduction of GHG emissions from international shipping before 2023." (paragraph 4.2 of the Initial Strategy).

4 Assessment of impacts on States to be undertaken in accordance with the procedure to be developed by the Organization.
Initial IMO Strategy

LONG LIST OF CANDIDATE MEASURES

- SHORT TERM (until 2023)

- MEDIUM TERM (2023-2030)

- LONG TERM (2030-2050)

SAMPLE MEASURES

- Goal based vs prescriptive

- Market Based Measures

- Alternative fuels
Lots of

• Meetings at the IMO
• Discussions
• Proposals for short-term measures

• MEPC 73 (2018)
• MEPC 74 (2019)
• MEPC 75 (2020)
• As many as 7 intersessional meetings
Most recent physical IMO meeting on the subject

(pic taken by me from the DK delegation’s spot)
Most recent physical IMO meeting on the subject

WHEN WAS THAT MEETING?
November 10-16, 2019!

- 6th INTERSESSIONAL MEETING OF THE WORKING GROUP ON REDUCTION OF GHG EMISSIONS FROM SHIPS
- Big discussion on potential measures

- Next meeting was scheduled for March 2020, right before MEPC 75
November 10-16, 2019!

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IMO delay due to Covid-19

• 7th intersessional postponed to Oct. 2020
• MEPC 75 postponed to Nov. 2020
• MEPC 76 postponed to June 2021
Back to good old days: MEPC 74, April 2019

International Maritime Organization aims to halve global emissions by 2050

Lobbying for speed limits
Back to good old days: MEPC 74, April 2019

• A number of NGOs, but also some shipping companies and some IMO member states (France, Greece) advocated mandatory speed limits as a means to curb GHG emissions
IMO snubs mandatory speed limits

After a week of technical negotiations, most regulators agreed that introducing mandatory speed limits on ships would not be the right move. Instead, the IMO should adopt measures that force ships to meet specific targets, but do not favor a specific way of getting there.
Convergence to 2 approaches

1. technical approach which includes the proposal from Norway and Japan on EEXI; and proposals from Greece and BIMCO on power reduction; and

2. operational approach which includes the proposal from Denmark et al. on strengthening the SEEMP; and proposals from France and CSC.

Combined EEXI/SEEMP/CII measure
First COVID-19 blow

• Delay IMO action on GHGs

• 4 meetings were scheduled for 2020 (2 spring, 2 fall) including MEPC 75 and MEPC 76

• Of these, only 2 meetings took place in Oct+Nov 2020, and were ONLINE
DTU participation in this process

INTERSESSIONAL MEETING OF THE WORKING GROUP ON REDUCTION OF GHG EMISSIONS FROM SHIPS 7th session
Agenda item 2

FURTHER CONSIDERATION OF CONCRETE PROPOSALS TO IMPROVE THE OPERATIONAL ENERGY EFFICIENCY OF EXISTING SHIPS, WITH A VIEW TO DEVELOPING DRAFT AMENDMENTS TO CHAPTER 4 OF MARPOL ANNEX VI AND ASSOCIATED GUIDELINES, AS APPROPRIATE

Detailed impact assessment of the mandatory operational goal-based short-term measure

Submitted by Denmark, France and Germany

SUMMARY

Executive summary: This document provides a detailed impact assessment of the mandatory operational goal-based short-term measure submitted by Denmark, France, and Germany in document ISWG-GHG 7/2/9. The detailed impact assessment is undertaken in accordance with the procedure for a comprehensive impact assessment as defined in MEPC.1/Circ.885. The detailed impact assessment is provided in annex to this document, and recommendations are provided in paragraph 15 of this document.
DETAILED IMPACT ASSESSMENT OF THE MANDATORY OPERATIONAL GOAL-BASED SHORT-TERM MEASURE proposed in doc. ISWG-GHG 7/2/9

Harilaos N. Psaraftis and Thalis Zis
Department of Technology, Management and Economics
Technical University of Denmark

Ronald A. Halim
Equitable Maritime Consulting
Most recent paper

Int Environ Agreements
https://doi.org/10.1007/s10784-020-09523-2

ORIGINAL PAPER

Impact assessment of a mandatory operational goal-based short-term measure to reduce GHG emissions from ships: the LDC/SIDS case study

Harilaos N. Psaraftis¹ · Thalis Zis¹

Accepted: 22 December 2020
© The Author(s), under exclusive licence to Springer Nature B.V. part of Springer Nature 2021
Even more recent paper

Article
Decarbonization of Maritime Transport: Is There Light at the End of the Tunnel?

Harilaos N. Psaraftis* and Christos A. Kontovas

•(quick answer: no)
The IMO process
The IMO process
Enter the EU!

- Upon taking office (summer 2019), the new European Commission President Ursula von der Leyen said that **she wants shipping into the EU ETS!**
To decarbonise maritime transport, Parliament voted to include CO2 emissions from the sector in the EU Emissions Trading System.

On Wednesday, Parliament adopted its position on the Commission’s proposal to revise the EU system for monitoring, reporting and verifying CO2 emissions from maritime transport (the “EU MRV Regulation”) with 520 votes to 94 and 77 abstentions.
ETS is a Market Based Measure (MBM)

• MBMs at the IMO: 2010-2013
  • 11 MBM proposals at MEPC 60 (March 2010)
  • Expert Group formed by IMO Sec. General
  • Feasibility study (300-page report)
  • Work: May- August 2010
  • Report presented at MEPC 61 (Sep. 2010)
  • Various discussions

• DISCUSSION SUSPENDED IN 2013
MBMs in the Initial IMO Strategy

• Only **obliquely** included under **medium term measures**: new/innovative emission reduction mechanism(s), possibly including Market-based Measures (MBMs), to incentivize GHG emission reduction;

• Little visible interest in MBMs right now
TWO PROCESSES

EU

• Full speed ahead with EU ETS

IMO

• Discussion delayed on short term measures
QUESTIONS

• Any connection between the two processes?

• Do we know how an EU ETS would affect whatever short-term measure is adopted by the IMO?
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NO!
EU ETS

- Still not clear how it will work

- Intra-European trips only? (like aviation)

- Or include trips to and from Europe, like EU MRV?

- Impact assessment to be finalized in 2021

- Shipping associations are opposed to it
Q: how does COVID-19 impact decarbonization at a substantive level?

• IMPACT SO FAR

• FUTURE IMPACT
Impact so far

(the irony)

• COVID-19 has resulted in some **GHG reductions** in 2020, due to reduction of trade

• No IMO or EU decision was necessary for that!

• Q: how much was the reduction of trade?
Weekly average containership port calls during the first 31 weeks of 2020 compared to the same period in 2019
Weekly container ship port calls, world (source: UNCTAD)
UNCTAD cont’d

North America

Northern Europe

Weekly container ship port calls, 2019 and 2020
moving four-week average
Selected countries of North America

Weekly container ship port calls, 2019 and 2020
moving four-week average
Selected countries of Northern Europe
More UNCTAD

China and Hong Kong

Southern Europe

Graphs showing weekly container ship port calls, 2019 and 2020, with moving four-week average.
More UNCTAD

Change in port calls by market segments, Q1 and Q2 2020 vs Q1 and Q2 2019

![Bar chart showing change in port calls by market segments Q1 and Q2 2020 vs Q1 and Q2 2019. The chart includes categories such as Container, Wet Bulk, Dry Bulk, Breakbulk, LNG, LPG, and Ro/RO. The changes are represented as percentages, showing decreases and increases.]
First 3 quarters 2020: Comparing 2020 with 2009

- Courtesy: PortEconomics.eu, Prof. T. Notteboom

Theo Notteboom¹,²,³ · Thanos Pallis⁴ · Jean-Paul Rodrigue⁵

Fig. 5 Average operating margins of main container carriers by quarter, 1Q 2008 to 2Q 2020. Notes Average of CMA CGM (incl APL to 2Q 2016), CSCL (to 1Q 2016), COSCO (from 3Q 2018), Evergreen, Hanjin (to 3Q 2016), Hapag-Lloyd (incl CSAV to 2014), HMM, Maersk, ONE (from 2Q 2018, formerly K-Line, MOL and NYK), Wan Hai, Yang Ming, and Zim. MSC, the world’s second-largest container shipping company, does not report on financial results given its family-owned nature Source: authors’ compilation based on Alphaliner data
Other Covid-19 side effects

• COLLAPSE OF FUEL PRICES IN 2020
• Containerships sailing around Africa, at an increased speed, as this was cheaper to do than paying the Suez canal tolls → More CO2
• Tankers being used as storage, with tanker rates going through the roof

• Scrubber investments suddenly look dubious (increase in payback period)
PROSPECTS

Glass half empty

• Investing in green technologies is more difficult
• Especially since fuel prices are rock bottom

Glass half full

• Industry will survive
• Maybe start from a cleaner slate, and try to find win-win solutions
THE NEED FOR BOLD DECISIONS

4th IMO GHG study

QUESTIONS

- What to do to reverse the trend?
- What to do to reach the 2050 reduction target?

- CO₂ equivalent emissions have increased from 977 million tonnes in 2012 to 1,076 million tonnes in 2018 (a 9.6% increase).

- Some measures need to be taken, yesterday!
BIGGEST PROMISE (imho)

Alternative, low carbon fuels

• Lots of discussions, R&D

• These fuels need to become viable to be used

• If fossil fuels are cheap, people will use them
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Role of MBMs

• A proper MBM (eg, a carbon tax) will incentivize the development of alternative fuels and other energy saving technologies
MBM SUSHI
Market Based Measures for Sustainable Shipping

• PhD project (2019-2022): Sotiria Lagouvardou
• Objective: develop a Market Based Measure (MBM) scheme by which greenhouse gas (GHG) emissions from international shipping can be reduced by at least 50% by 2050 as compared with 2008 levels.
• Funding: A/S D/S ORIENTS FOND

• Advisory Committee:
Recent decarb book

- Out in 2019
- Nothing on COVID-19!
Recent decarb papers

THANK YOU

hnpsar@dtu.dk