INTERFERRY

Representing the Ferry Industry World-Wide

GHG Workshop

14 January 2020

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Representing the Ferry Industry World-Wide

AMBITION

- Address the current time table at IMO and EU levels
- Proposals for mandatory requirements for existing ships
- Address revised transport metrics for RoRo and Ropax
- Brief on the ETS discussion

INTERFERRY

Representing the Ferry Industry World-Wide

1. Timeline <2020
2. Short Term Measures
3. IMO timeline 2020 -
4. What is
    1. EEDI
    2. EEXI
    3. Carbon Indicator
    4. IMRB
    5. ETS
5. Speed Reduction
6. Transport Work
7. Planned activities
8. Questions

1. Timeline <2020

Period	Issue	Status	Details
2009 - 2013	Develop EEDI	In force	2015 Phase 1: -10% (-5%) 2020 Phase 2: -20% (0%) 2025 Phase 3: -30% (-15%)
~2008-2012	Develop global financial mechanism	Failed	EU pushed too hard too soon
2016 – 2018	Corr. for ro-ro/ro-pax	In force	20% correction and size cut-off
2017 -	Enhanced EEDI req's	Pending	Early Phase 3 for some segments Contain. Ph 4: -30% to -50%

1. Timeline <2020

Period	Issue	Status	Details
2013 -	Unilateral EU Emission Trading Scheme (ETS)	Plan B	Poor experience from aviation ETS. EU clearly wishes to include maritime some way. Especially intra-EU should be aware.
2018	IMO Targets agreed	Pending	40% efficiency improvement by 2030 50% absolute improvement by 2050 - as compared to 2008
2018	IMO Timeline agreed	Pending	2023 Short term measures shall be implemented 2030 Medium term measures dito
2020-2021	Agree on short term measures	Pending	To meet 2023 target, short term measures need to be agreed

2. Short Term Measures

Most relevant short term measures on the table (ISWG-GHG5)

	Proposal	Explanation
1.2	Mandate energy efficiency improvements for existing ships (EEXI)	There is industry support of this proposal, but it is duly noted that segments that struggle with EEDI will also struggle with EEXI.
2.1	Develop and apply EEDI framework for ships with non-conventional propulsion	Norwegian proposal. Applicable to diesel-electric ships, but likely not HSC. Begs the question “when does conventional become non-conventional?”.
2.2	Introduce further EEDI reduction phases and rates	Ro-ro and ro-pax already struggle with EEDI Phase 3, which we have communicated to the IMO CG in relation to discussions on Phase 4.
4.1	Evaluate possible operational energy efficiency indicators and develop calculation guidelines	This is a central issue for Interferry. We know from the MRV that efficiency indicators are very challenging for our segment.

2. Short Term Measures

	Proposal	Explanation
5.1	Implement a speed regulation scheme including, for each EEDI category: speed objective, type of speed regulated, enforcement, sanctions and consideration of newcomers and specific situations	This issue is dividing the industry. Some segments can live with (or even welcome) speed limitations, whereas others do not. Interferry managed to establish a special EEDI for ro-ro/ro-pax on the argument that speed is for the operator to decide on.
9.3	Complete the current development of IMO technical guidelines for shoreside electrical power systems	In and by itself, this proposal should be supported, but on a wider scale, electrical supply is very important for our segment.
10.1	Develop an R&D programme that would enable the industry, Member States, and other stakeholders to fully achieve the objectives and vision of the Initial Strategy	This is an industry proposal (ICS et al) which seeks to provide funding from the industry itself (bunker levy) for the R&D programme. It is not clear to what extent this would be beneficial for our segment.
12.3	Standardize the method for calculating the GHG impact of various fuels and assign robust and appropriate carbon factor (Cf) values to marine fuels which do not currently have one.	For Short Sea Shipping, alternative fuels – including electricity – will be a very important reduction tool and the inherent Cf values of fuels should be standardized.

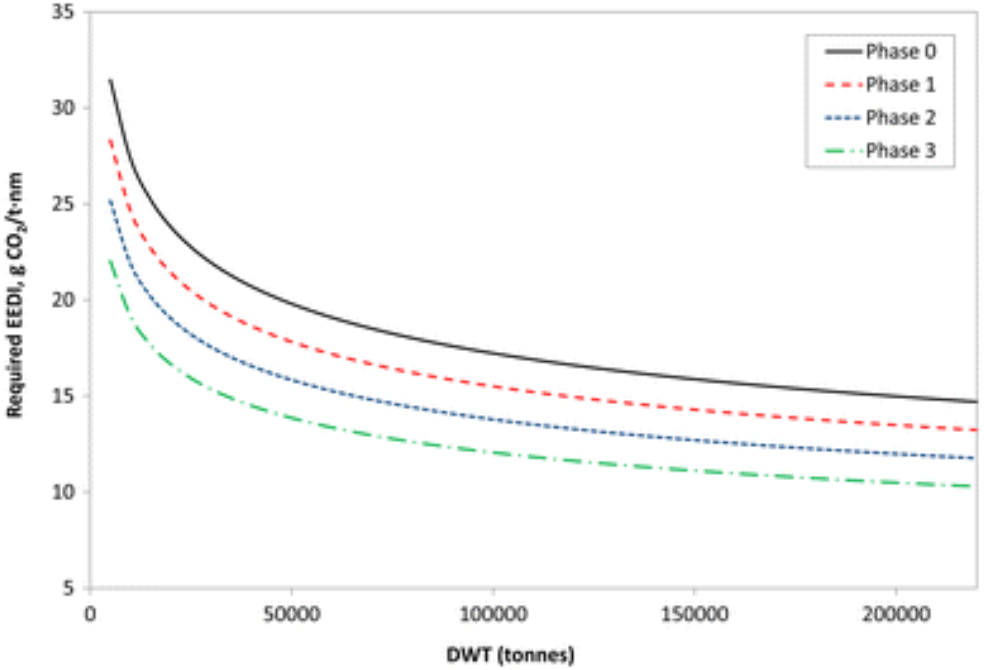
3. IMO Timeline 2020 -

Period	Issue
2020-03	WG GHG
2020-04	MEPC 75
2020-10	WG GHG
2020-10	MEPC 76
2021 - spring	MEPC 77
2022 - spring	MEPC 78

Time frame	Example 1	Example 2	Associated work	Impacts on States
Autumn 2019	ISWG-GHG 6 initiates development of draft amendment	ISWG-GHG 6 initiates development of draft amendment	Update or development of guidelines, as appropriate	Assessment of impacts on States
Spring 2020	MEPC 75 further develops draft amendment	MEPC 75 approves amendment		
Autumn 2020	MEPC 76 approves amendment	MEPC 76 adopts amendment		
Spring 2021 (at least six months later)	MEPC 77 adopts amendment			
Autumn 2021		Acceptance		
Beginning 2022 (at least 10 months later)	Acceptance			
Mid 2022		Entry into force		
End of 2022 (six months later)	Entry into force			

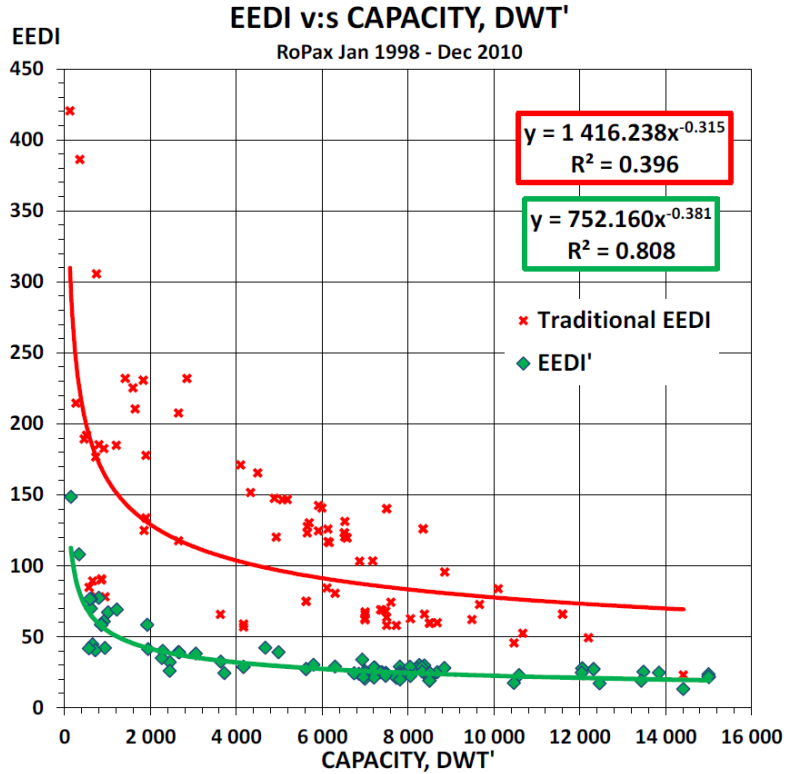
4.1 What is the EEDI?

Energy Efficiency Design Index – for new ships



EEDI Phase	Year	Reduction %
I	2015	10
II	2020	20
III	2025	30
IV	?	40/50%?

4.1 What is the EEDI?



Energy Efficiency Design Index for ro-ro & ro-pax is challenging due to the large diversity within the segments.

The statistical diversity (scatter) was nominally corrected, but physically it is still there.

In 2018 an unprecedented correction of 20% was made, but Phase III will be tough.

4.2 What is the EEXI?

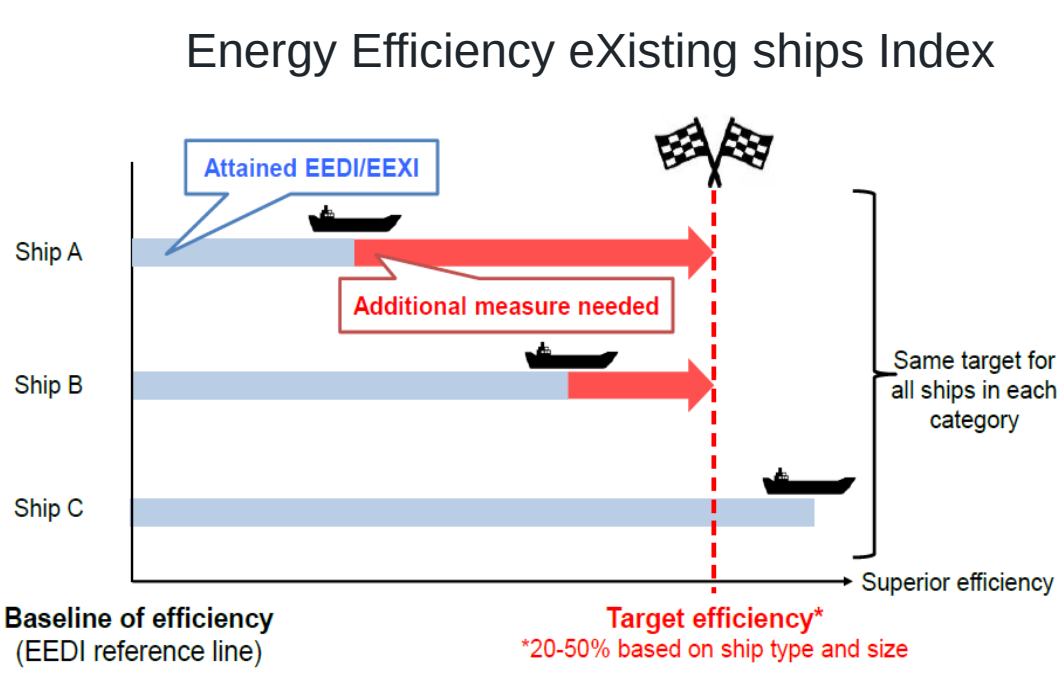


Figure 3: Application of the same target in each category

Is it reasonable that old ships shall perform as well as new ships?

Is DWT an appropriate metric for transport work?

Average ro-ro/ro-pax age is 23/25 years. We have no commercial phase-out.

4.2 What is the EEXI?

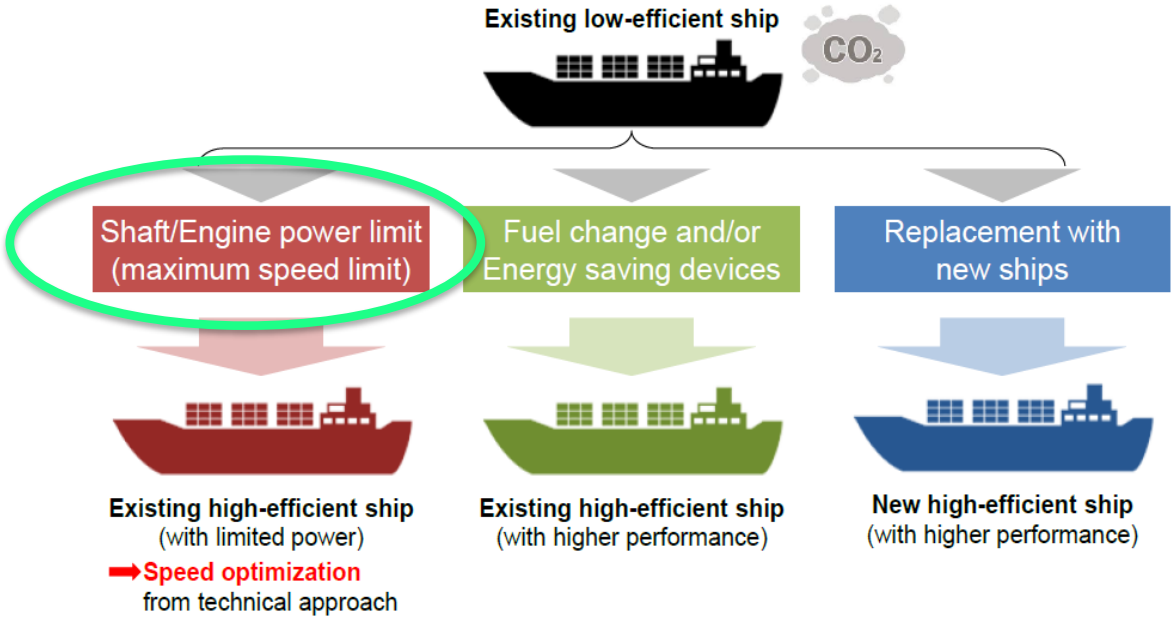
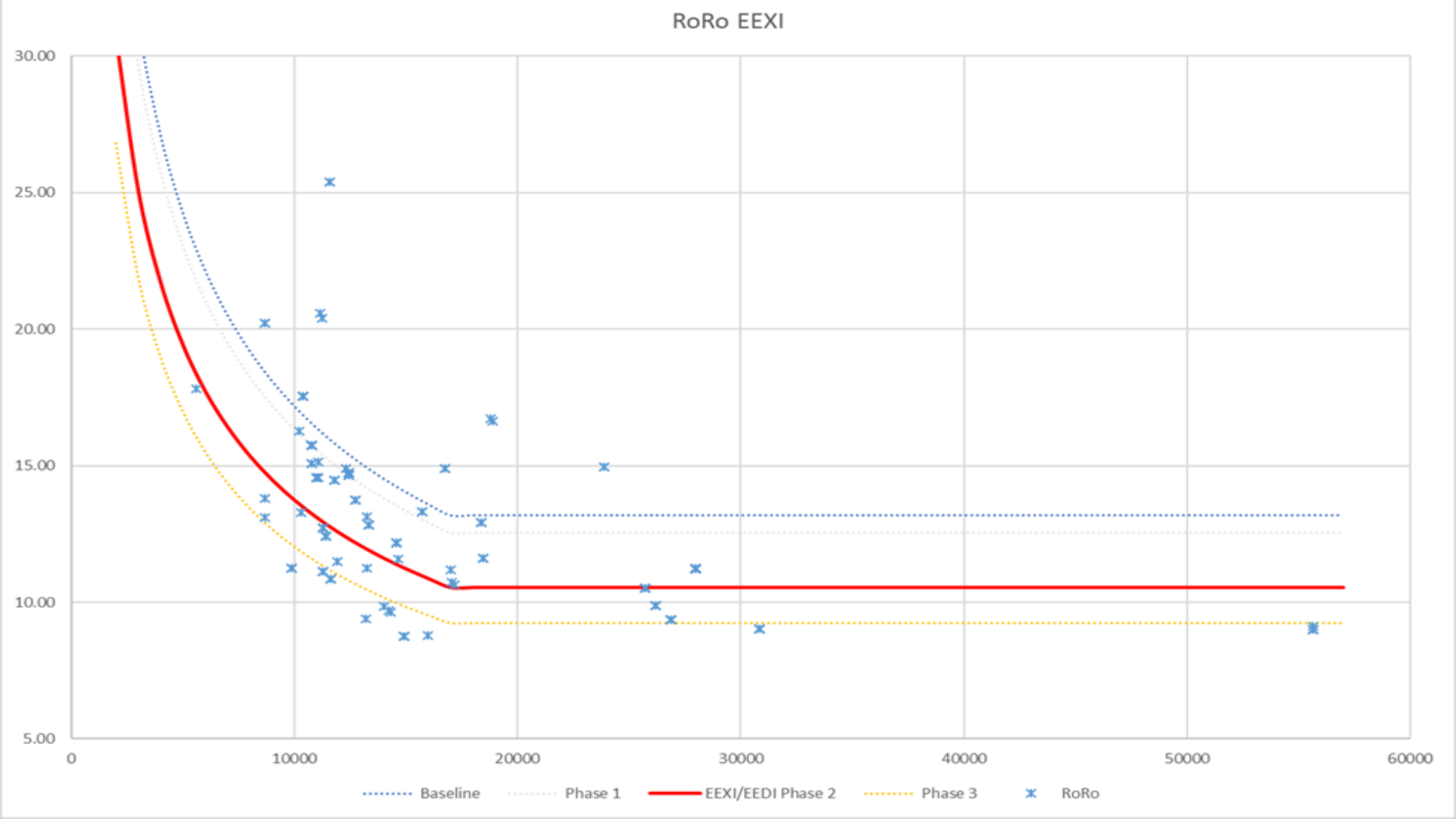
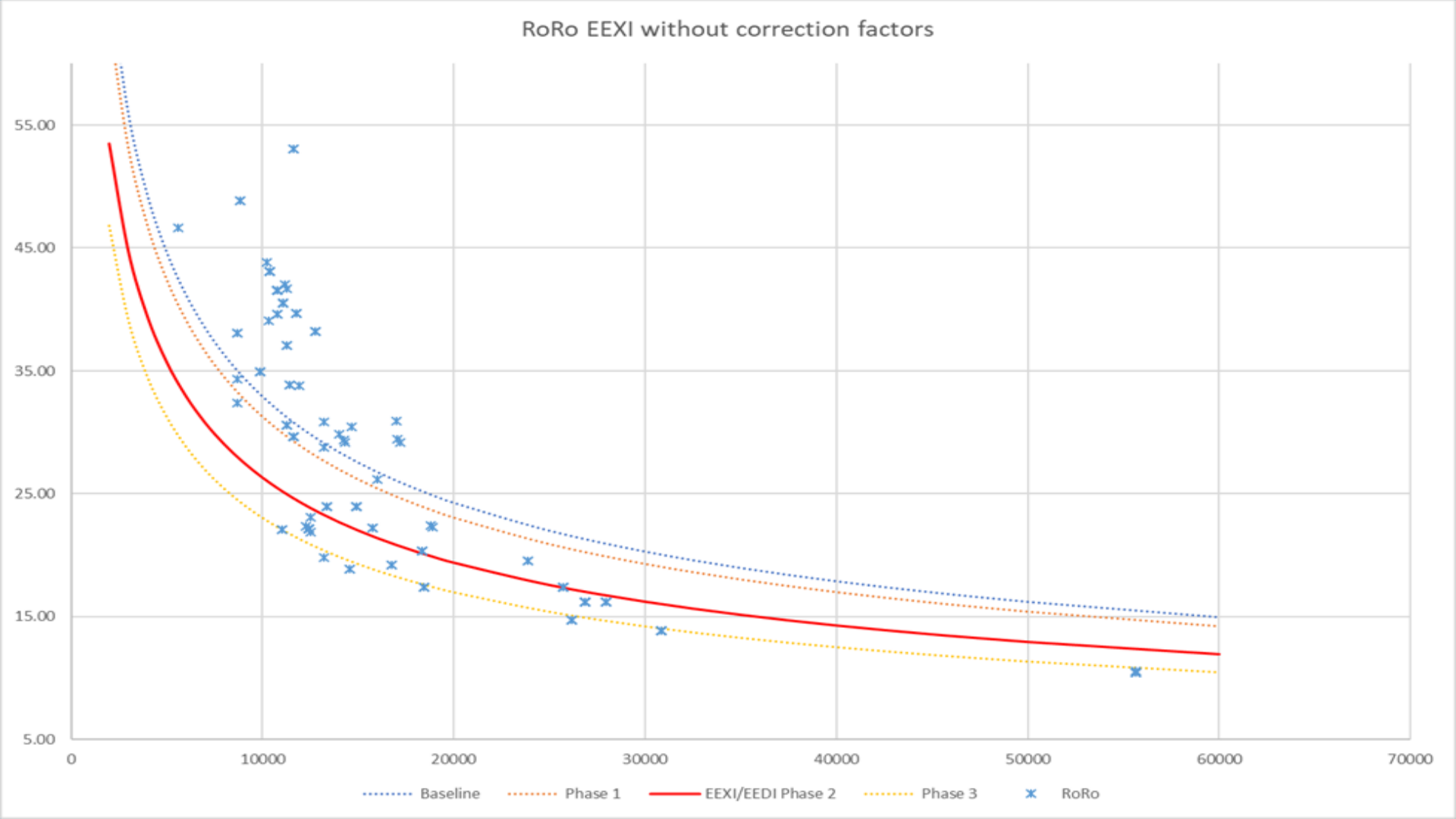


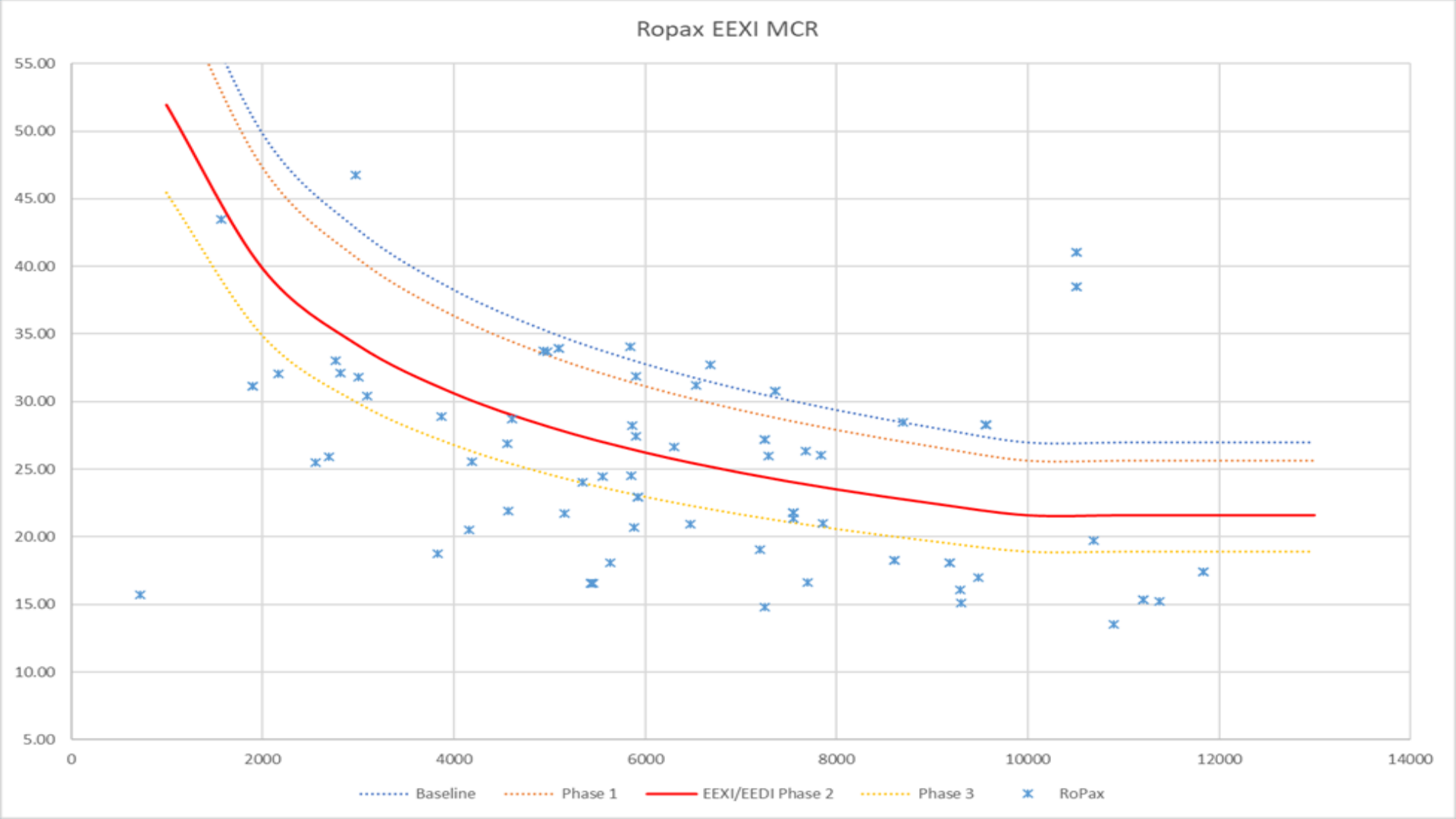
Figure 2: Concept of goal-based measure

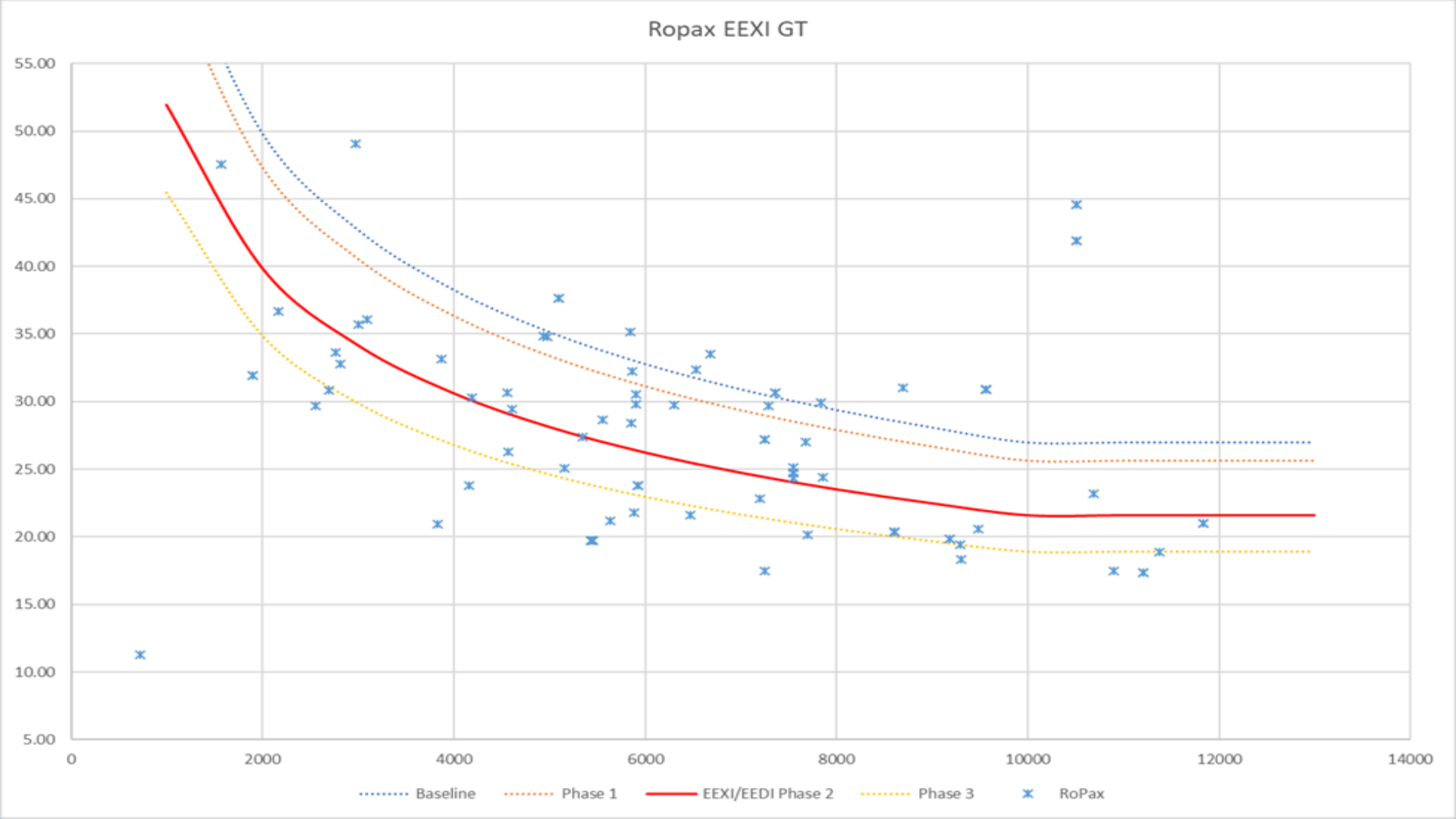
For the EEDI, we took speed out of the equation…

…so will the approach work for us?


RoRo EEXI
30.00
25.00
20.00
15.00
10.00
5.00
0
10000
20000
30000
40000
50000
60000
Baseline
Phase 1
EEXI/EEDI Phase 2
Phase 3
RoRo


RoRo EEXI without correction factors
55.00
45.00
35.00
25.00
15.00
5.00
0
10000
20000
30000
40000
50000
60000
70000
Baseline
Phase 1
EEXI/EEDI Phase 2
Phase 3
RoRo


Ropax EEXI MCR
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0
2000
4000
6000
8000
10000
12000
14000
Baseline
Phase 1
EEXI/EEDI Phase 2
Phase 3
RoPax


Ropax EEXI GT
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0
2000
4000
6000
8000
10000
12000
14000
Baseline
Phase 1
EEXI/EEDI Phase 2
Phase 3
RoPax

4.2 What is the EEXI?

Take out the correction factor to allow for slow-down-compliance?

- Level of compliance is similar for EEXI as for EEDI, but magnitude of non-compliance is much larger without the correction factor.
- For many ships even a significant slow-down / power limitation would not be enough to reach Phase II / III

4.3 What is the Carbon Intensity Indicator?

Combining EEXI with operational measures

- The basic idea is to compare EEXI with current EEDI Phase requirement, using the AER (Annual Efficiency Ratio) value.
- Any shortcoming could/should be made up via operational measures or improved carbon factor of the fuel.

EEDI	Year	Red %
I	2015	10
II	2020	20
III	2025	30

4.3 What is the Carbon Intensity Indicator?

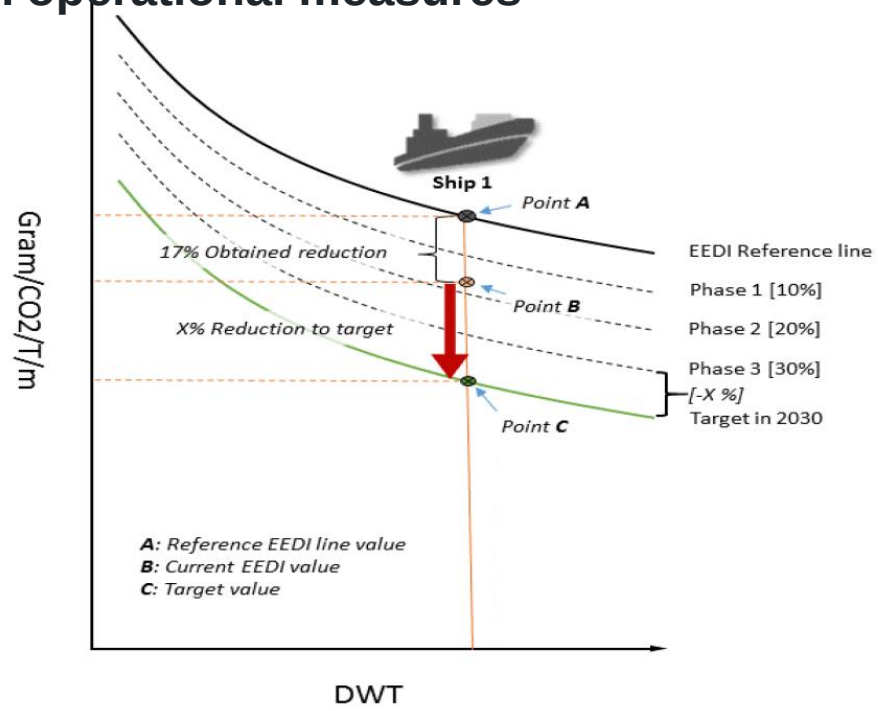
Combining EEXI with operational measures

Table 2: Example of additional reduction targets for different ships in 2023, 2026 and 2030, with a 2% reduction rate and a 26% SEEMP (AER) target in 2023

Year	2023		2026		2030	
SEEMP (AER) target	26%		32%		40%	
SHIPS	EEDI reduction	Additional operational reduction	EEDI reduction	Additional operational reduction	EEDI reduction	Additional operational reduction
Existing	0%	26%	0%	30%	0%	40%
EEDI-0	0%	26%	0%	30%	0%	40%
EEDI-1	10%	16%	10%	22%	10%	30%
EEDI-2	20%	6%	20%	12%	20%	20%
EEDI-3*	30%	0%	30%	2%	30%	10%

4.3 What is the Carbon Intensity Indicator?

Combining EEXI with operational measures



4.4 What is the IMRB?

International Maritime Research and Development Board

- A cross-industry proposal MEPC 75/7/4 under the leadership of the International Chamber of Shipping, supported by:

  ICS, BIMCO, CLIA, INTERCARGO, INTERFERRY, INTERTANKO, IPTA, WSC

- The IMRB aim to provide core funding of approx. 5bn USD over its lifetime.
- The money would be collected in relation to bunker fuels lifted. Order of magnitude is a few dollars per tonne of fuel.

4.5 What is the ETS?

Emission Trading Scheme

- An Emission Trading Scheme established in EU since 2005
  - Large emitters are given an annual allocation of CO_2
  - If needed, additional quota can be purchased on a CO_2 exchange

- A separate ETS for the airline segment commenced in 2012
  - Each operator receives an annual allocation from national authority
  - The annual quota is reduced from the 2005 baseline every year
  - The airline ETS is only valid for flights within EU and EEA, after strong reactions from 3rd countries

4.5 What is the ETS?

What would a Maritime Emission Trading Scheme entail?

- A baseline needs to be established. This is likely to be based on the MRV data.
- Using only 2018 date being the initial year is hardly sufficient data.
- The maritime CO_2 reporting – the MRV - goes directly from the emitter to the EU, there is no national authority involved.
- A special “maritime quota” may be established similar to the airline system
- The system could be intra-EU only, or also including voyages to 3rd countries.

4.5 What is the ETS?

What to look out for in the coming period

- Suggested scope by EU Commission intra-EU only or to/from EU/EEA
- Position of UK post Brexit
- Which entity will be getting the fixed/free CO2 quotas?
- Level of initial free quotes compared to baseline
- Will surplus/deficit CO2 requirement be traded over auction or fixed price?
- Reaction major trading partners (China, US etc.) to EU collecting a “trade tax”
- Will EU nations be willing to provide EU with “tax collecting” powers?

5. Speed reduction

- Speed reduction / power limitation is taken forward as a solution for:
  - Bulkers
  - Tankers
  - Containers
- For other segments, in particular Short Sea Shipping, there is wide recognition that speed reduction is too blunt as a mandatory instrument.
- For existing ship requirements, however, speed reduction may be the only solution.

6. Transport work

Mandatory req's on existing ships call for fair metrics

- The EEDI uses $\frac{\mathrm{g\ CO_2}}{\mathrm{DWT \cdot nm}}$
- The MRV uses a ship specific metric assigning emissions in relation to weight, area or volume.
- A more fair, but not perfect, basis for mandatory requirements would be:

ro-ro cargo $\frac{\mathrm{g\ CO_2}}{\mathrm{lm \cdot H \cdot nm}}$

ro-ro pax $\frac{\mathrm{g\ CO_2}}{\mathrm{GRT \cdot nm}}$

7. Planned activities

- 21 Jan: Attend cross-industry IMRB meeting
- 21 Jan: Attend ICS GHG WG meeting
- 29 Jan: Address Interferry RegCom regarding transport metrics
- 7 Feb: Finalize submission for ISWG-GHG7
- 23-27 Mar: Attend IMO ISWG-GHG7
- (30)-3 Apr: Attend MEPC 75

8. Questions

Questions?