



The Initial IMO GHG Strategy

Impacts on shipping companies



CE Delft

- Independent research and consultancy since 1978, focussing on environmental policies
- Transport, energy and resources
- More than 20 years of experience in the shipping sector
- 60 employees, based in Delft, the Netherlands
- Clients: IMO, European Commission, German, UK and Dutch government, shipping companies, ports, trade associations and environmental NGOs.



Outline of the presentation

- The Initial IMO GHG Strategy
- Policy measures
- A closer look at short-term measures
- A closer look at mid- and long-term measures
- Conclusions



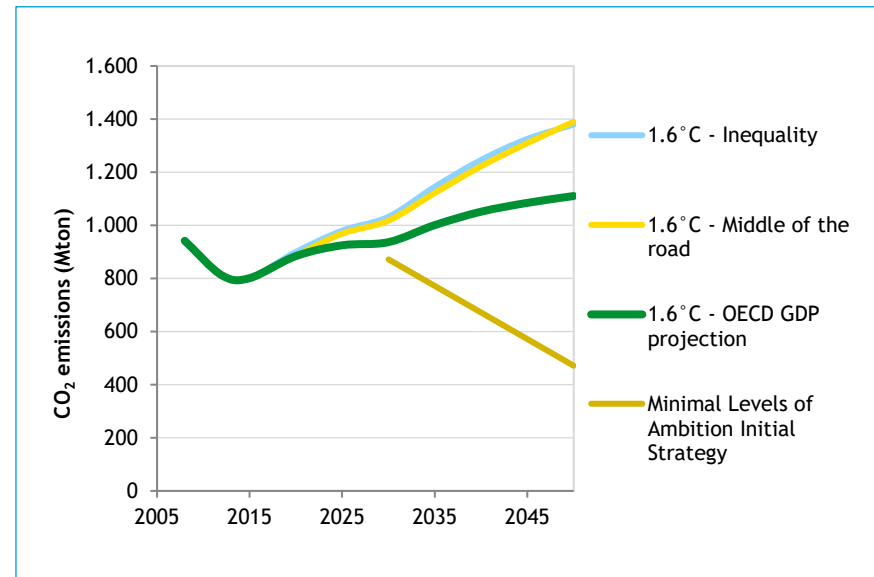
The Initial IMO GHG Strategy

- The Initial IMO GHG Strategy
 - aims to ‘phase out’ GHG emissions from international shipping ‘as soon as possible in this century’;
 - Sets the following levels of ambition:
 - Let emissions peak ‘as soon as possible’;
 - Improve operational efficiency by at least 40% in 2030, relative to 2008; and
 - Reduce total emissions by at least 50% in 2050, relative to 2008.



The Initial IMO GHG Strategy

- The Initial IMO GHG Strategy is a departure from business-as-usual:
 - Emissions are not projected to peak; and
 - reach 30% efficiency improvement in 2030, not 40%.
- Because of:
 - Increased transport demand;
 - Market pressure to speed up;
 - Limited impact of EEDI until 2030.



Source: [CE Delft 2019](#)

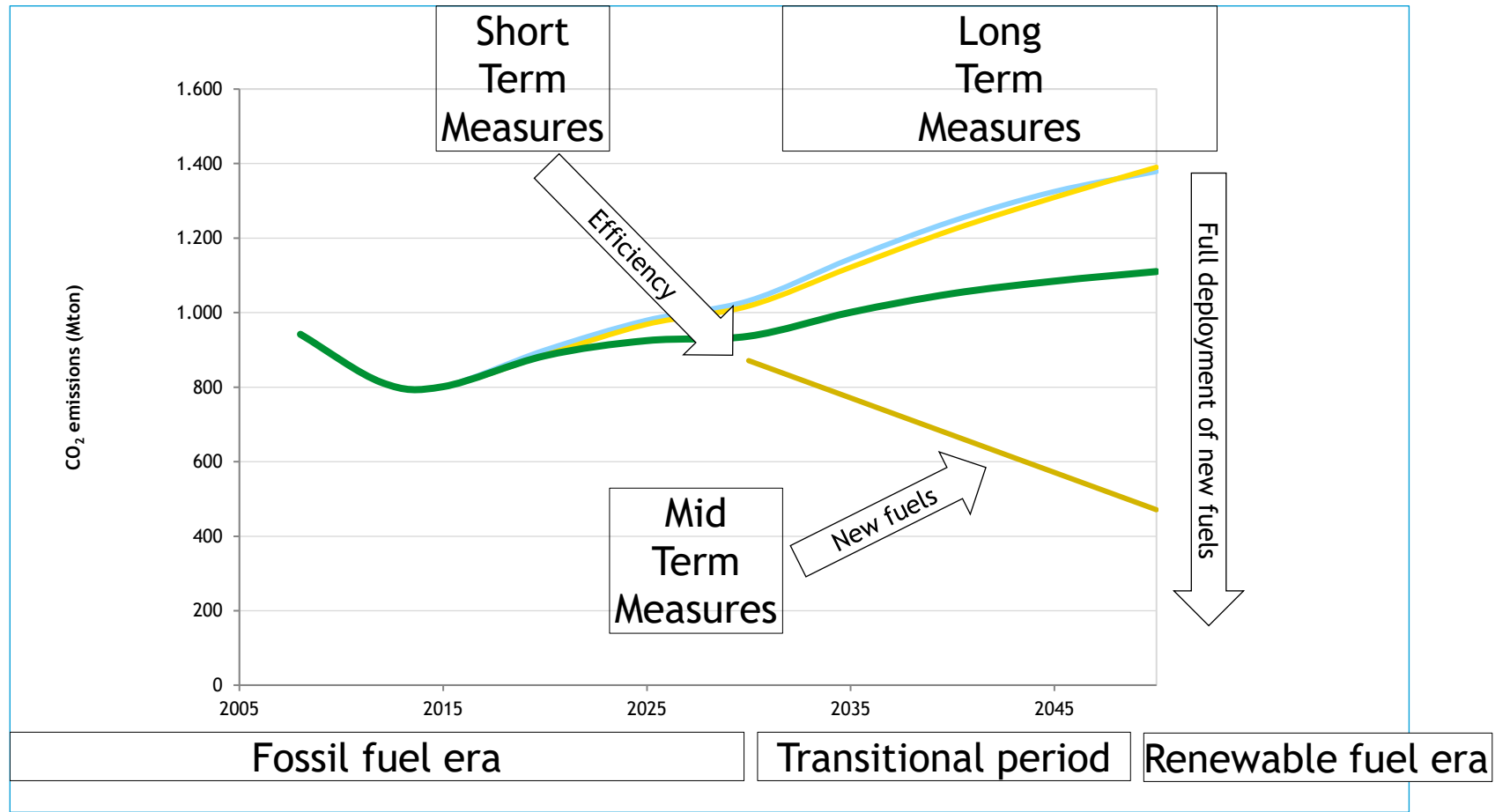


Policy measures

- Policy measures are needed to counteract market forces and ensure that the levels of ambition are met.
- The initial strategy distinguishes:
 - Short-term measures, adopted prior to 2023.
 - Could be aimed at improving operational energy efficiency and developing technologies for zero-carbon fuels.
 - Mid-term measures, adopted 2023 - 2030.
 - Could be aimed at fostering innovation and starting deployment of alternative fuels.
 - Long-term measures, adopted 2030 and beyond.
 - Could be aimed at making the transition to zero-carbon fuels.



Policy measures



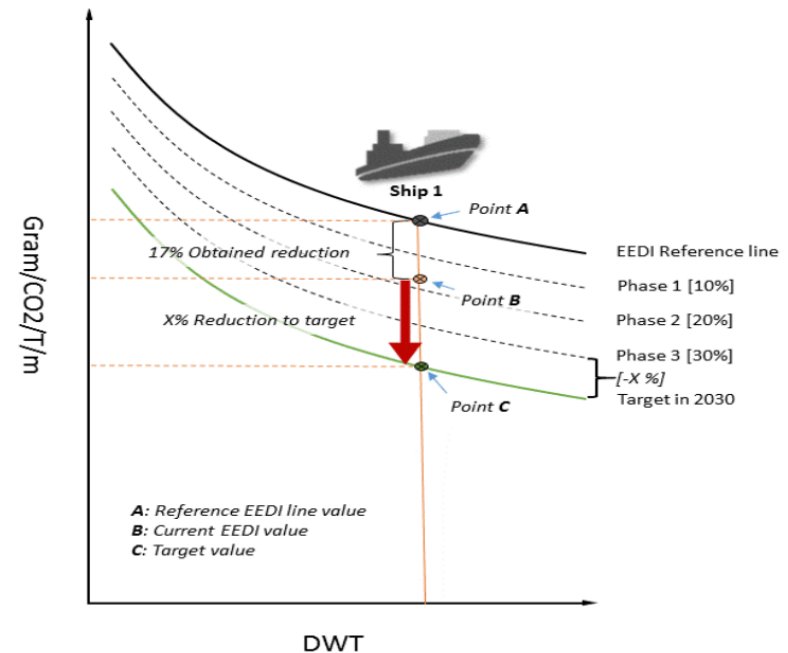
A closer look at short-term measures

- Short-term measures need to ensure that the 2030 Level of Ambition is met.
- CE Delft, UMAS and others (forthcoming) have reviewed short-term measures, grouping them into three categories:
 - Measures that remove market barriers;
 - Measures that result in technical energy-efficiency improvements;
 - Measures that result in operational energy-efficiency improvements.
- Only measures that impact operational efficiency can ensure that the 2030 Level of Ambition is met.
 - In the absence of low-carbon fuels, only speed reduction can achieve that goal, possibly combined with technical improvements such as energy-efficiency devices.



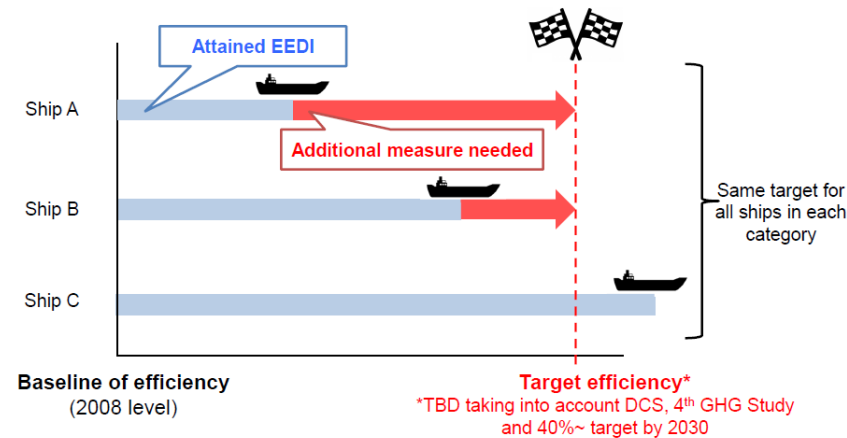
A closer look at short-term measures

- Several proposals have been submitted to MEPC.
 - Will be discussed in May, outcome of that discussion cannot be predicted.
- Denmark et al.: Goal-based measure
 - Ships would be required to calculate the EEOI (cargo tonne-miles) or AER (dwt - miles) and compare the value to the EEDI reference line.
 - Ships would need to achieve an EEOI or AER that is X% below the EEDI reference line.
 - Ships can use any means to comply.



A closer look at short-term measures

- Japan: goal-based improvement for existing ships.
 - All ships would need to calculate their design efficiency (similar to the EEDI for new ships, but in a simplified procedure using the ship characteristics like the MCR-speed curve).
 - They would need to limit their shaft- or engine power to achieve a certain value of the design efficiency.
 - In adverse weather and emergencies, they would be allowed to use all available power.



A closer look at short-term measures

- France:
 - Start with a speed limit as soon as possible;
 - Introduce a maximum annual fuel consumption per ship after 2020 when the results of the Data Collection System become available.
 - A ship would not be allowed to use more fuel and/or emit more CO₂ than she has in 2019.



A closer look at short-term measures

- All these measures are different
 - Different obligations for ships
 - Different indicators of compliance
- Yet they have a common effect
 - Reduce operational speed
 - CSC: direct regulation of speed;
 - Japan: regulation of engine power, translates into reduction of speed;
 - Denmark et al: regulation of operational efficiency, translates into reduction of speed.
- The difference is in whether they also allow for other measures to comply, e.g. alternative fuels, energy efficiency devices, et cetera.



A closer look at mid- and long-term measures

- Aim to enable the transition from fossil fuels to zero-carbon fuels.
 - Hydrogen, Ammonia, Methanol, Biofuels, Synthetic hydrocarbons
- There are a number of policy options:
 - stipulate the GHG emissions intensity of the fuel:
 - Specifying the chemical composition of the fuel - e.g. a minimum carbon factor;
 - Specifying the production process of the fuel - e.g. a maximum life cycle carbon emissions;
 - Reduce the costs of non-fossil fuels (subsidies); or
 - Increase the costs of fossil fuel use:
 - Carbon or fuel levy;
 - Emissions trading scheme.



A closer look at mid- and long-term measures

- These measures may be in effect around 2030 in order to incentivise the transition to zero-carbon fuels.
- So they will affect ships ordered and built today.
- New fuels will place different requirements on ships, e.g.:
 - Different fuel systems because of different properties (liquid ammonia, cryogenic or compressed hydrogen, bio-methane);
 - Fuel cells (hydrogen, ammonia or methanol).
- The future looks uncertain:
 - Will a dominant fuel emerge, similar to HFO/MGO today?
 - If so, which one?
- There could be a premium for flexibility in new ships.



Conclusions

- The Initial Strategy will change shipping profoundly
 - In the short-term: operational efficiency will improve, likely by mandatory policy measures;
 - In the longer term, new fuels will enter the market. The use of these fuels will be mandated or encouraged, or the use of fossil fuels discouraged, by policy measures.
- By 2030, ships will operate at lower speeds.
- Between 2030 and 2050, ships will increasingly use zero-carbon fuels that are not used today.



Thank you for your attention!

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