

How pricing carbon risk can play a role to decarbonise shipping

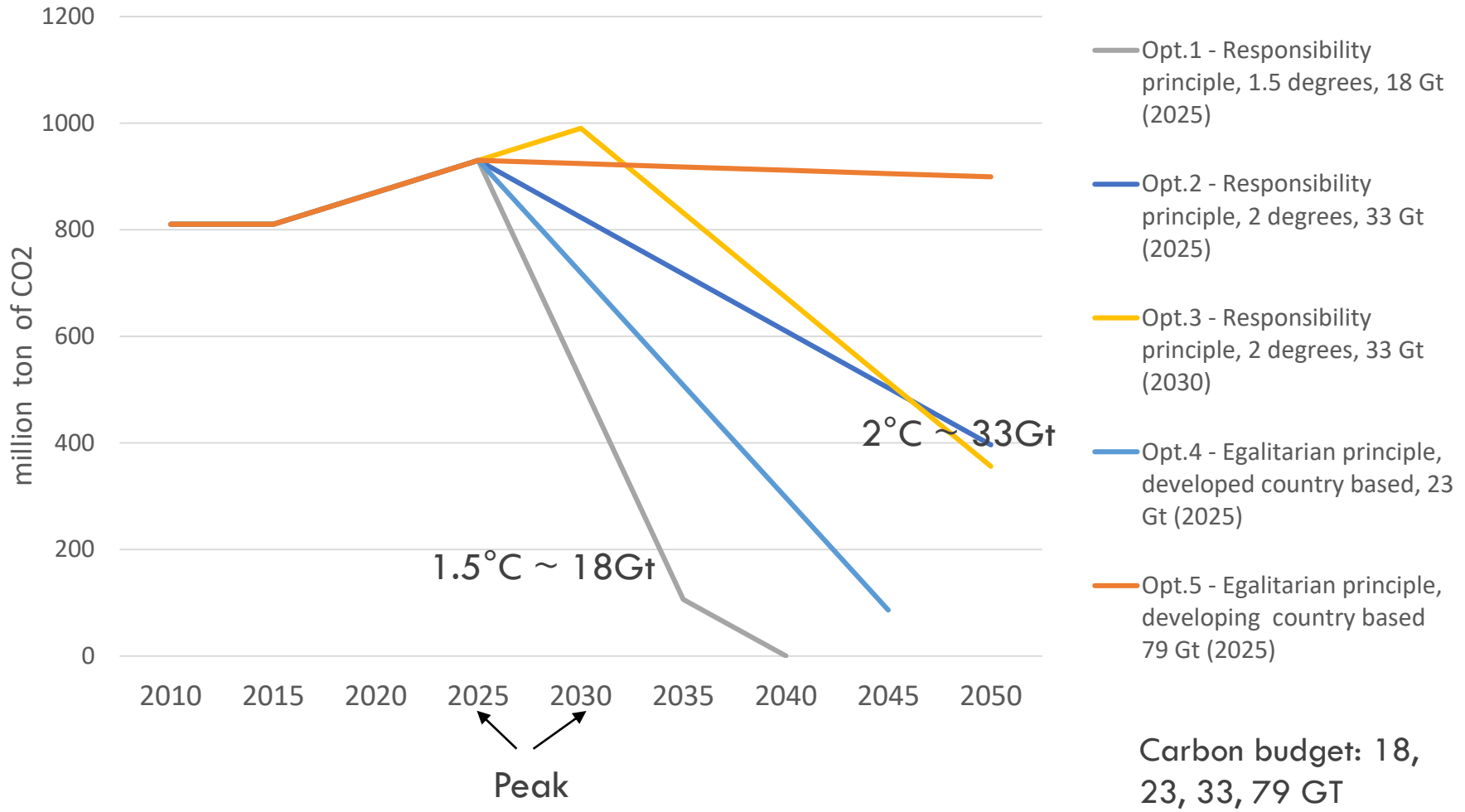
Dr Carlo Raucci

Ships, Planes and Paris: Clearly navigating to 1.5°C



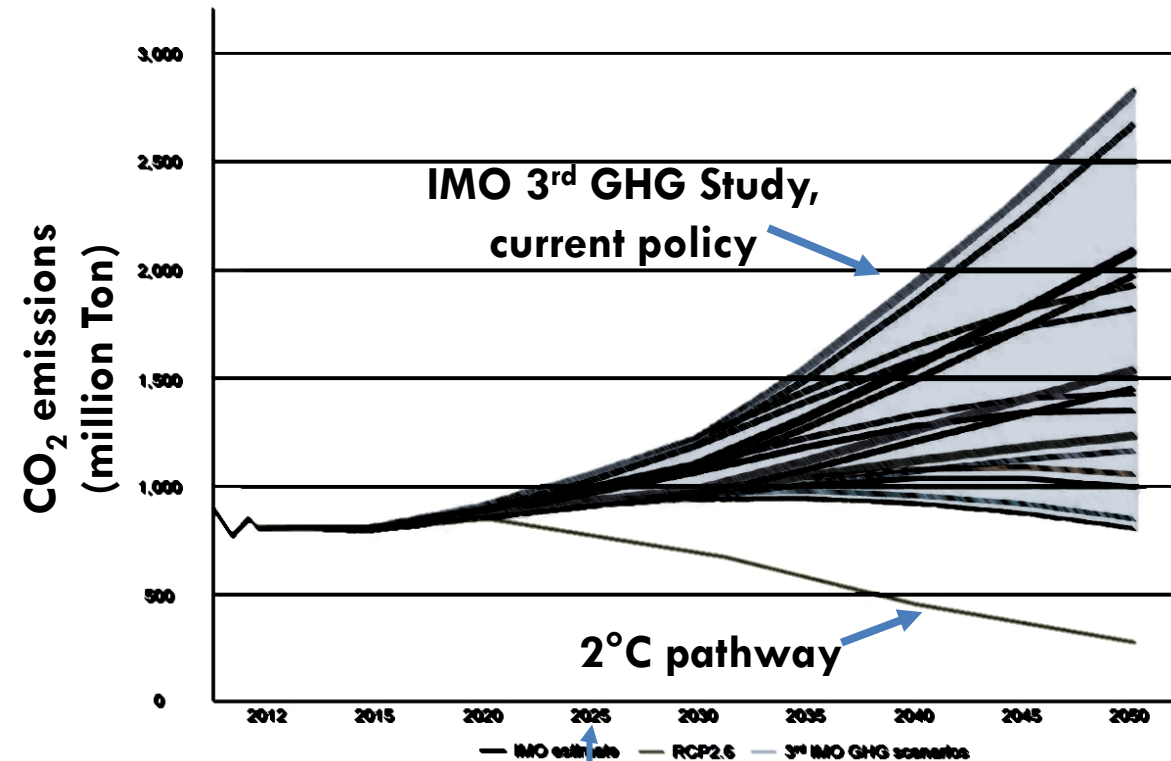
Maritime consultancy delivering applied solutions for a carbon constrained future

Carbon budgets in shipping



Carbon budget: 18, 23, 33, 79 GT

The scale of the challenge ahead



Regulatory Context:

-A roadmap (2017 through to 2023) for developing a “Comprehensive IMO strategy on reduction of GHG emissions from ships”

-Current draft of the Initial Strategy

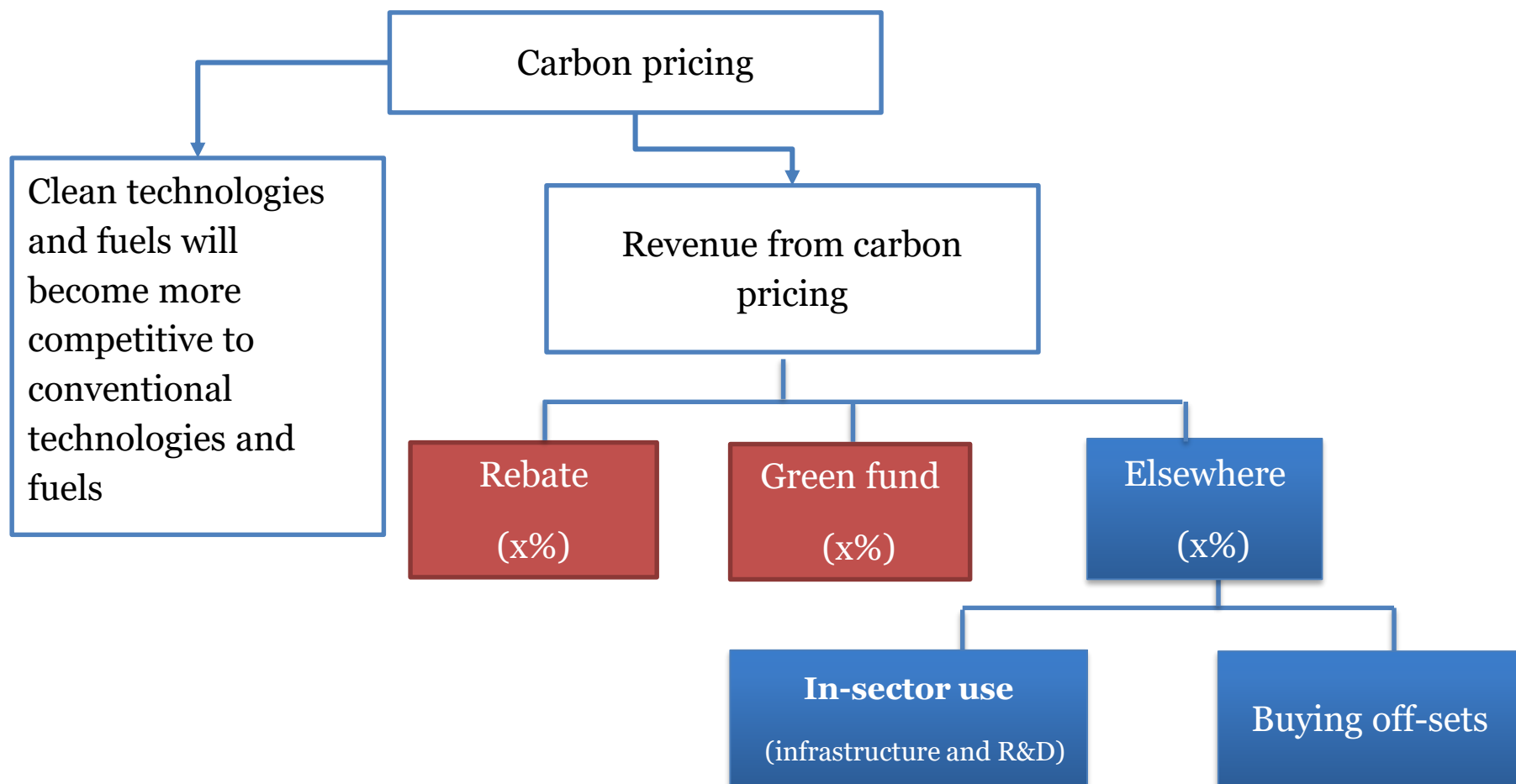
2018 – 2023

EEDI, SEEMP, set an operational efficiency standard, speed regulation

2023 – 2030

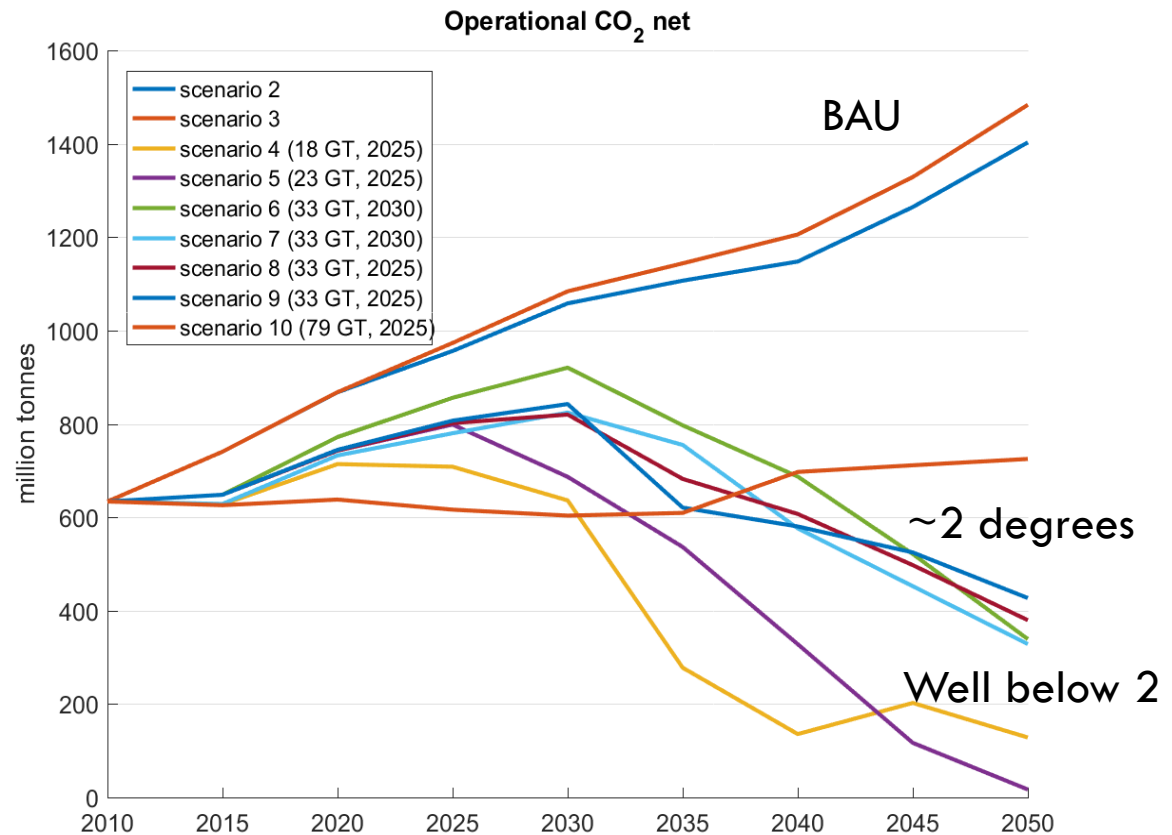
implementation programme for effective uptake of alternative low-carbon and zero-carbon fuels; MBMs

Hypothetical Market Based Mechanism

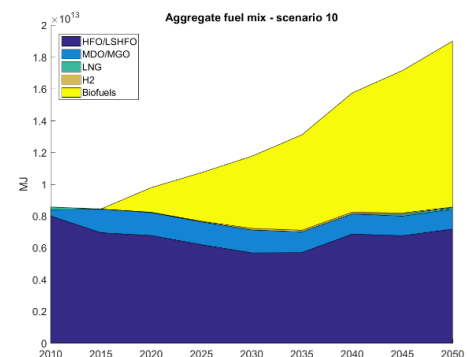
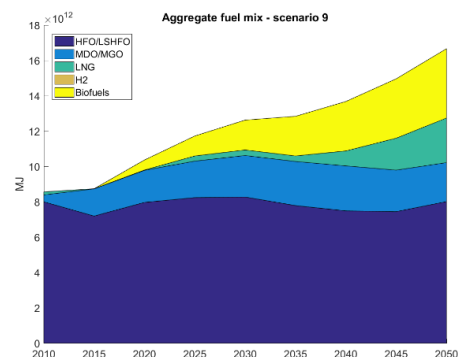
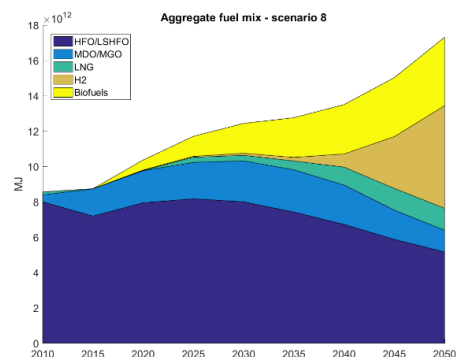
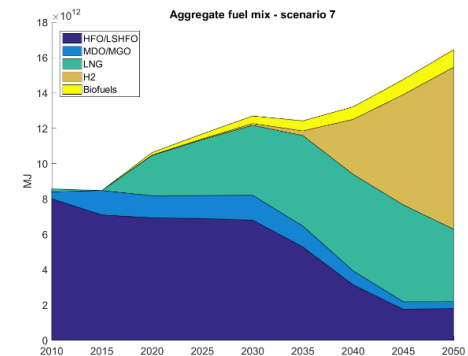
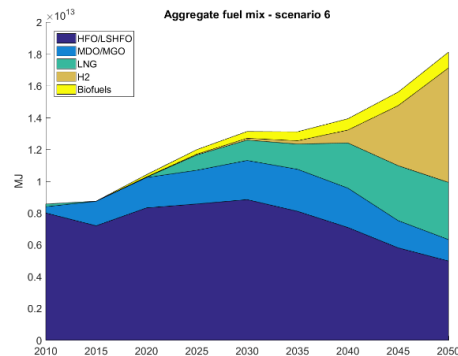
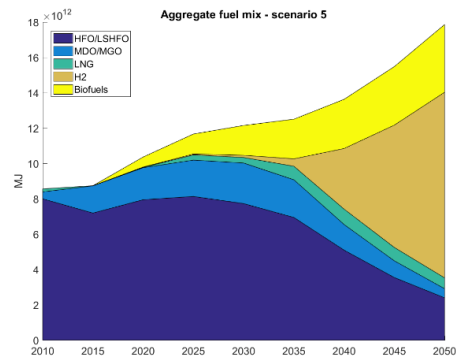
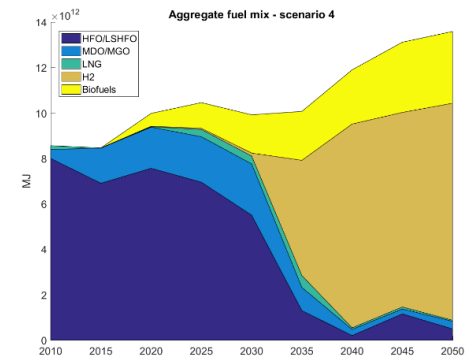
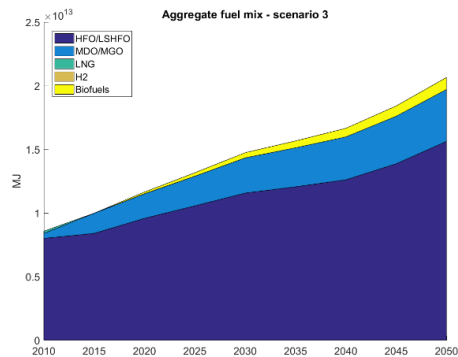
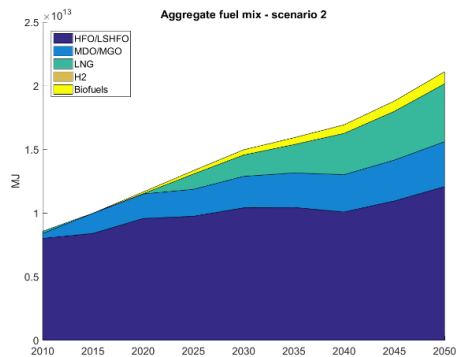


Scenario-based analysis on level of ambition


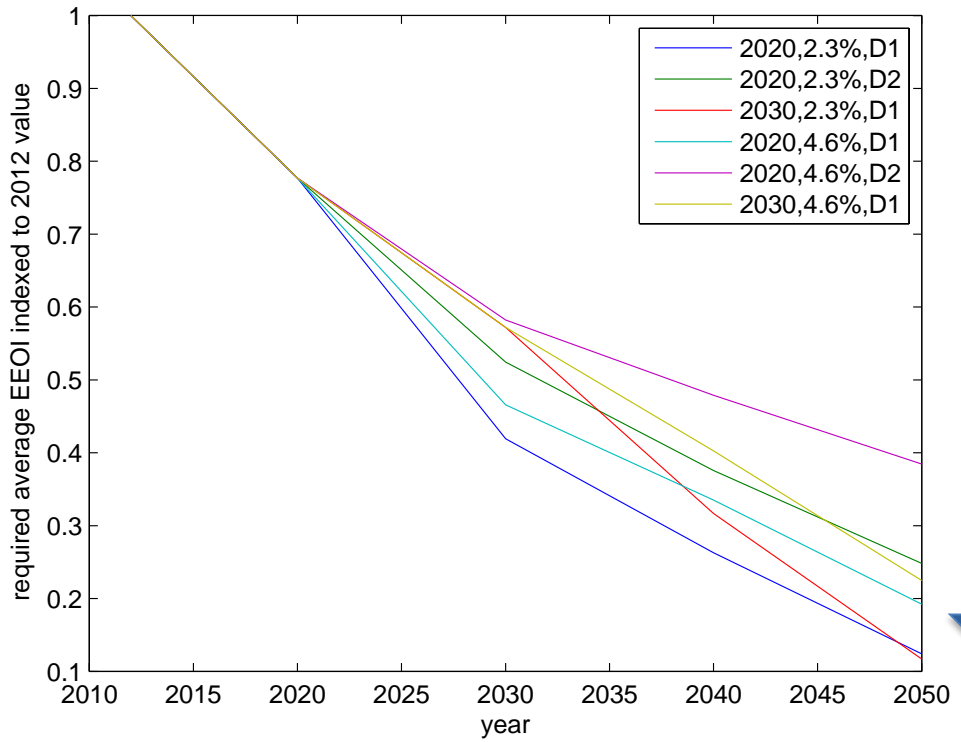
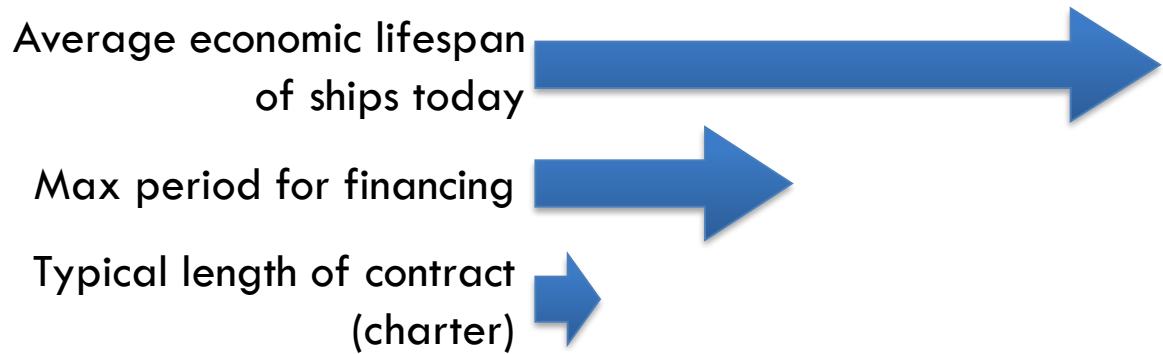
- no carbon price in scenario 1 and 2 leads to high emissions!
- no offset allowed and stringent budget in scenario 4 (well below 2 degrees) lead to high carbon price
- high & very high offsets allowed in scenario 6 and 9 (2 degrees) leads to mid & low carbon price
- low offset allowed and low tech cost in scenario 7 (2 degrees) lead to mid carbon price




Fuel mix for each scenario

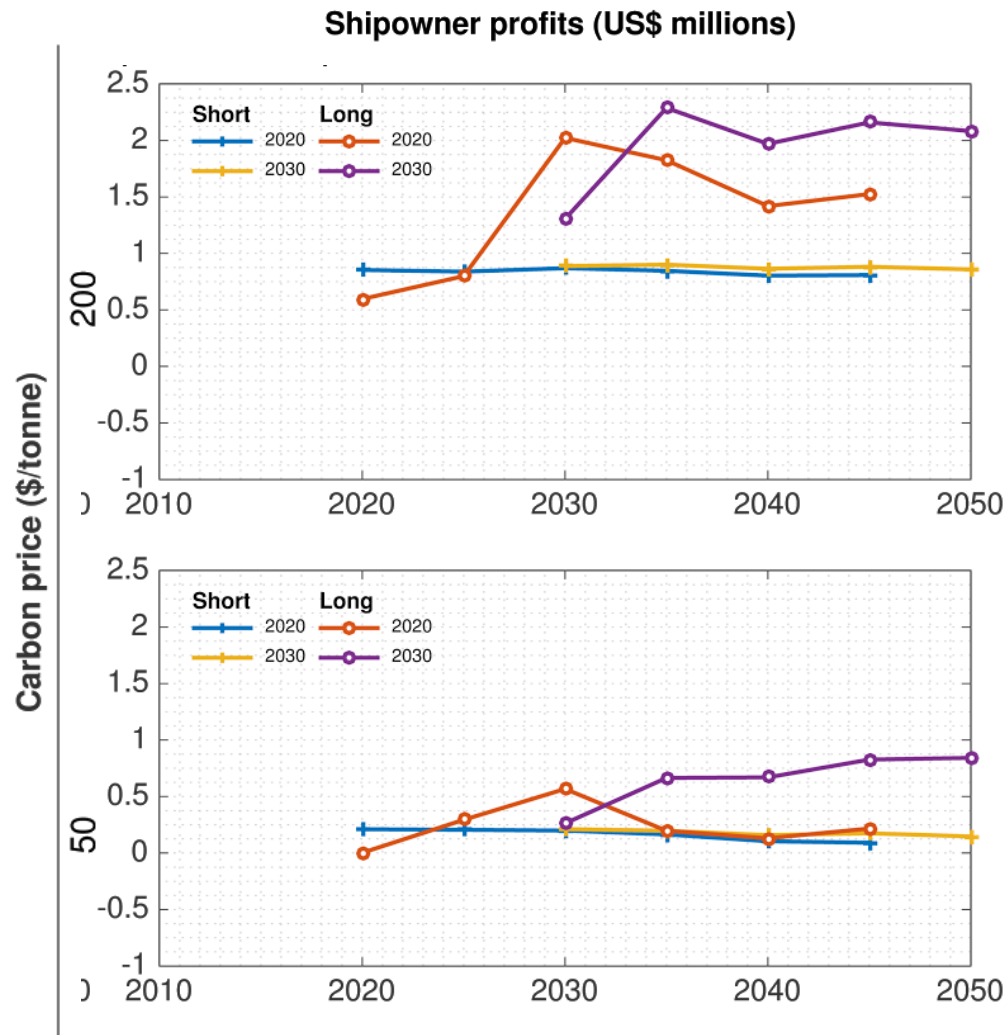


Implications of a 2°C pathway for shipping

 60-90% decrease in fleet average carbon intensity

Scenario-based analysis on carbon risks



Summary

- By strategically designing an MBM (i.e. revenue allocation), emissions can reduce significantly
- Energy efficiency technologies have a small role, but are important
- Non-fossil fuels (synthetic/bio), are key to decarbonisation and needed from ~2030
- Significant cost increases to owners/operators are implied and need careful attention
- An adequate price on carbon can unlock decarbonisation opportunities

Thank you

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