Decarbonizing the **Shipping Industry** with **C3**

February 2025

Industry's State and Future

The maritime shipping industry is a cornerstone of global trade, responsible for transporting over 80% of the world's goods. However, it is also a significant contributor to GHG emissions, accounting for more than 2.5% of global CO_2 emissions. The industry faces increasing pressure to decarbonize, driven by stringent regulations:

- **IMO Targets:** Aiming to reduce emissions by at least 50% by 2050 compared to 2008 levels.
- **EU Fit for 55 Package:** Including measures like the inclusion of shipping in the EU ETS which imposes levies on ships entering EU ports.

Abatement Challenges

- **CapEx**: Retrofitting existing vessels or investing in new low-emission ships requires substantial upfront investments. For example, a new vessel with hybrid propulsion could cost €100 million.
- **OpEx**: Alternative fuels such as methanol and ammonia are currently several factors more expensive than HFO, with limited availability.
- **Infrastructure**: The lack of global infrastructure for alternative fuels and shore power systems hinders widespread adoption.
- **Compliance**: Meeting IMO and EU targets requires significant emission reductions. Non-compliance could lead to penalties or higher operational costs under frameworks like the EU ETS, where carbon costs could reach €100-200 per ton of CO_2 by 2030.

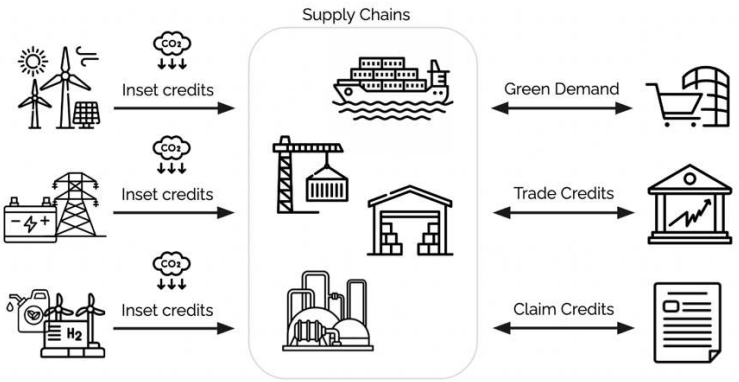
Impact on Compliance Costs

By 2030, non-compliance with EU ETS and other regulations could cost the shipping industry billions annually. For instance:

- **EU ETS Costs**: Ships entering EU ports may face carbon costs of €100-200 per ton of CO2 under the ETS, translating to millions in additional costs per vessel.
- **CBAM Implications**: Although primarily targeting imports, this mechanism could indirectly affect shipping by increasing costs for carbon intensive goods, pressuring the industry to decarbonize.

C3 as a Financial Instrument

Carbon3 (C3) offers a market-driven solution to these challenges by certifying incremental GHG emission reductions as tradable "inset credits." These credits can be monetized, providing a revenue stream that helps offset the high costs of decarbonization projects for the maritime industry.



Financial and Strategic Benefits

For Shipping Companies

- **Revenue Generation**: Selling inset credits can offset 20-30% of CapEx for decarbonization projects. For example, a €100 million investment could be partially funded by €10-20 million from credit sales over the vessel's lifetime.
- **Cost Savings**: Energy-efficient vessels reduce fuel consumption, lowering operational costs.
- **Competitive Advantage**: Early adopters gain a market edge, appealing to ESG-conscious clients, avoiding future regulatory penalties, and enabling value chain partners to directly reduce Scope 3 emissions by trading and sharing inset credits.

For Value Chain Stakeholders

- **Ports**: Can use C3 to finance shore power systems, reducing emissions from vessels.
- **Fuel Suppliers**: Can invest in alternative fuel production, with emission reductions certified as inset credits to attract investment.
- **Shipbuilders**: Benefit from increased demand for low-emission vessels, with C3 as a mechanism to monetize the reduction benefits.

Using C3, companies can reduce their Scope 1-3 emissions, avoiding penalties and reinvesting savings into further sustainability initiatives.

Visit carbon3.net to learn more and get in touch.