

Should International Shipping join the EU ETS? A Conceptual Analysis

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29 Heng Mui Keng Terrace
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Abstract

The international shipping sector carries over 80% of global merchandise trade by volume and accounts for more than 70% of the global trade value (UNCTAD, 2017). While shipping is arguably the most energy efficient mode of transport for bulk cargo, it remains the fact that ships are largely powered by bunker fuel, derived from the pollutive activity of refining crude oil (Vandycke & Englert, 2017). The International Maritime Organisation (IMO), an agency under the United Nations responsible for regulating international shipping, has set a 2050 goal of reducing the industry's greenhouse gases (GHG) emissions by at least 50% relative to 2008 levels. To that end, some member states of the IMO have floated the idea of setting up an Emissions Trading Scheme (ETS). In February 2017, the European Parliament voted in favour of including shipping in the EU ETS from 2023 onwards unless the IMO has shown itself able to independently set and follow through with its carbon abatement target (Vandycke & Englert, 2017). Our conceptual paper sets out to answer the question: Should a potential maritime ETS be joined with a bigger land-based ETS like the EU ETS? What are the advantages and disadvantages of a shipping ETS joining the EU ETS? We answer this question by revisiting the basis of an emission trading scheme, and means by which CO₂ reduction take place. Building on our previous work, we argue that while an EU– shipping ETS will lead to lower abatement cost overall, there is a risk that one of the two ETSs loses its ability to innovate in the long run should there is a persistent outflow of financial resources from one ETS to the other. The outcome depends on how the revenue raised from credit sale is allocated, if any additional resources are available to one of the two ETSs involved, and also if there is any technology spillover from one sector to the other.

About the Speaker

Dr Chai Kah-Hin is an associate professor and Deputy Head (MSc programmes) at the Industrial Systems Engineering and Management (ISEM) Department, National University of Singapore (NUS). His work appears in journals such as Energy Policy, Journal of Product Innovation Management, IEEE Transactions on Engineering Management, Journal of Service Research, European Journal of Operational Research and International Journal of Service Industry Management. His current research interests include energy efficiency and management, and product/service innovation. He serves on several national level committees related to ISO 50001 and energy management, and as an external examiner for the Singapore Certified Energy Manager (SCEM) Programme. Recently he completed research projects related to the maritime innovation ecosystem and greenhouse gas (GHG) emissions in international shipping, funded by the Singapore Maritime Institute.