

Briefing note, May 2014

Shipping in Changing Climates

It is important to understand how the UK and global shipping sectors are being affected by new patterns of demand, technological developments and changes in regulations. This note summarises outputs from a high-level impact seminar organised by University College London (UCL) in collaboration with the Department for Transport (DfT), in May 2014. 'Shipping in Changing Climates' is an RCUK and industry funded multi-disciplinary research collaboration; further details can be found on www.lowcarbonshipping.co.uk.

Main conclusions from discussions

- The demand for shipping is increasing and as a result achieving absolute reductions in CO₂

Organisation and other supranational institutions are likely to strongly impact on the UK shipping industry

Areas for further research

Further evidence is needed in relation to:

- Assessing the potential for the industry to reduce its carbon emissions, by comparing it to other industries.
- The impact which market-based measures will have on CO₂ shipping emissions reductions.
- Potential unintended or perverse consequences of future maritime regulations, in particular at the supranational level

“Shipping’s emissions trajectory challenge” by Professor Kevin Anderson, School of Mechanical, Aeronautical and Civil Engineering at the University of Manchester, Tyndall Centre

The

Summary Presentations

“Energy system and shipping emissions interactions” by Dr Sarah Mander, Research Fellow, Deputy-leader of the Tyndall Energy Programme, University of Manchester, Tyndall Centre Research

The UK's climate change mitigation policies require reductions in national CO₂ emissions of 80% by 2050, within specified emission budgets. Meeting these objectives necessitates the deployment of low carbon technology across the whole UK energy system for the provision of electricity, heat and energy for transport.

Current energy supply relies heavily on the shipping of fossil fuels in the form of coal, gas, oil and transport fuels; these contribute 46% of UK imports by weight. The future energy system may take many different forms, and different supply options will have a knock-on effect on the patterns of fossil fuel trade into the UK, with a corresponding major impact on the demand for shipping. Two contrasting future energy scenarios devised by the UK's Department of Energy and Climate Change are used to explore future demand for fuel and their consequences for patterns of imports and on the CO₂ emissions from the shipping of that fuel.

Key conclusions highlighted that:

- Under low carbon energy system scenarios, biomass and biofuels become increasingly important
- Bio-energy commodities offer a new market for shipping
- Transport of bio-energy commodities in dedicated carriers is essential, so that transport does not contribute significantly to CO₂ emissions
- Even without technological abatement, changing demand for fuels can reduce the CO₂ emissions from the shipping of fuel by between 81% and 62%, depending on the assumptions made about the future UK energy system

“Shipping in changing climates: a legal perspective” by Professor Joanne Scott, Professor of European Law, UCL

Prof. Scott examined the relationship between the principle of common but differentiated responsibilities and respective

Summary of the discussion