

BIOFUELS IN THE TRANSITION OF MAERSK

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Maersk is a large company in shipping with 700+ ships and an ambitious target of full decarbonization before 2040. The fuel consumption is today roughly 11 million tons of fuel oil per year.

New fuels are needed to achieve the new targets and investments in large containerships fueled by methanol has already started. Methanol can be produced from a number of pathways, including thermal gasification of dry biomass, reforming of biogas, and as e-methanol from CO₂.

Drop-in biofuels for blending into the fuel mix on existing ships is also important in the transition. Biofuels from oily feedstocks like waste oils, fats and greases are already used today but are not believed to be able to deliver the scale needed for Maersk's transition.

New fuels based on thermal conversion of solid biomass and waste will be added to the mix in the near future. Producing these fuels is possible. The main unknowns in this fuel-pathway are how to source and pre-process feedstocks, how to do the conversion, how to build capacity, and how to upgrade the fuels to a useful quality. An advantage in shipping is that fuels with rather low quality can be used in the large diesel engines and requirements are defined by the fuel handling before the engine, to a larger extent than by the engine. Important requirements are that fuels are stable, miscible in existing fossil oils, and not least that all have a sufficiently high flash point. In this talk an overview of the future fuels for Maersk will be given with a focus on the quality requirements for fuels for blending into the fuel mix for existing ships.

Maersk is already involved in a large number of projects and collaborations and some of these will be presented. We are still looking out for new pathways that produce drop-in fuels directly or that allow upgrading of existing biocrudes to marine quality. The work to secure drop-in fuels is ongoing and new opportunities for sourcing are welcomed.



Figure 1 – Container ship bunkered by heavy fuel oil. This oil can't be replaced directly with green fuels like methanol and direct low-carbon substitutes are needed to replace the oil.