



DNV'S NET-ZERO GUIDE. PRACTICAL APPROACHES FOR GLOBAL SHIPPING COMPANIES

An overview of alternative fuels, onboard carbon capture (OCC), and energy converters contributing to a reduction in the need for conventional fuels

Category	Solution	Impact on indexes			Vessel types applicability					
		Design index (EEDI/EEXI) ^a	Operational TtW index (CII, EU ETS)	Fuel-based WtW index (FuelEU, GFI)	Bulk carriers	Tankers	Gas carriers	Car carriers	Container-ships	Cruise / Ropax
Fuels	LNG	Medium	Medium	Medium	✓	✓	✓	✓	✓	✓
	Methane ^b	Medium	High ^c	High	✓	✓	✓	✓	✓	✓
	Methanol ^b	Medium	High ^c	High	✓	✓	✓	✓	✓	✓
	Ammonia ^b	High	High	High	✓	✓	✓	✓	✓	✓
	Hydrogen ^b	High	High	High	✓	✓	✓	✓	✓	✓
	Biodiesel	No impact	High	High	✓	✓	✓	✓	✓	✓
Other	OCC	TBD	CII: TBD EU ETS: High	TBD	✓	✓	✓	✓	✓	✓
Energy converters	Fuel cells	N/A	Fuel dependent	Fuel dependent	✓	✓	✓	✓	✓	✓
	Nuclear	N/A	High	High	✓	✓	✓	✓	✓	✓

a EEDI/EEXI do not account for the 'green' attributes of relevant fuels.
 b The table values refer to the electro-, blue or bio- versions of these fuels.
 c CII currently only accounts for the 'green' attributes of biofuels.

Estimated high and low prices for fuels in 2030-2050 include production and distribution costs and have been taken as a global mean average of all regions - fossil-fuel prices do not include carbon price

