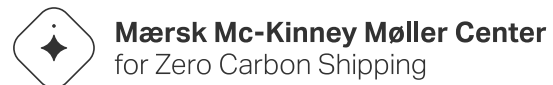


Bo Cerup-Simonsen, CEO
US Marine Board 17 November 2021



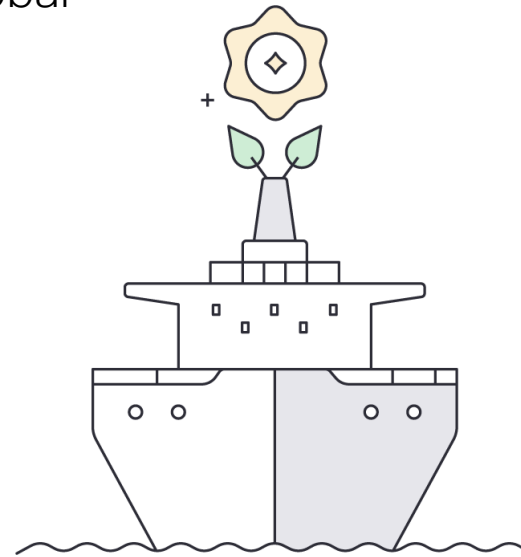
The Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping

Our vision

A decarbonization of the global maritime industry by 2050

Our mission

To be a visible and significant driving force in the global maritime decarbonization journey



Not-for-profit

Money earned by or donated to the Center is used in pursuing our mission

Independent

We operate in a pre-competitive environment bringing together key players across the value chain

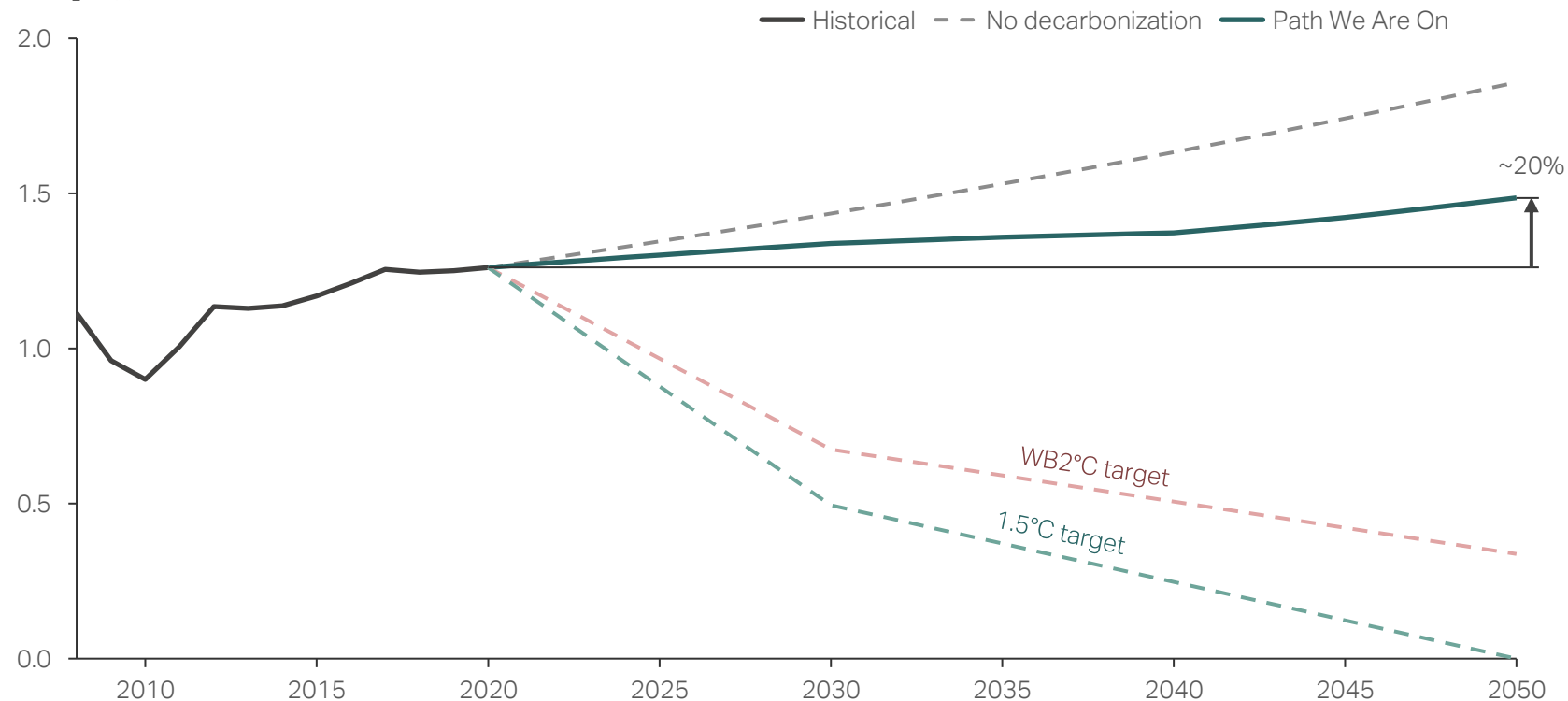
Science-based

We explore viable decarbonization pathways by assessing available data and developing own energy and technology solutions



The path we are on leads to increased GHG emissions

WTW Maritime emission pathways¹
GtCO₂-eq/year



- The path we are on may lead to more GHG emissions in 2050 compared to today
- Industry leadership on its own cannot drive the transition and must be supported by regulation



Sources: IMO, IEA, Clarksons and Techno-economic model MMM Center for Zero Carbon Shipping
¹ WTW = well to wake.

Alternative fuels have varying maturity levels and challenges in the early years of transition

Alternative fuels for decarbonization

Energy Carrier	Feedstock availability	Fuel production	Fuel storage, logistics, bunkering	Mature and proven	Solutions identified	Major challenges remain
				Onboard fuel conversion ¹	Onboard safety and fuel management ²	Regulation ³
Fossil fuels						
e-hydrogen						
Blue hydrogen						
e-ammonia						
Blue ammonia						
e-methanol						
Bio-methanol						
e-methane						
Bio-methane						
Bio-oils						



- The future fuel pathways will include more options than we know today
- Each pathway has different challenges in terms of scalability, cost and technology maturity and safety
- Alternative fuels will be in competition, when the sectors and nations progress through the green transformation.



Accelerated progress is needed in four areas during the next decade to make the 2050 target



A level playing field
with global regulation



Alternative fuels
available at scale



Energy efficiency support
across the value chain



Support to first
movers



Our Industry Transition Strategy and
supporting reports are available on

www.zerocarbonshipping.com



Source: MMM Center for Zero Carbon Shipping

Thank you

Learn more on www.zerocarbonshipping.com

