



WHEN TRUST MATTERS

Navigate “SHIPBUILDING, SHIPPING AND DECARBONIZATION”

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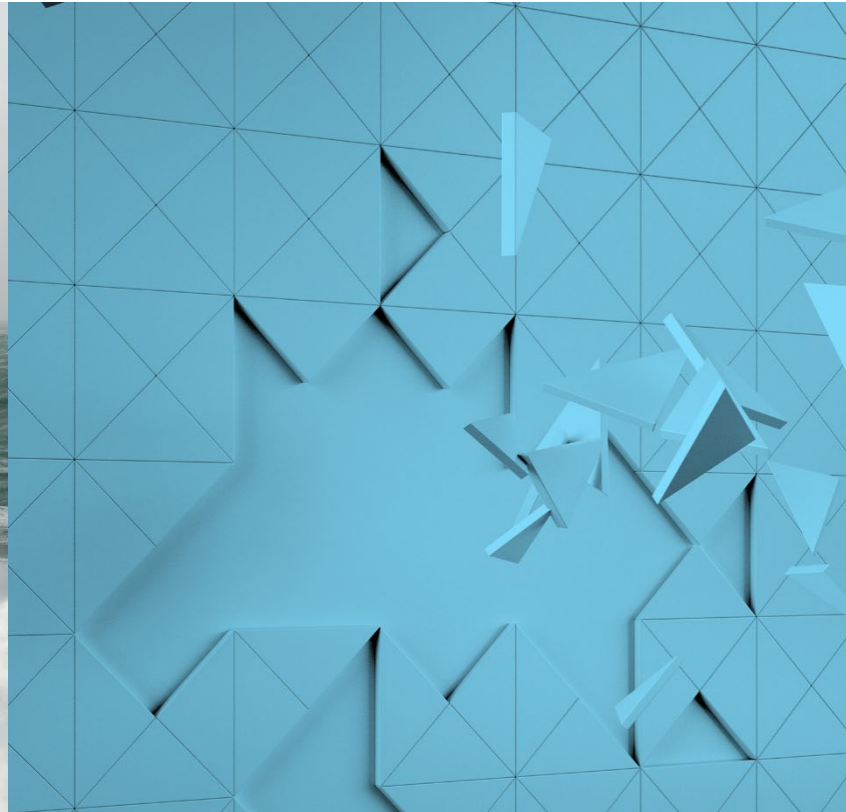
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A world in transition – tectonic shifts rocking our foundations



**Political shocks and
unpredictable markets**



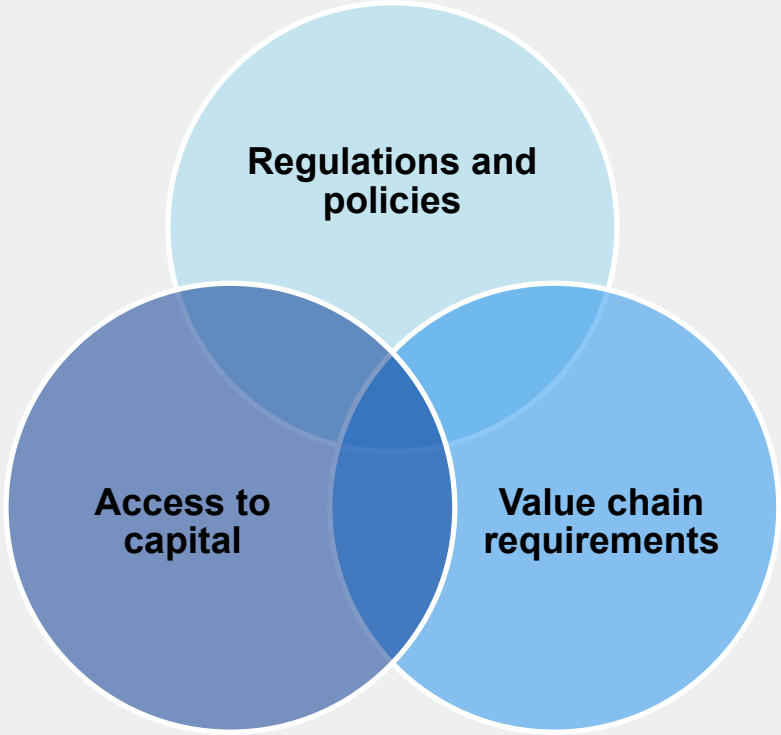
**Decarbonisation defining
regulations and ESG agendas**



**Technology enabling a maritime
renaissance**

Stakeholder and regulatory overview – an industry in transition.

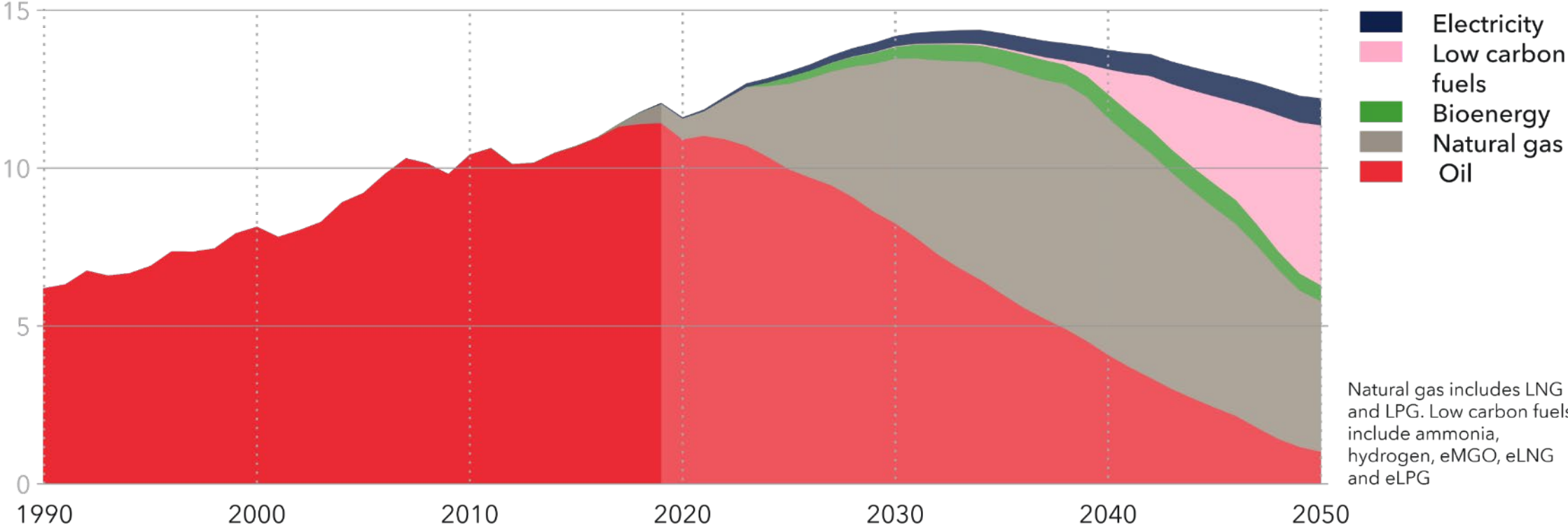
Key drivers of maritime decarbonization:



The maritime fuel mix will change dramatically

World maritime subsector energy demand by carrier

Units: EJ/yr



Natural gas includes LNG and LPG. Low carbon fuels include ammonia, hydrogen, eMGO, eLNG and eLPG

Historical data source: IEA WEB (2020)

An uncertain future fuel landscape: Shipowners need to prepare for several alternatives

	Availability	Infrastructure & Storage	Maturity of technology	Energy density	Price	Green credentials
VLSFO/MGO	Green	Green	Green	Green	Green	Red
LNG	Green	Yellow	Green	Yellow	Yellow	Yellow
LPG	Green	Yellow	Yellow	Yellow	Yellow	Yellow
Methanol	Yellow	Yellow	Green	Yellow	Yellow	Yellow
Bio-/e-fuels	Red	Green	Yellow	Green	Red	Light Green
Hydrogen	Red	Red	Red	Red	Red	Light Green
Ammonia	Red	Yellow	Red	Yellow	Yellow	Light Green

The picture as we see it in 2022

Summing up



The regulatory and public pressure on shipping to bend its carbon emissions towards zero is ramping up

The fuel transition is underway - and there is still a mountain to climb

Safety must be at the core of the innovation

The fuel of the future is collaboration

Thank you!

