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METHANOL AS A MARINE FUEL

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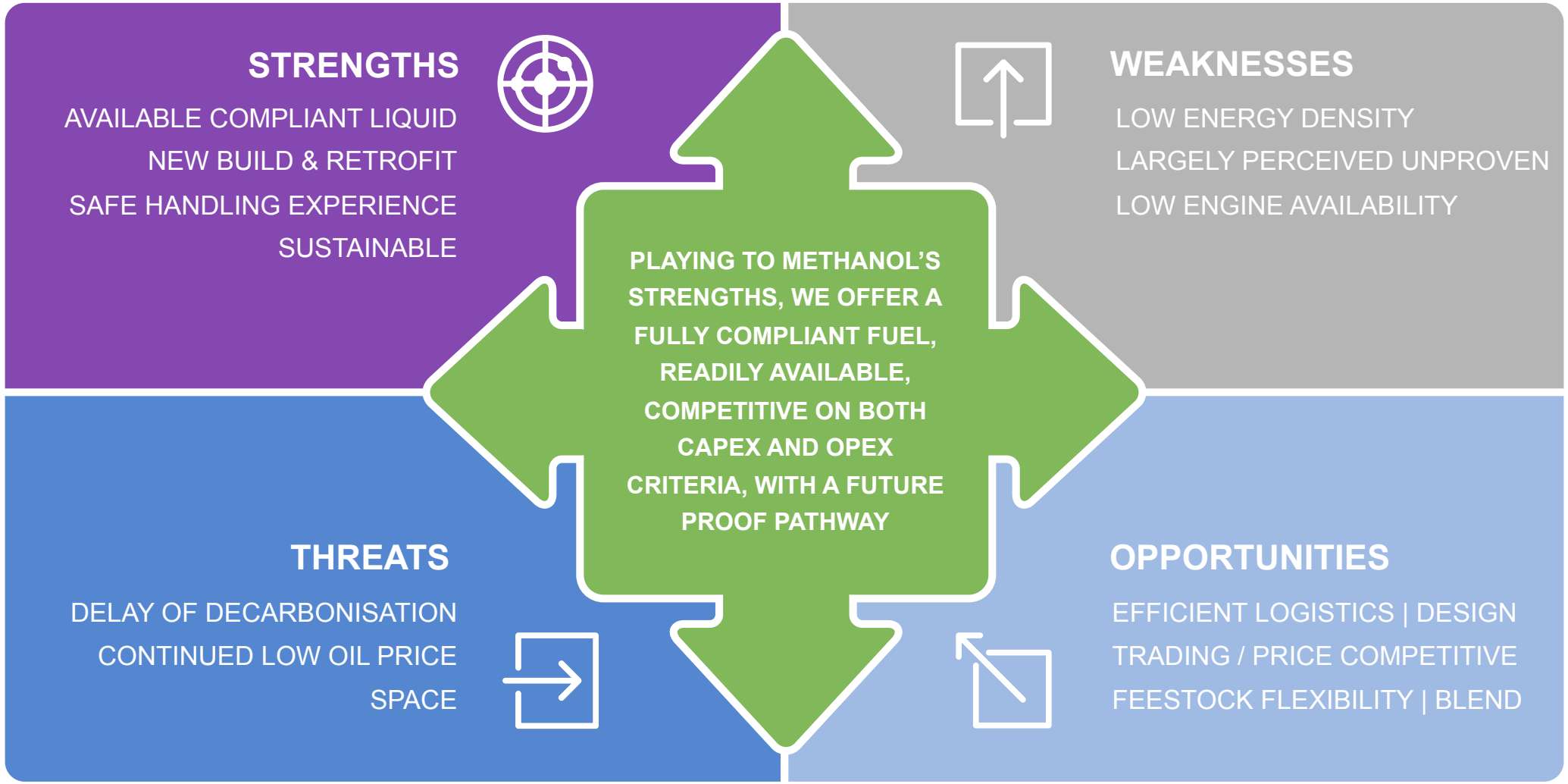
Energy Institute Asia Pacific: Future Fuels – Technology and Infrastructure Readiness

June 4, 2020

Singapore | Washington | Brussels | Beijing

SWOT


STRENGTHS
AVAILABLE COMPLIANT LIQUID
NEW BUILD & RETROFIT
SAFE HANDLING EXPERIENCE
SUSTAINABLE
WEAKNESSES
LOW ENERGY DENSITY
LARGELY PERCEIVED UNPROVEN
LOW ENGINE AVAILABILITY
PLAYING TO METHANOL'S STRENGTHS, WE OFFER A FULLY COMPLIANT FUEL, READILY AVAILABLE, COMPETITIVE ON BOTH CAPEX AND OPEX CRITERIA, WITH A FUTURE PROOF PATHWAY
THREATS
DELAY OF DECARBONISATION
CONTINUED LOW OIL PRICE
SPACE
OPPORTUNITIES
EFFICIENT LOGISTICS | DESIGN
TRADING / PRICE COMPETITIVE
FEESTOCK FLEXIBILITY | BLEND

Brown, blue or green – sustainable & available

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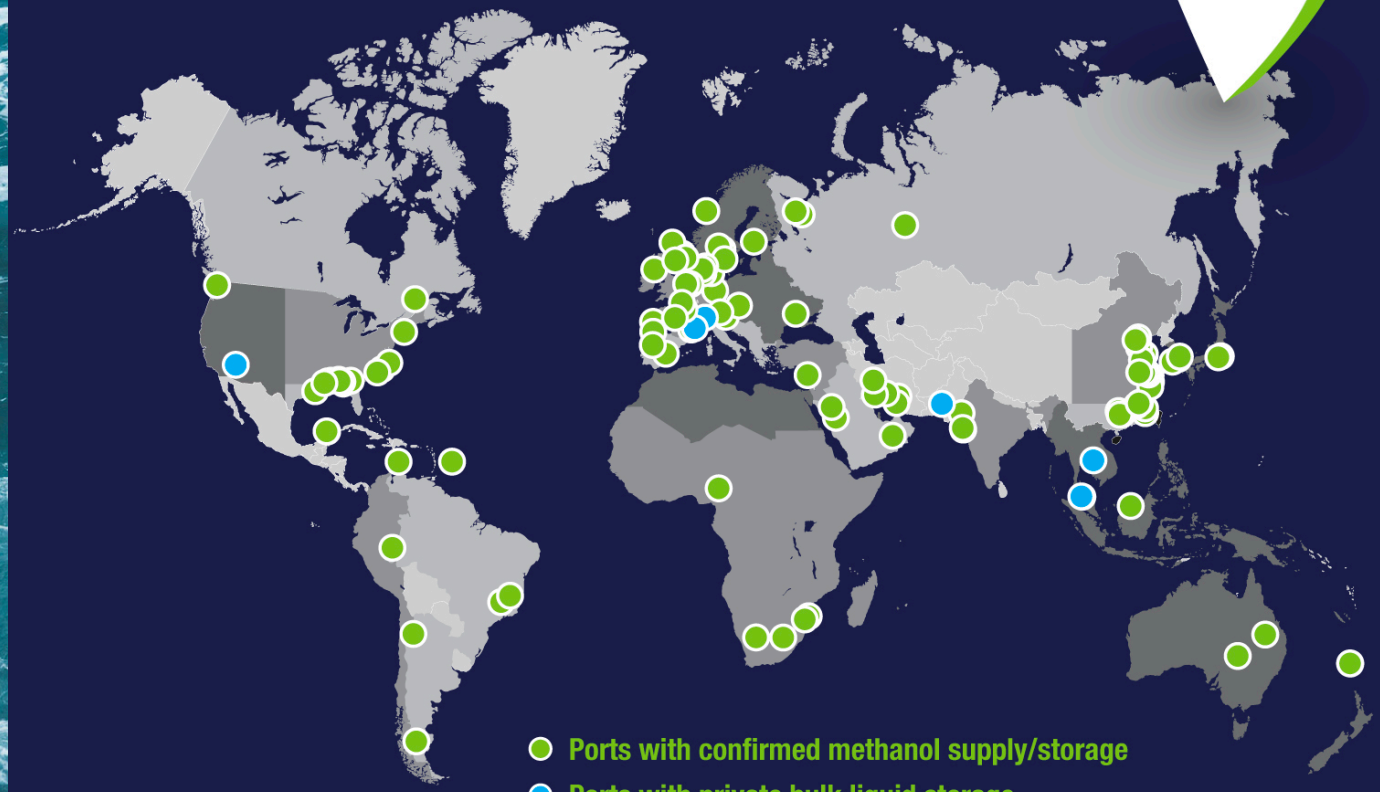
SUSTAINABLE BIOMASS
(Residues, MSW, etc)

Fermentation
Gasification
Kraft Process
Biogas
Biomethane
Syngas
Reactor & Distillation
Bio-Methanol

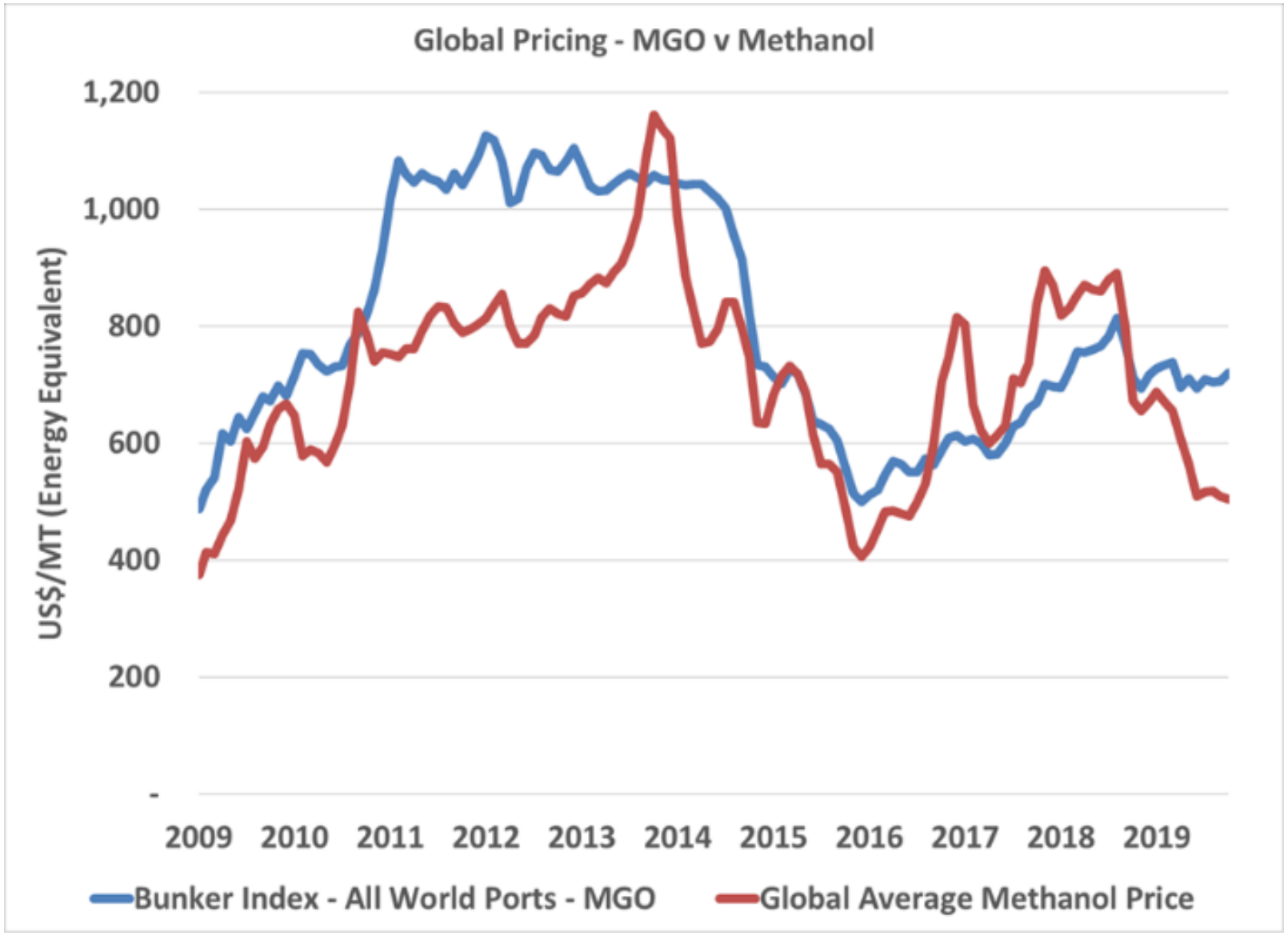
Renewable Electricity
CO_2
Electrolysis
Carbon Capture
CO_2
H_2
CO_2
Syngas
Reactor & Distillation
Renewable Methanol

E-FUELS

METHANOL AVAILABLE IN OVER 100 PORTS TODAY



Easily bunkered & competitively priced



LR & UMAS Techno-Economic Assessment on Zero Carbon Fuels

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Report focuses on the three primary pillars of the adoption of zero-carbon fuels when compared with traditional fossil-based fuels, or their readiness from the perspectives of:

Community

Technology

Investment

SCAN ME

Community:

- fuel supply chain, both in terms of the availability in the quantities required and the land-based infrastructure for production, supply and distribution

Technology:

- Current barriers to market uptake, with screening and assessment undertaken on a fuel-agnostic basis, intended to help the industry identify opportunities for new approaches
- Onboard procedures for bunkering, on-board storage, processing, conversion and propulsion

Investment:

- Examination of energy source price scenarios
- Ship-specific case studies
- Total cost of operation
- Fuel related voyage costs
- Impact on cargo carrying capacity
- Sensitivity analysis
- Lifecycle emissions and the evolution of the energy landscape in other sectors to provide the context of the wider energy and industrial sectors