

Operationalizing Methanol Bunkering

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23 Oct 2023



Topics

MeOH



Supply Chain

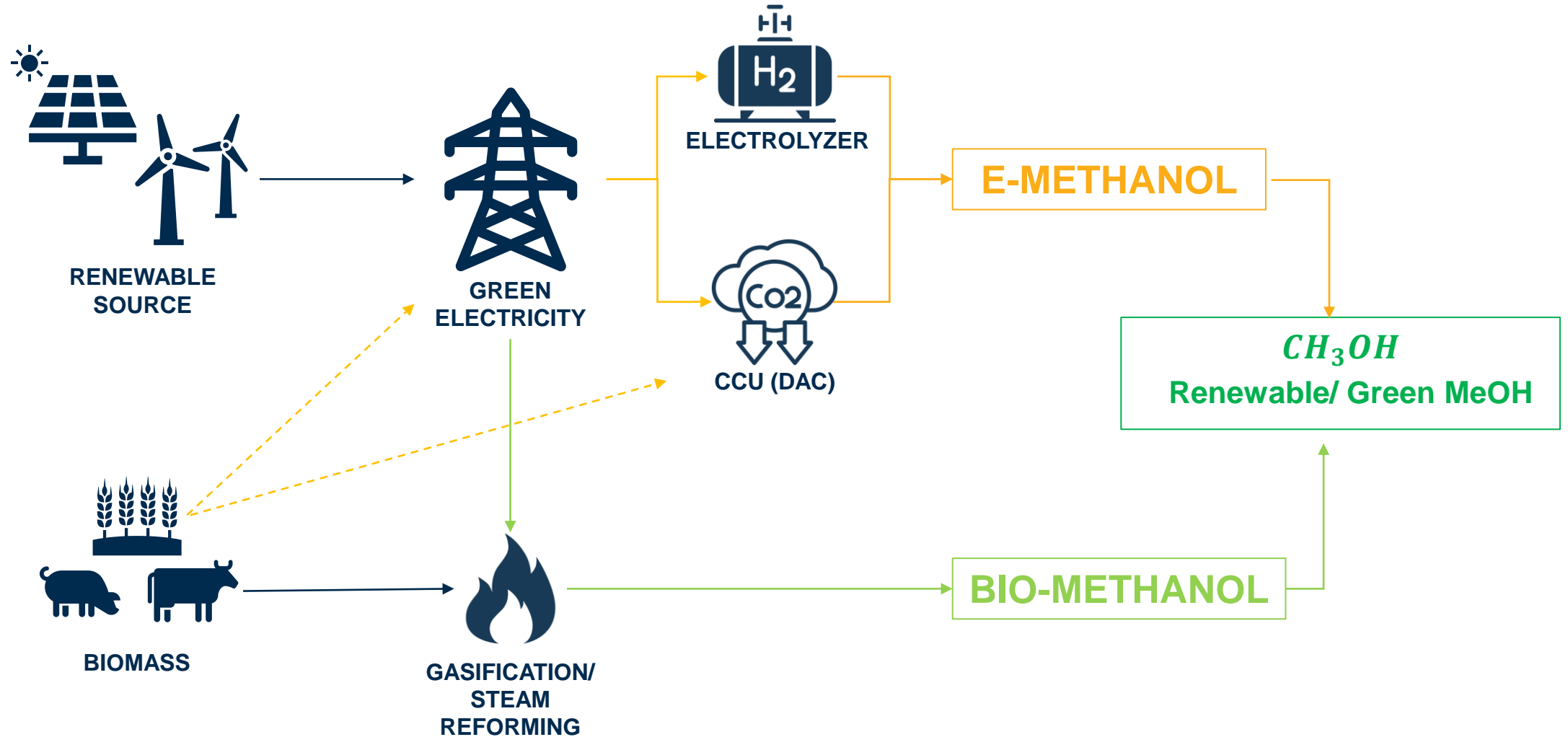


Regulations

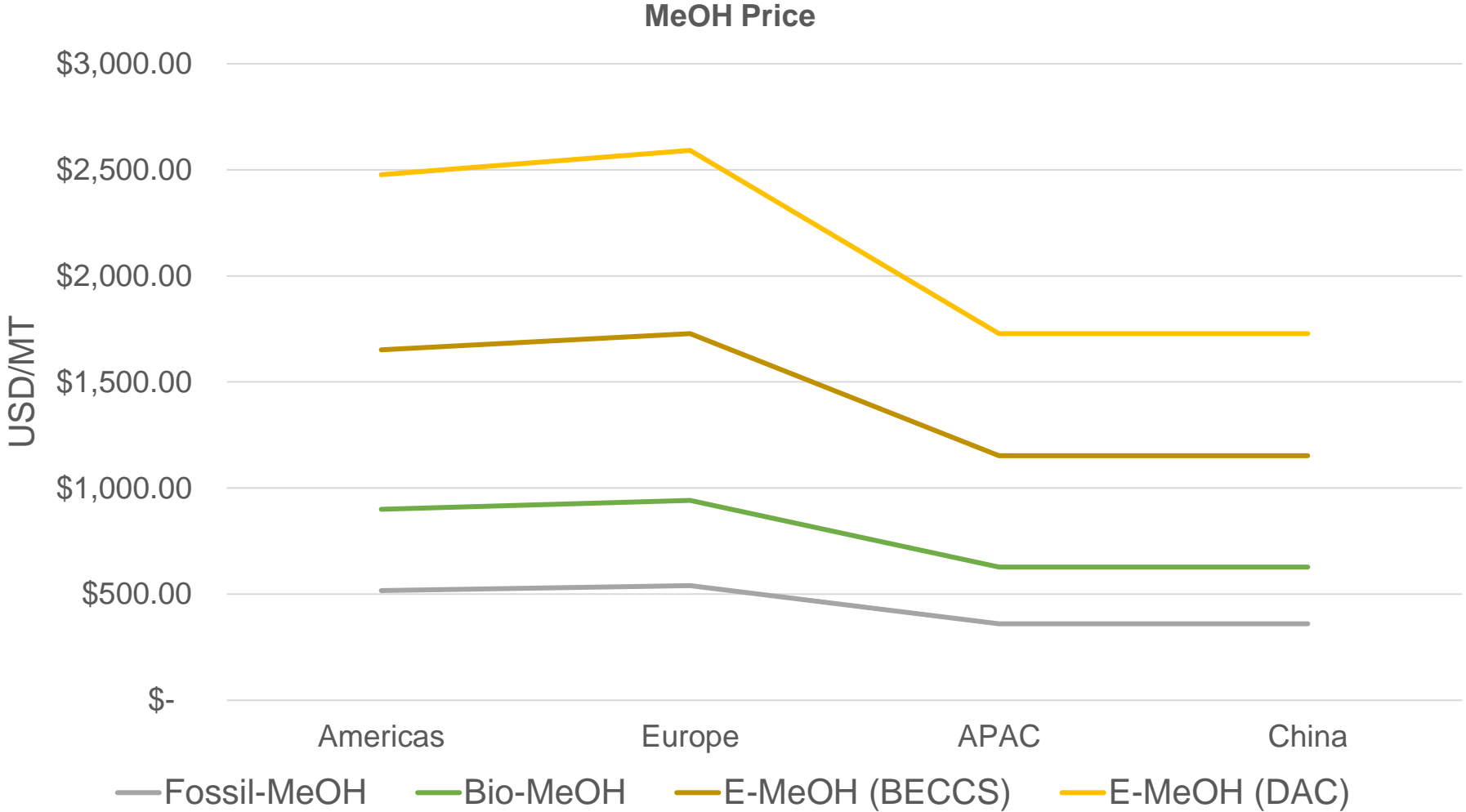


Challenges

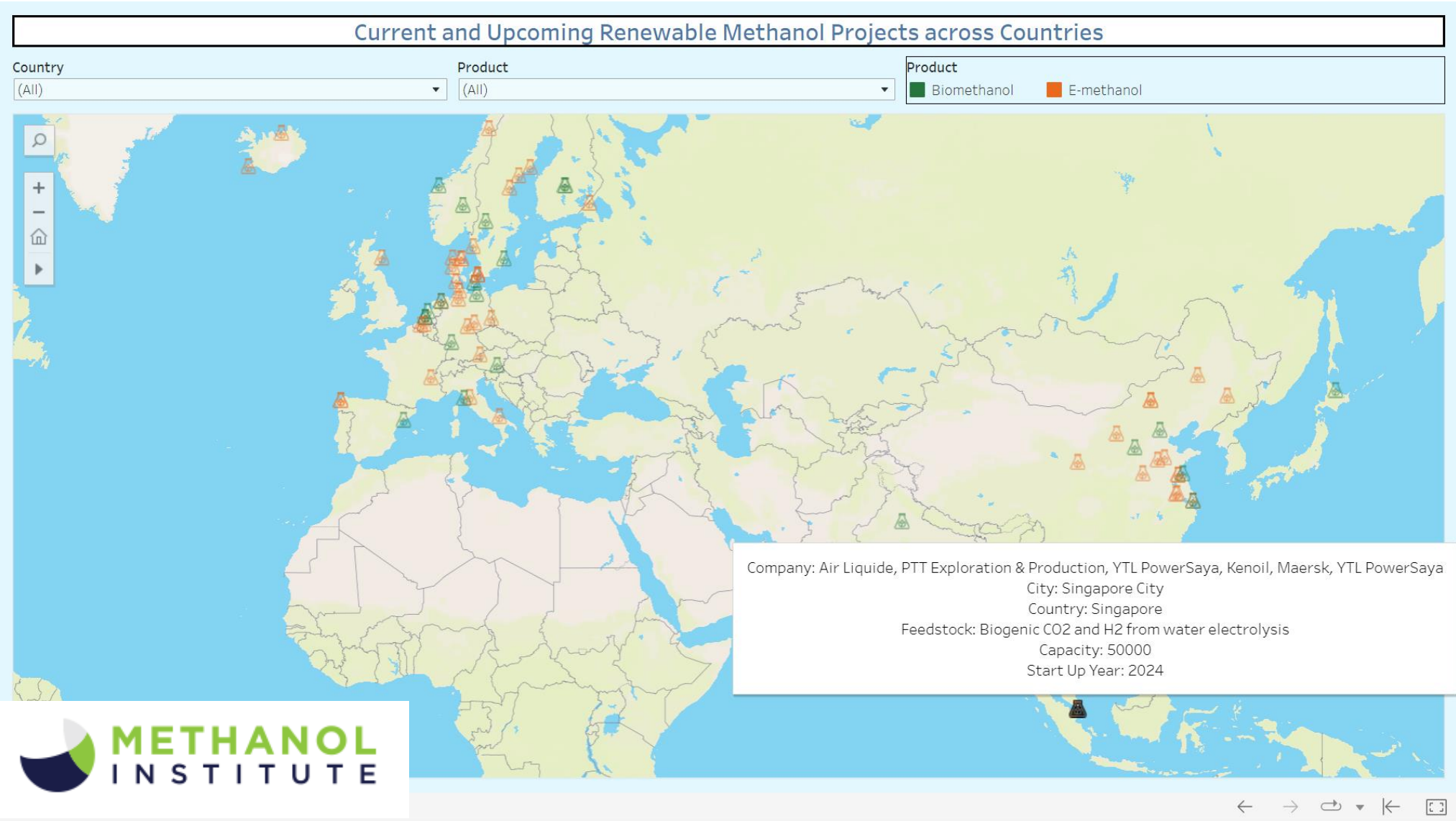
Renewable/Green MeOH



MeOH Price

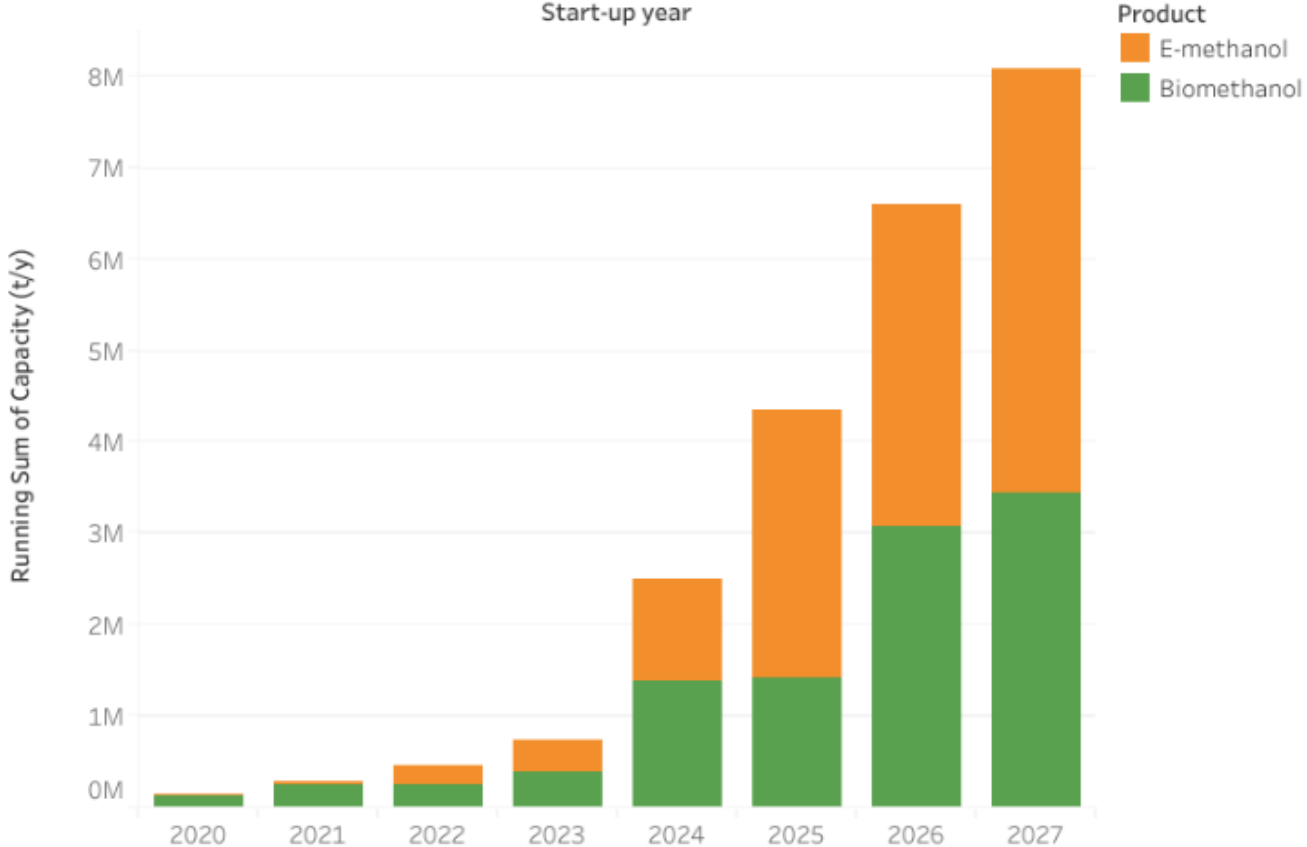


MeOH Availability (Location)



MeOH Availability (Qty)

Projected Renewable Methanol Production Capacity



Source : Methanol Institute Renewable Methanol Database of Current/Announced Projects



MeOH/Fuel Certification



3. Greenhouse Gas (GHG) emission information

Total default value according to RED II applied Yes No

$$E = E_{ec} + E_l + E_p + E_{td} + E_u^3 - E_{sca} - E_{ccs} - E_{ccr} = 24,6 \text{ gCO}_2\text{eq/MJ}$$

GHG emission saving⁴:

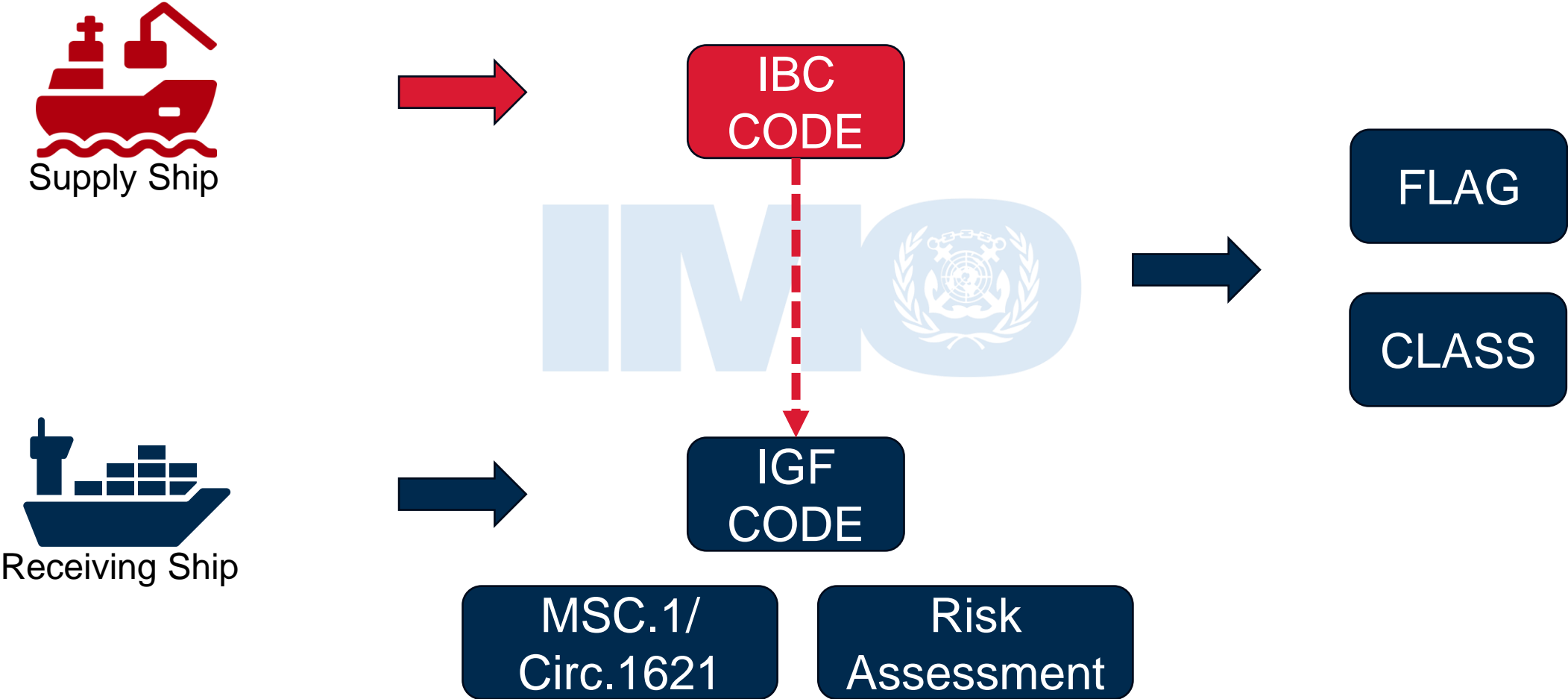
73,8% Biofuels for transport	86,6% Biomass fuels for the production of electricity
86,6% Bioliquids for electricity	69,3% Biomass fuels for the production of useful heat, as well as for the production of energy for heating and/or cooling
69,3% Bioliquids for the production of useful heat, as well as for the production of energy for heating and/or cooling	80,2% Biomass fuels for the production of useful heat, in which a direct physical substitution of coal can be demonstrated

Date when the final biofuel, bioliquid or biomass producer started operation⁵

- + E_l Annualized (over 20 years) GHG emissions from carbon stock change due to land use change
- + E_p GHG emissions from processing
- + E_{td} GHG emissions from transport and distribution. e_{td} includes downstream emissions for distribution up to and including the filling station
- + E_u GHG emissions from the fuel in use
- E_{sca} GHG emissions savings from soil carbon accumulation via improved agricultural management
- E_{ccs} GHG emissions savings from carbon capture and geological storage
- E_{ccr} GHG emissions savings from carbon capture and replacement
- = E Total GHG emissions from supply and use of the fuel



Regulations – Vessel Design



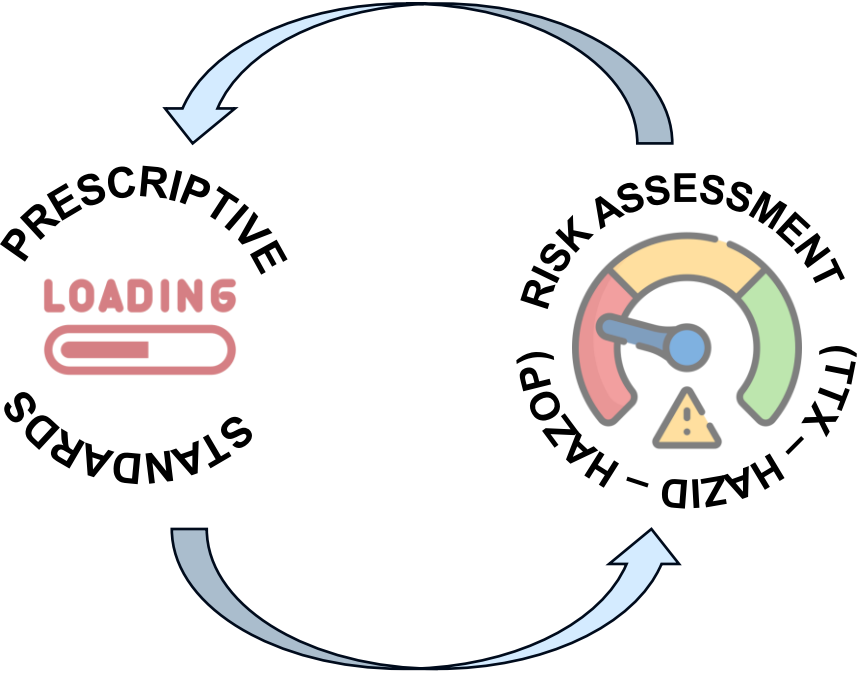
Regulations - Operations

SIMOPS



BUNKERING

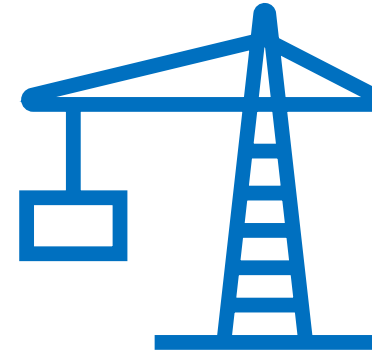
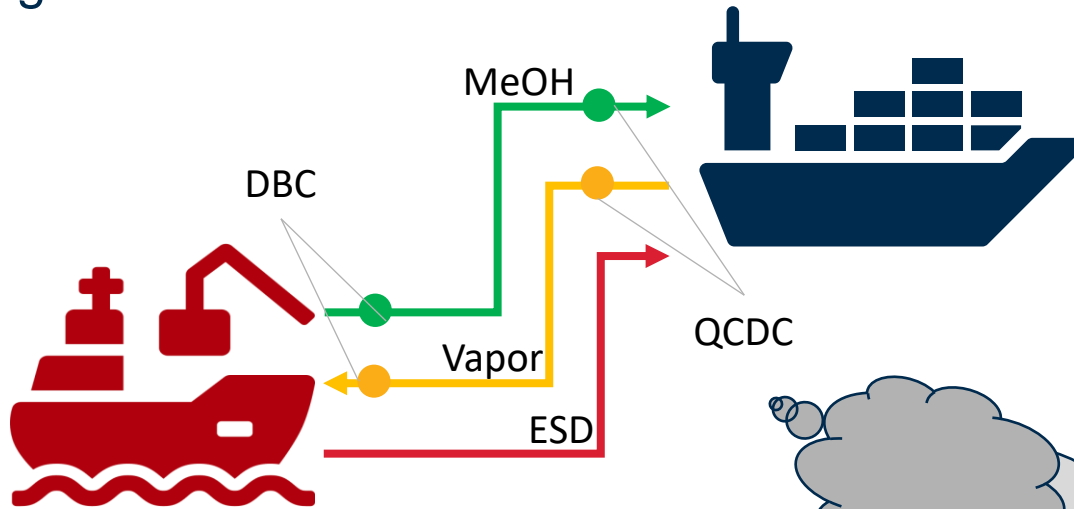
CARGO OPS



Risk Assessment

BUNKERING:

Mooring
Testing & Transfer
Draining

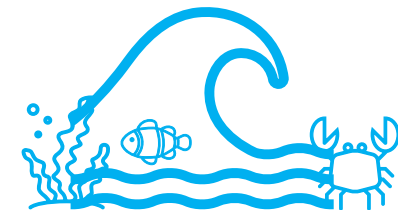


CARGO:
Procedure
Sequences

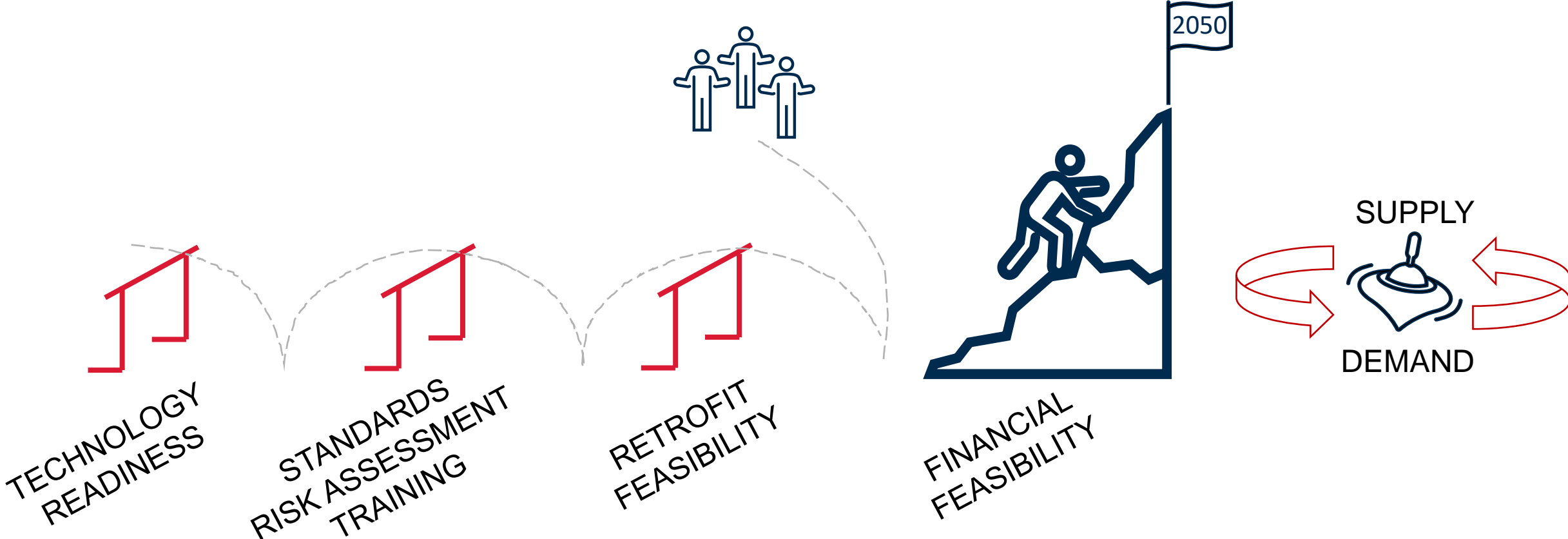


LEAKS:

Consequences
Mitigation
Emergency Preparedness



Challenges



Thank You

