



METHANOL INSTITUTE

Singapore | Washington | Brussels | Beijing | Delhi

eMethanol in the Nordics

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Members



Tier 1



Tier 2



Tier 3



Tier 4



History

- The Methanol Institute (MI) was established in 1989
- Three decades later, MI is recognized as the trade association for the global methanol industry
- We facilitate methanol's increased adoption from our Singapore headquarters and regional offices in Washington DC, Brussels, Beijing and Delhi





**Upstream input
availability for
improved economics**

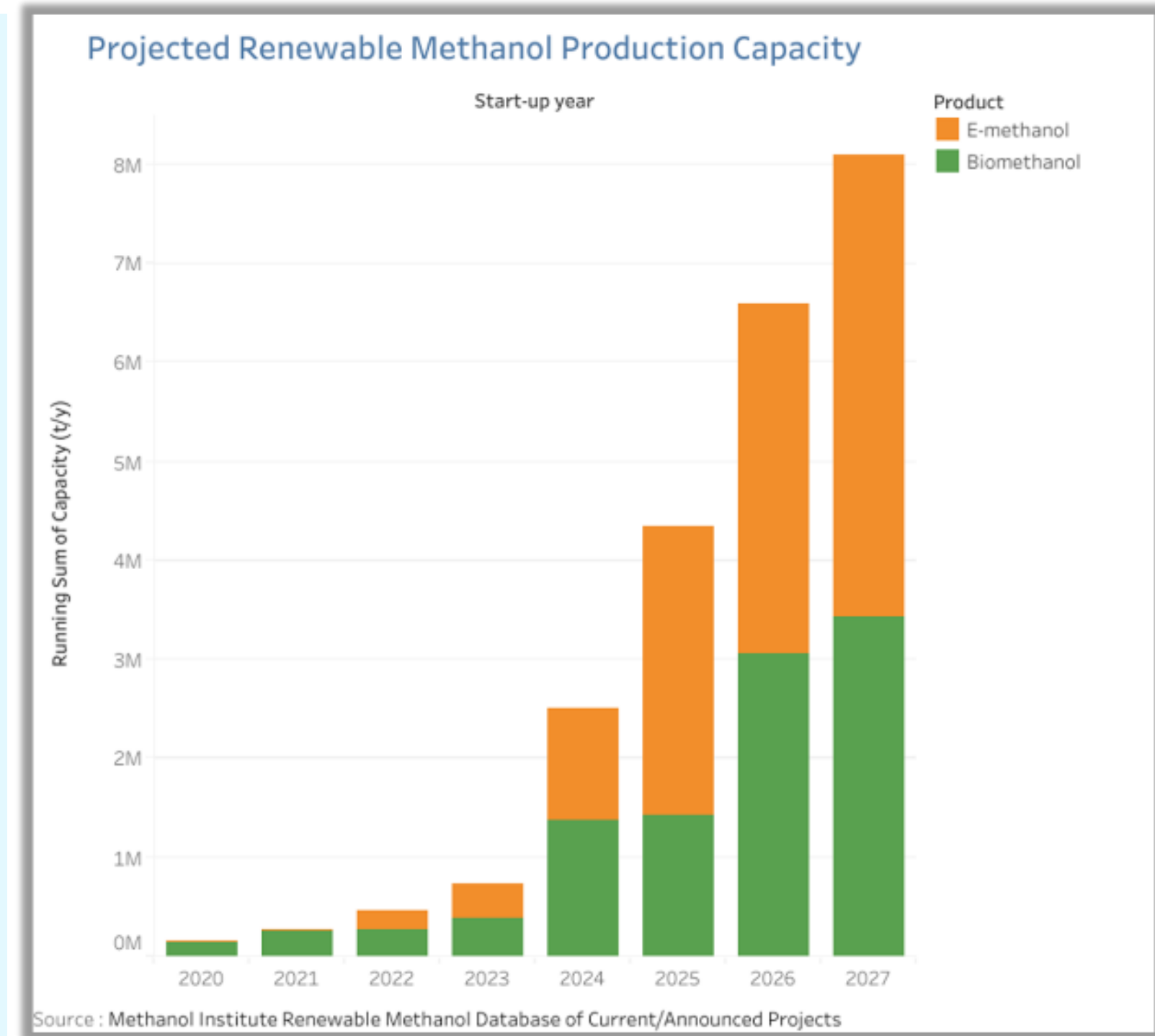
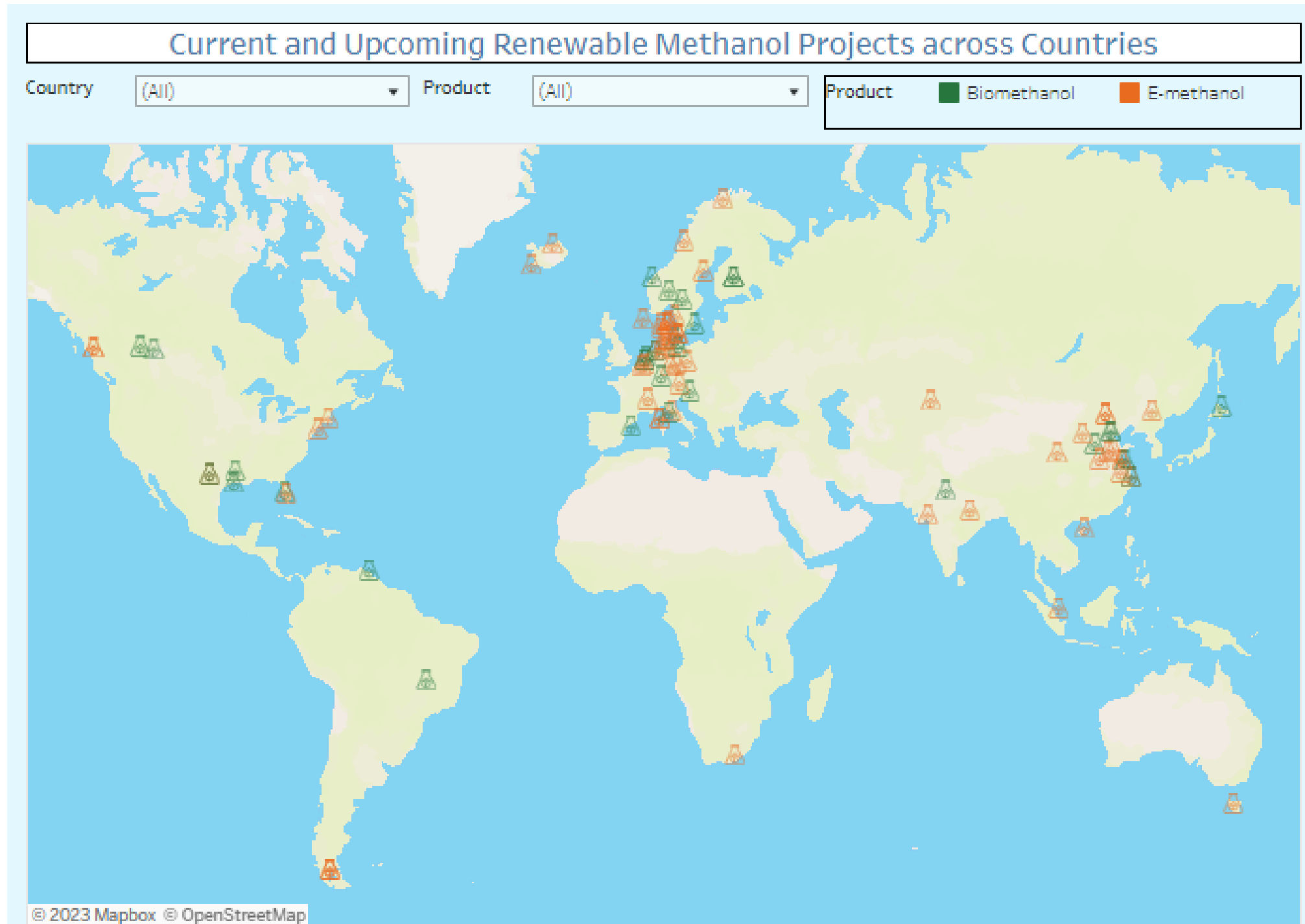


**Proximity to
emerging markets**



**Compatibility with
regulatory
framework**

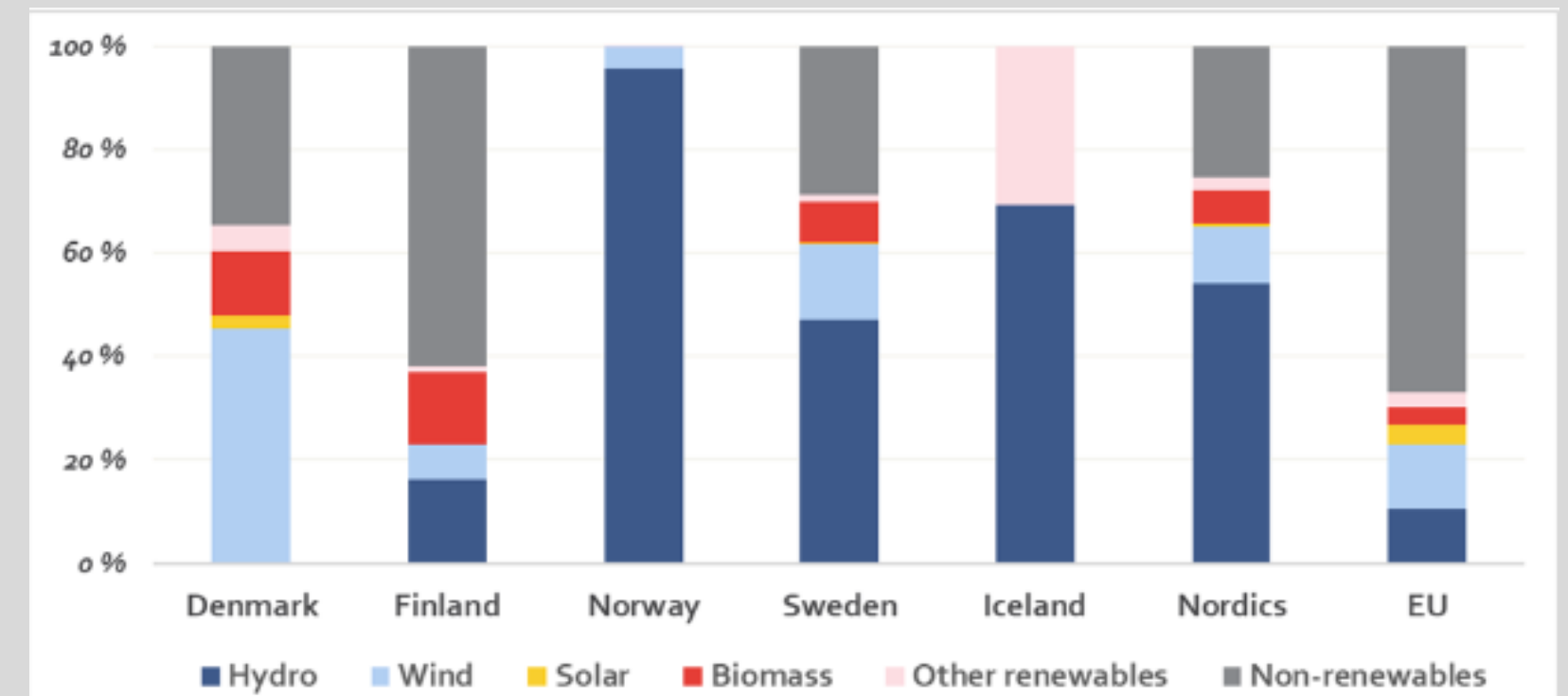
Majority of eMethanol projects in Scandinavia



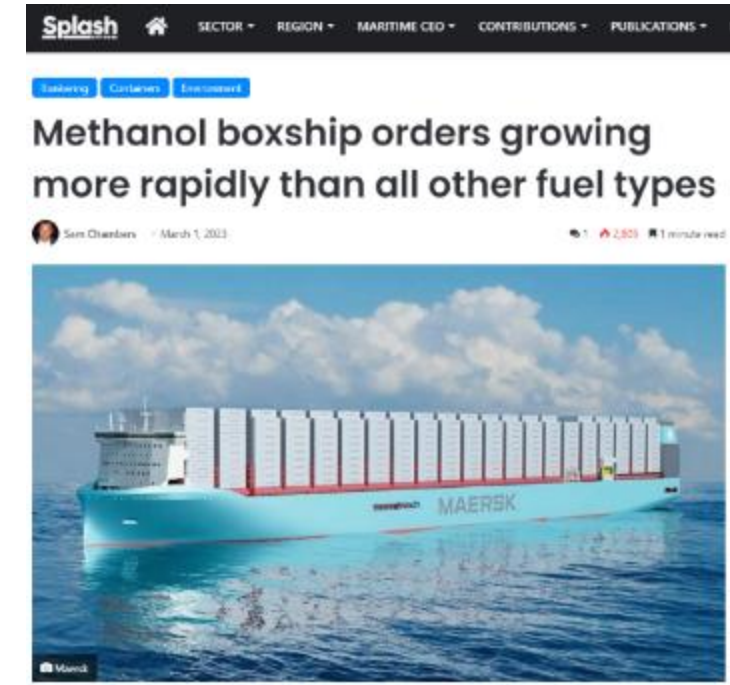
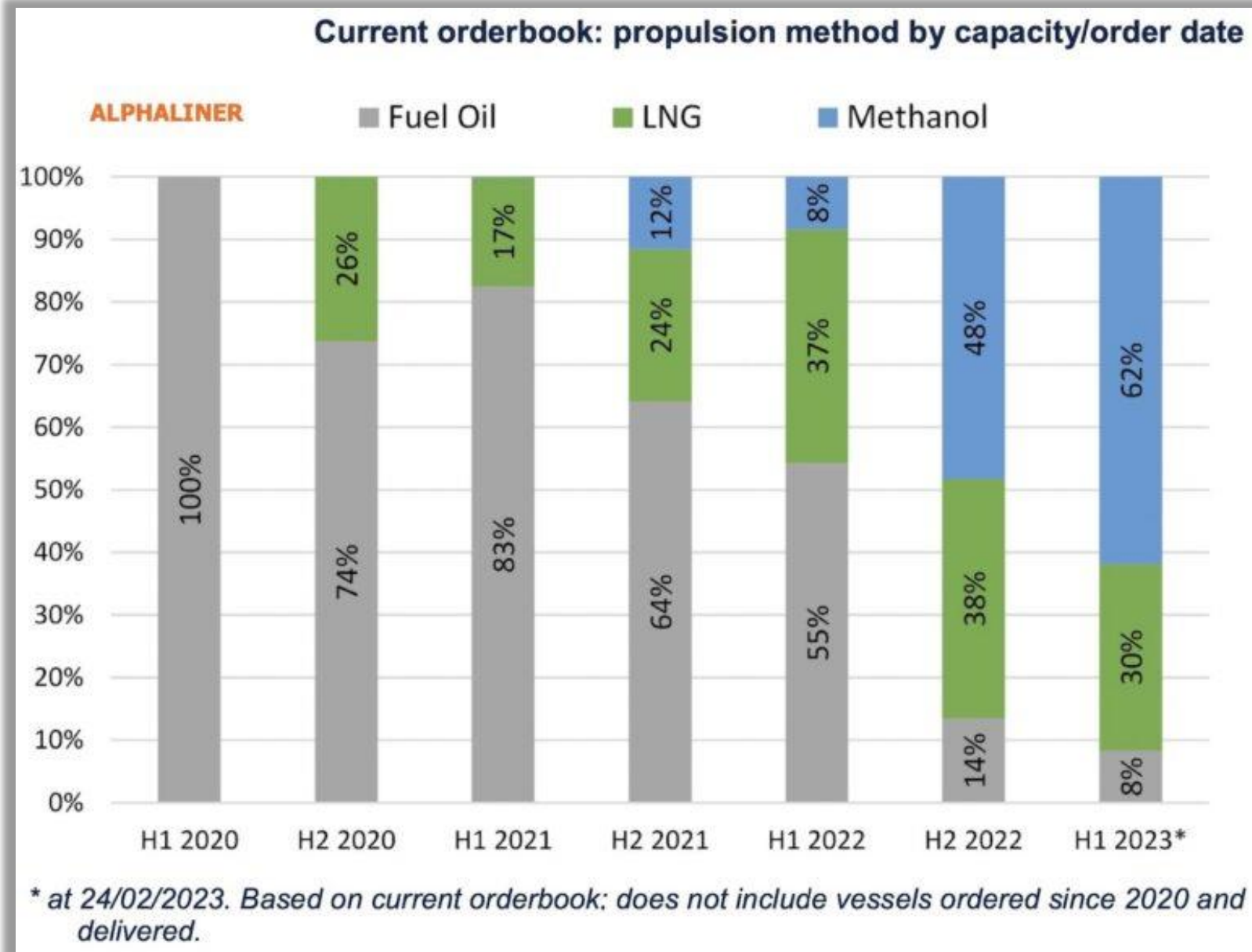
Enabling Conditions

- Biogenic CO₂ from biomass gasification and biogas production facilities concentrated in the Nordics
- Renewable electricity capacity abundant, and already integrated to a much greater extent than rest of Europe
 - Wind and solar projects widely viable without subsidies
- Improved investment conditions
 - DK alone plans to invest 161 million EUR in PtX projects
- First movers in region
- Ambitious climate targets propel change
- Hydrogen infrastructure rapidly deployed
- Intermittent power sources well integrated – eFuel energy storage potential

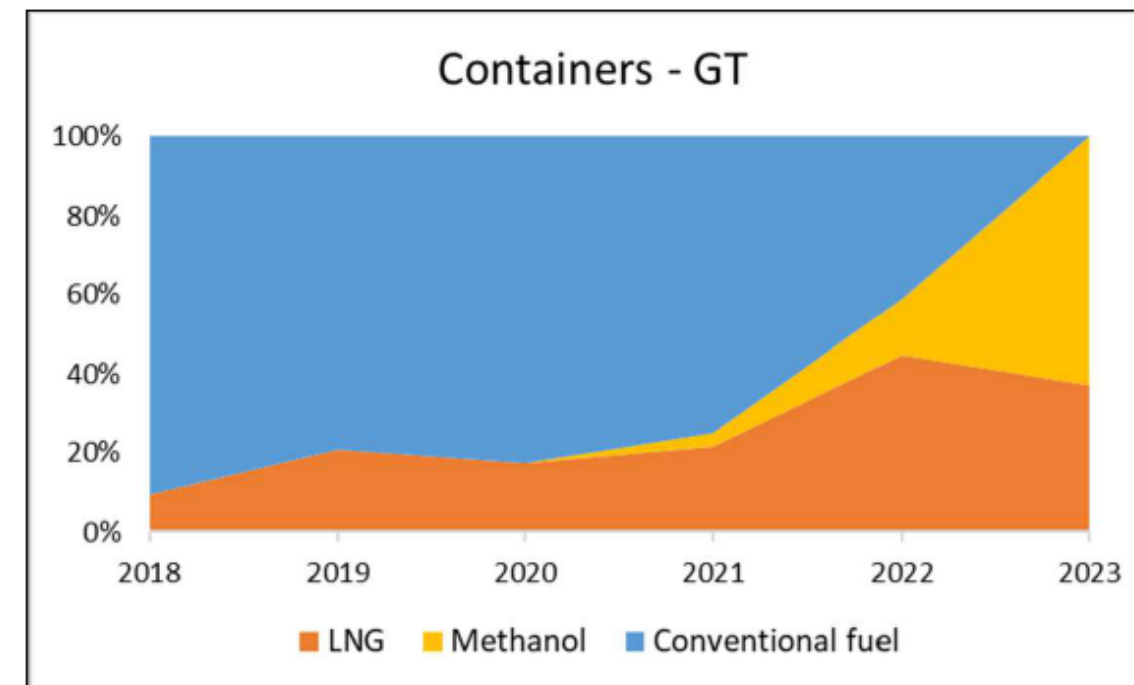
75% of electricity in the Nordics came from renewables in 2021



Shipping becoming a key market segment

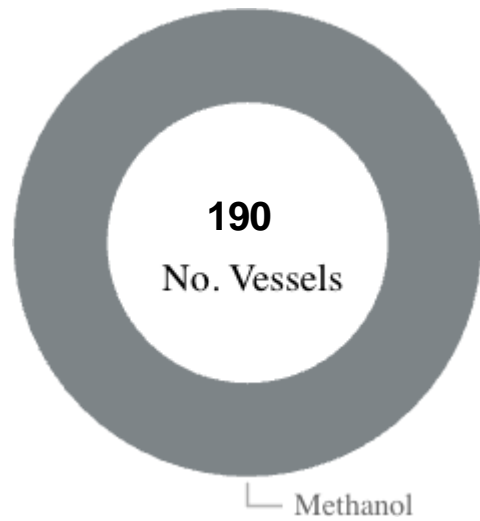


<https://splash247.com/methanol-boxship-orders-growing-more-rapidly-than-all-other-fuel-types/>



Shipping becoming a key market segment

Alternative Fuels Uptake



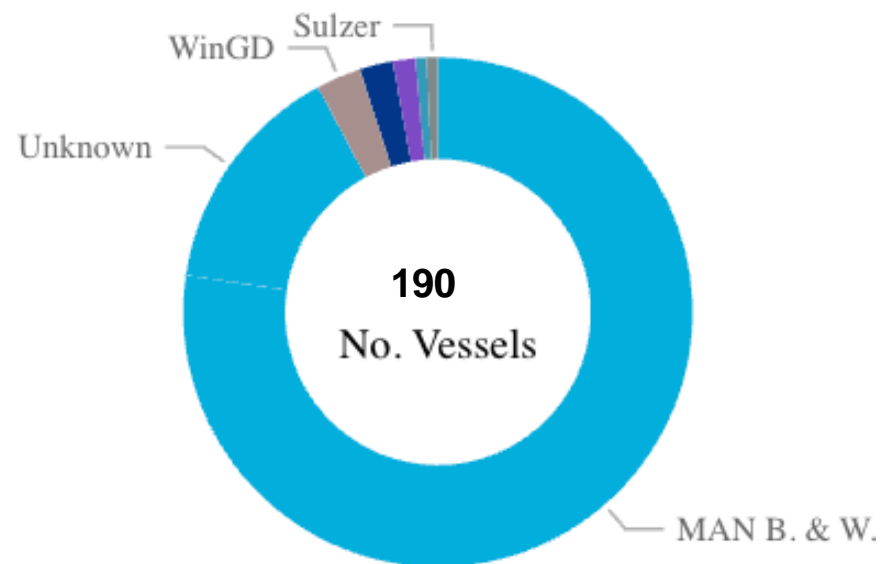
Alt Fuel Uptake by Number of Vessels

Alt Fuel	Fleet	% Fleet	Order Book	% Order Book
Methanol	25.0	0.0%	165.0	3.1%

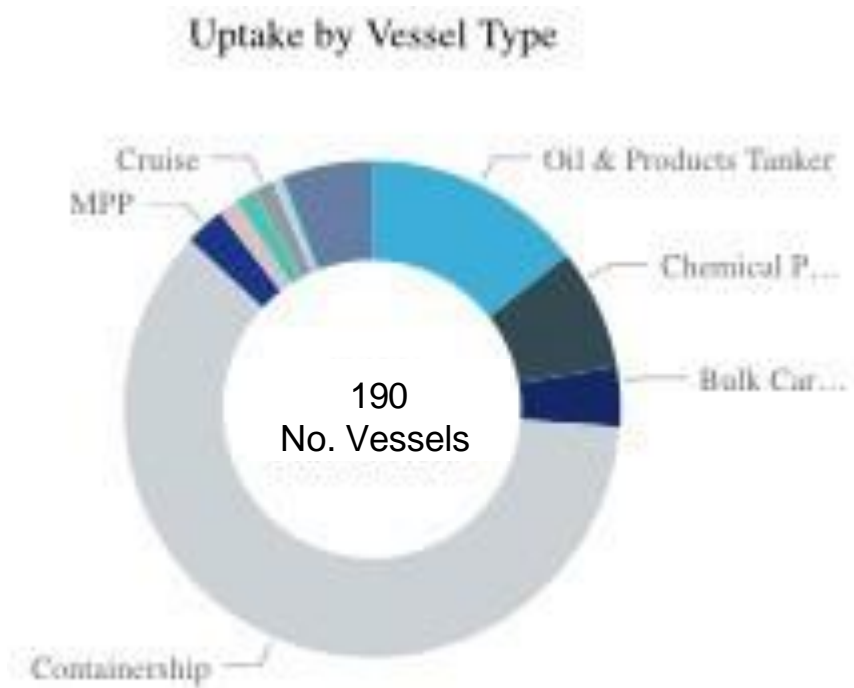


Engine Designers

Top Engine Designers

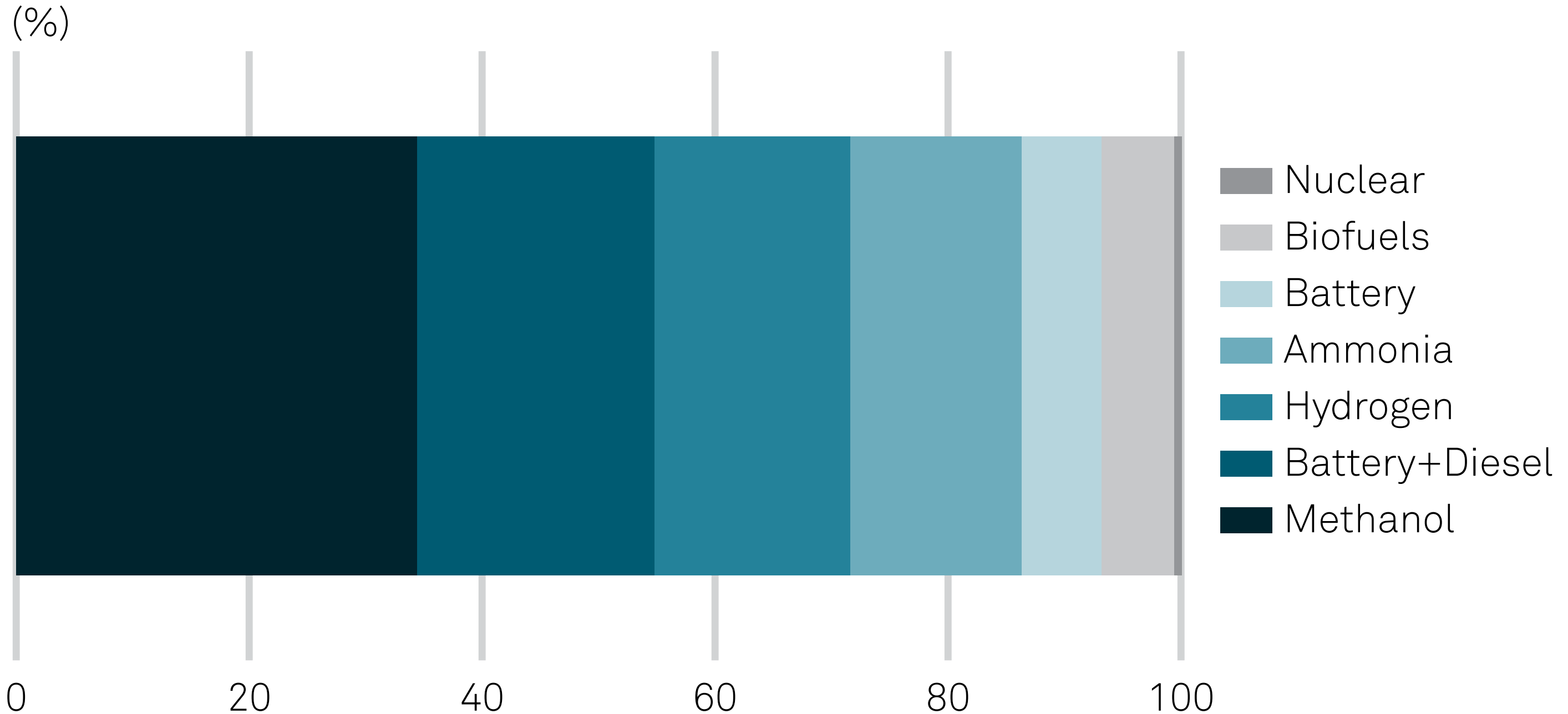


Uptake by Vessel Type



Source: Clarksons

Alternative shipping fuels outlook - 2030



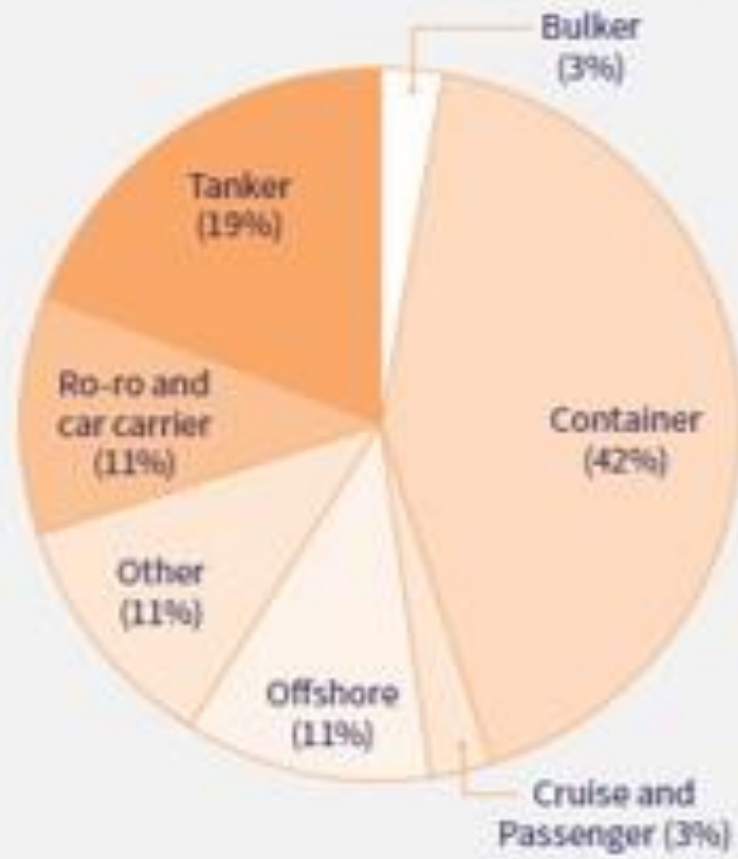
Source: S&P Global Commodity Insights

1200 vessels expected in 2030 – about 48 million tonnes of methanol demand

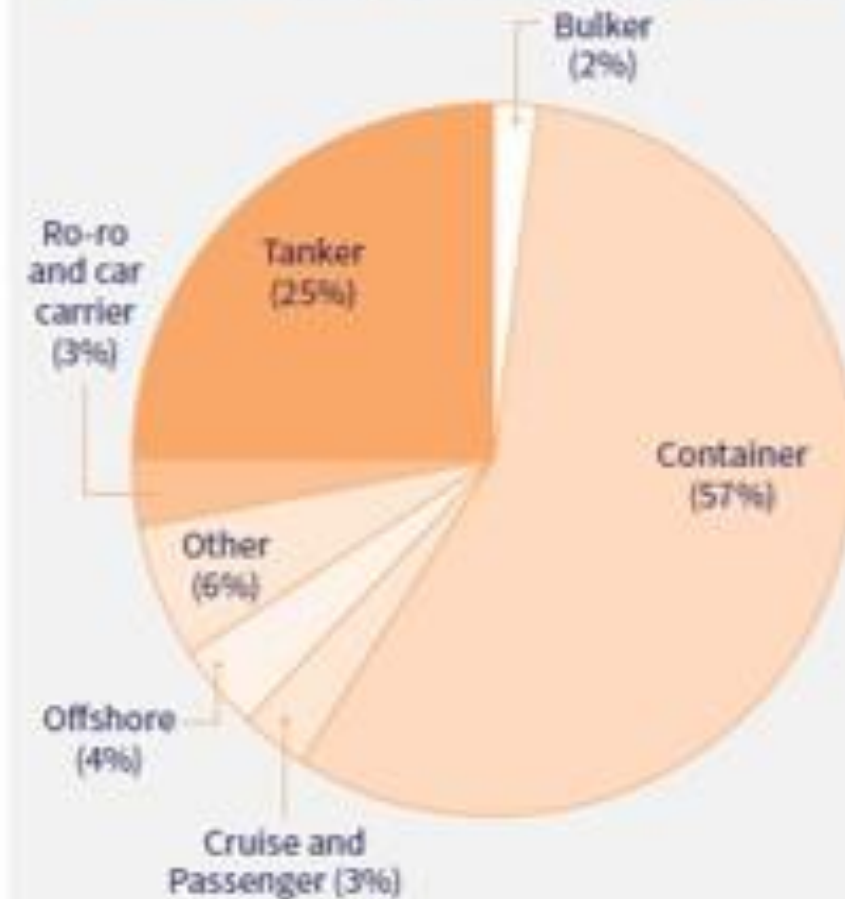
(Source: Clarksons, June 2023)

F=Forecast

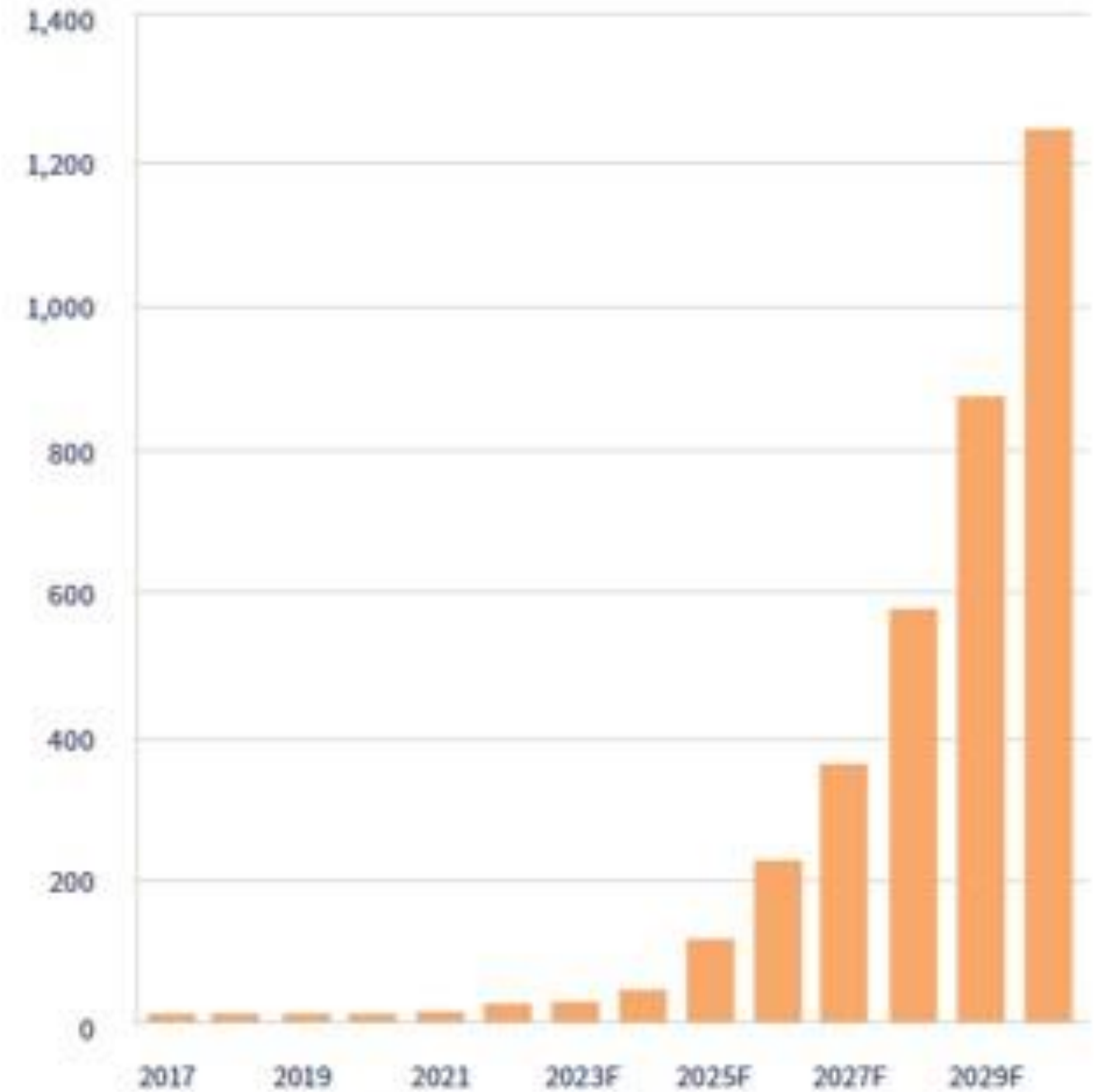
Methanol ready orderbook by sector



Methanol capable orderbook by sector



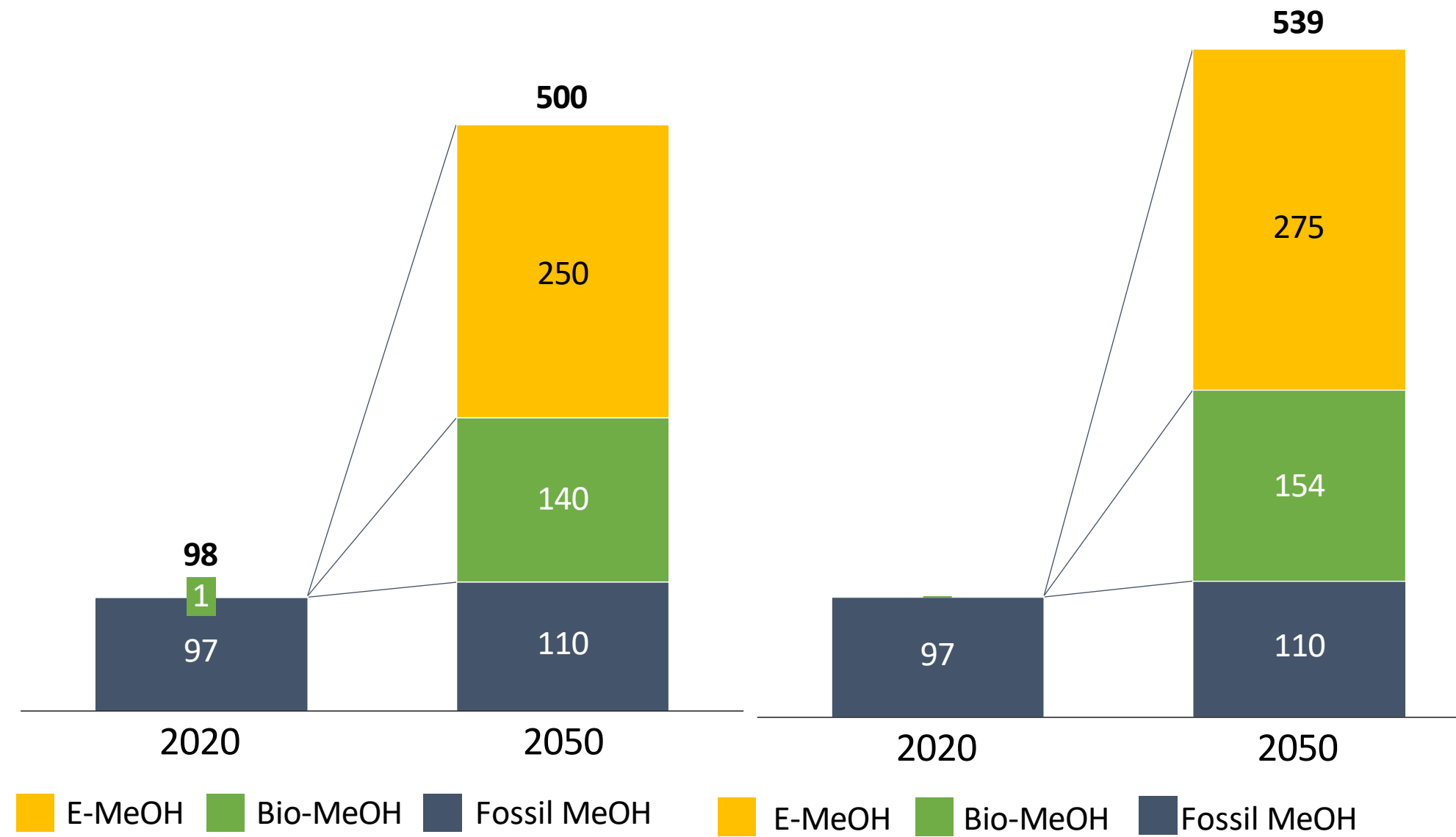
Clarksons forecasts suggest a significant climb in methanol capable and methanol ready orders. In 2022, methanol accounted for 3% of the orderbook (7% by GT). By 2030 this could be close to 20%, representing up to 1,200 vessels.



Forecast by IRENA

Updated forecast by Roland Berger

[million t]



Source: IRENA, Roland Berger

- **Article 27 of RED:** By 2028 producers of renewable hydrogen (and derivatives) must ensure that electricity used for production comes from renewable power generating installations not older than 36 months
- **Electricity from grid fully renewable in areas where electricity GHG intensity is lower than 18gCO₂eq/MJ or share of renewables is above 90%**
 - **Additionality criteria waived for Norway, Sweden and Iceland.**
 - **Finland (22.9) and Denmark (27.1) the closest MS to reaching emission criteria**
- **Article 28 of RED:** After 2041, captured carbon from sources that fall under the ETS system will no longer count under the definition of RFNBO. Biogenic sources and DAC only.
 - Region (not including Iceland) rich in biogenic sources of - CO₂ (distilleries, fermentation units, MSW, biogas and
 - biomass gasification



Brussels, 10.2.2023
C(2023) 1086 final

COMMISSION DELEGATED REGULATION (EU) .../...

of 10.2.2023

supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a minimum threshold for greenhouse gas emissions savings of recycled carbon fuels and by specifying a methodology for assessing greenhouse gas emissions savings from renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuels



Brussels, 10.2.2023
C(2023) 1087 final

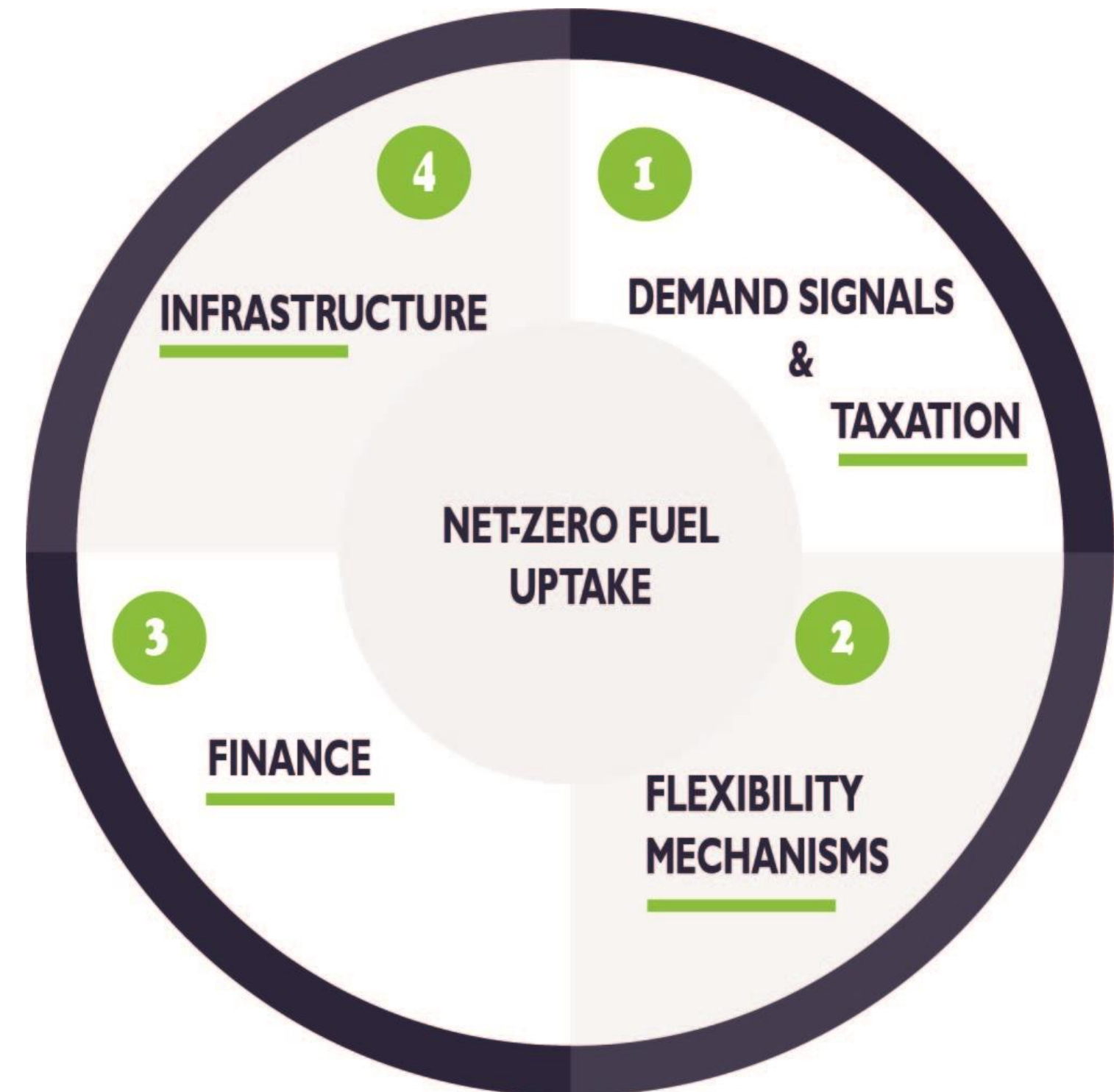
COMMISSION DELEGATED REGULATION (EU) .../...

of 10.2.2023

supplementing Directive (EU) 2018/2001 of the European Parliament and of the Council by establishing a Union methodology setting out detailed rules for the production of renewable liquid and gaseous transport fuels of non-biological origin

How can the Nordics support eFuel integration?

- Demand Signaling to include
 - a) Binding targets
 - b) Performance-based trajectory with a strong penalty
 - c) Mandated minimum supply
 - d) Taxation based on climate performance
- Flexibility; Pooling, mass-balancing, book & claim
- Finance: Harmonization between green finance regulations and marine fuel integration objectives
- Infrastructure: Actionable targets for alternative fuel infrastructure in ports



Source: Clarksons

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