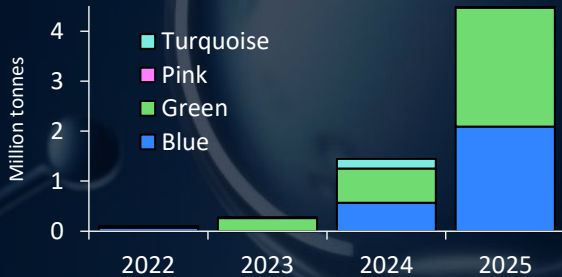




The making of a new hydrogen economy – five things to watch in 2023

1 More FIDs and actual projects

Annual added hydrogen capacity



Many FIDs and advancements in project stages in 2023, thanks to clarity in incentives, leading to a break-out year for clean H₂ in 2024.

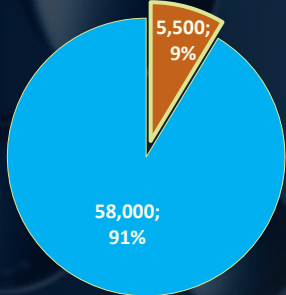
Five-fold
growth expected in 2024

2 Life cycle assessment

Life cycle assessment and standards for measuring clean hydrogen will be the focus this year, as these could become the key differentiator between projects. Many incentives and funding schemes use CO₂ intensity per weight unit of H₂ as a metric.

3 Focus on infrastructures

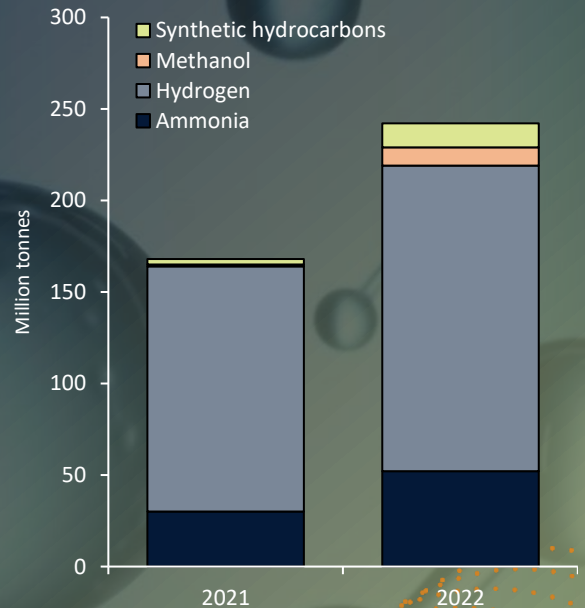
Length of pipeline in km by status, share of the total (%)



Companies and countries will focus on hydrogen infrastructures in 2023 as eyes turn to imports and trade. Pipelines, terminals, tankers, and conversions will be hot topics

\$85 billion
of capex required for planned H₂ pipelines

5 Methanol and synthetic hydrocarbons



While ammonia continues to dominate, methanol and synthetic fuels are expected to become more popular as a derivatives for the clean hydrogen economy. Demand emerging from the shipping and aviation industries.

A **10-fold** increase in 2022 for clean methanol projects

4 Early adopters: oil, gas and industrial players push for decarbonization



Selected offtake segments for announced and advanced clean hydrogen projects