FutureBridge

CO_2 to Chemicals

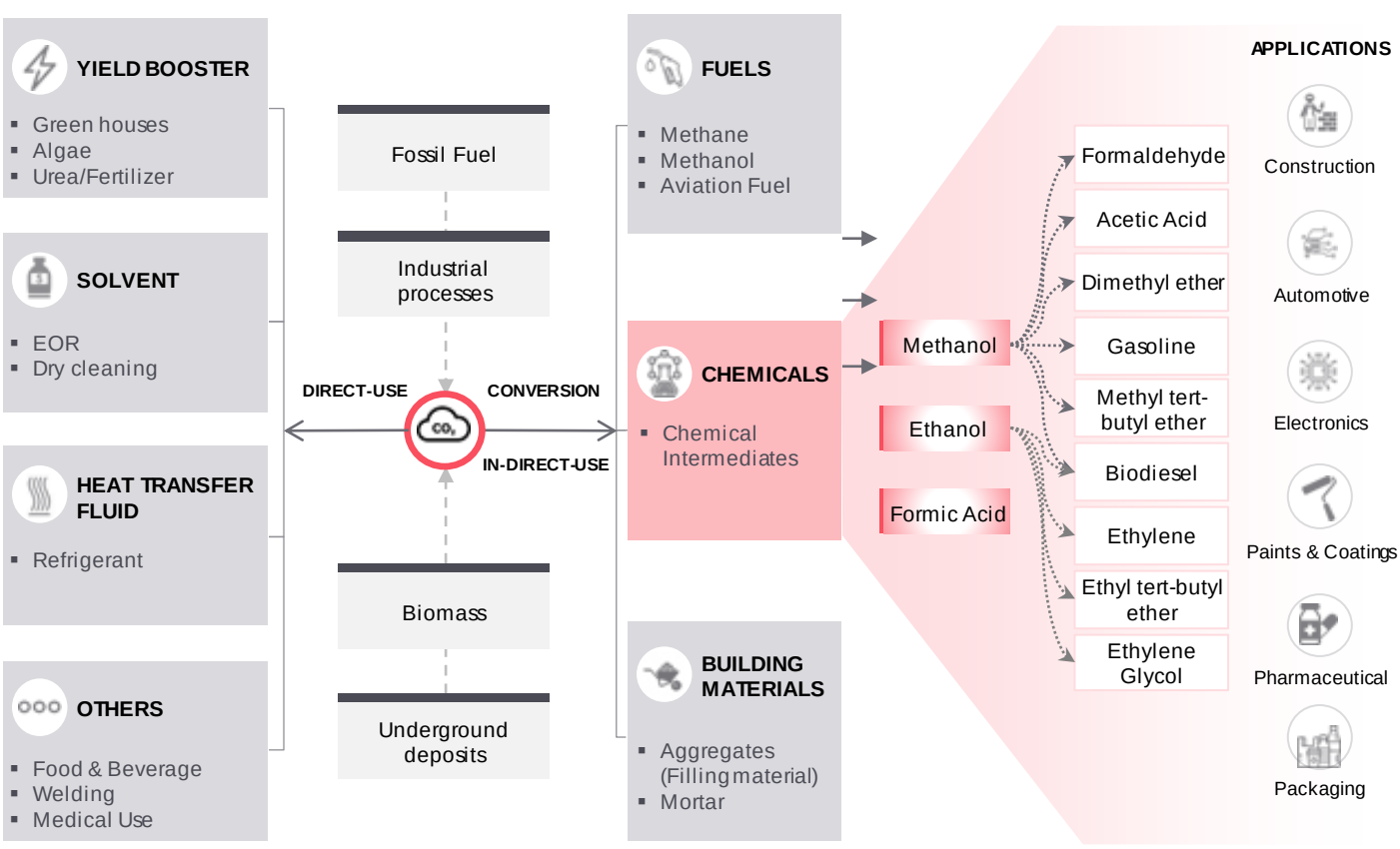
Converting CO_2 emissions into intermediate and platform chemicals

Global carbon dioxide emissions from fossil fuels and cement have hit a record high of 36.6 billion tonnes this year.

Key Promising Chemicals from CO_2 and Current Market

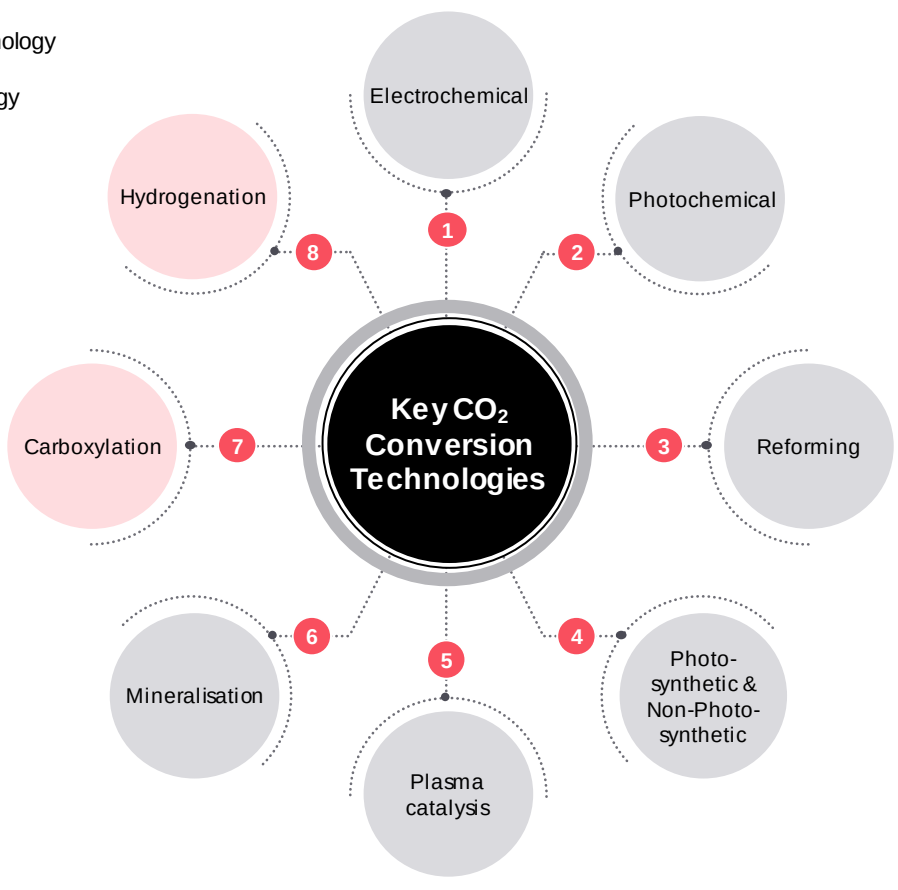
Methanol	Ethylene	Polycarbonates	Acrylic acid	Carbon Monoxide	DME
~$40 billion	~$180 billion	~$35 billion	~$10 billion	~$12 billion	~$5 billion

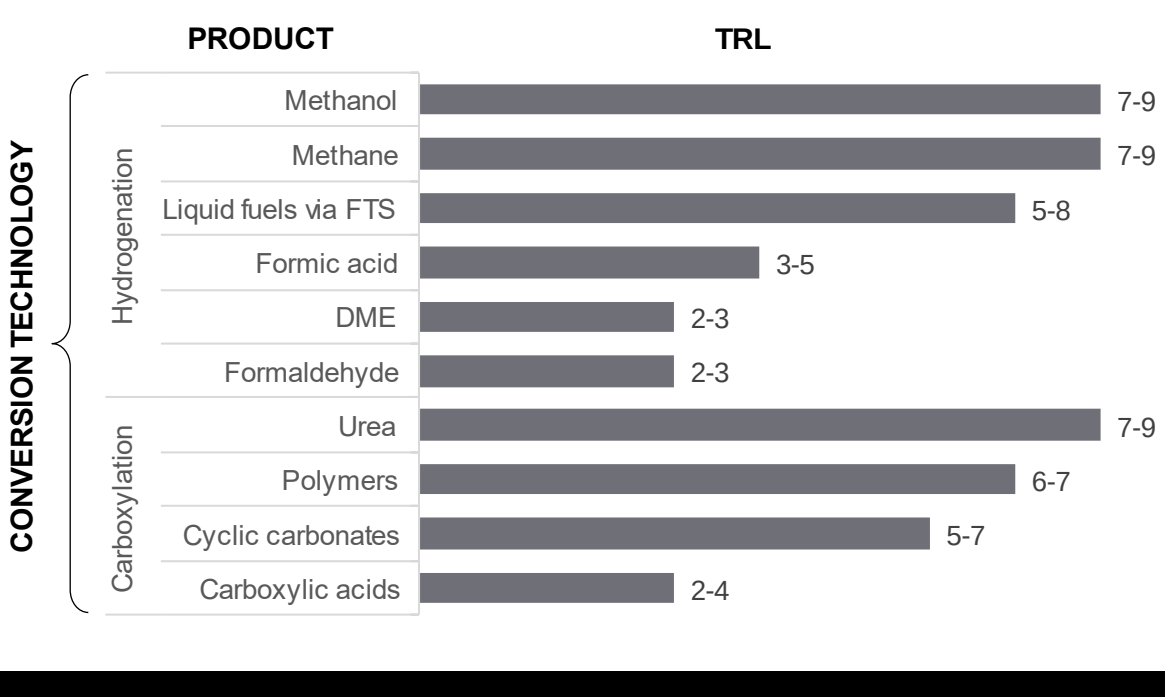
Research and Pilot Scale Projects Operating to Convert CO_2 into Chemicals



Hydrogenation and carboxylation processes have matured and are used in methanol and urea production, utilizing CO_2

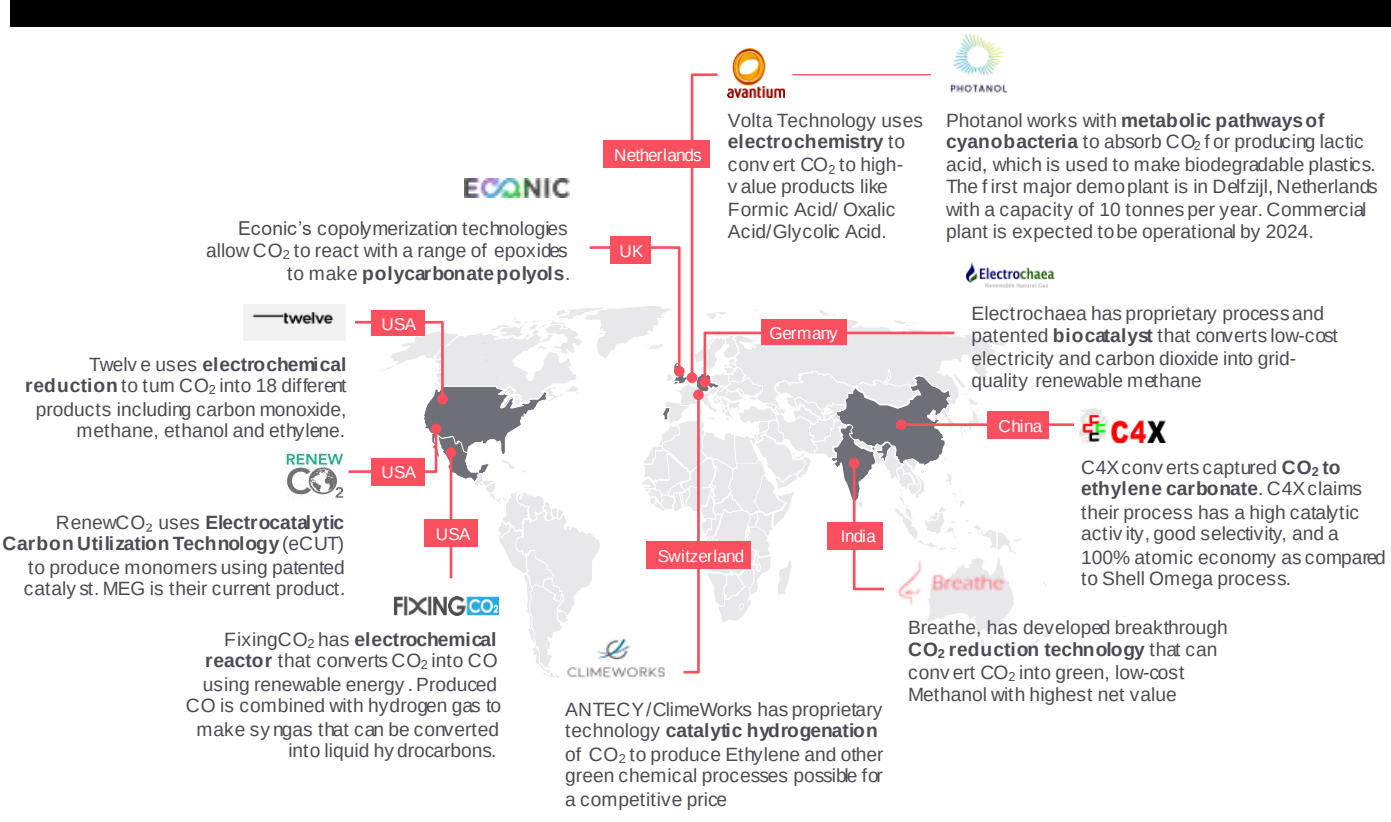
Minimum cost of methanol production is **approximately $560 per ton** through CO_2 hydrogenation resulting in significantly fewer byproducts and less energy used in product purification.





Promising Startups in the CO_2 to Chemicals space

Large companies join hands with startups to use the CO_2 derived chemicals in their products



Conclusion

The short-to-medium-term potential for CO_2 to chemicals is significant in reducing emissions in high-emissive sectors, such as cement and steel production. However, CO_2 conversion into chemicals, fuels, and materials, remains under utilized in recent times due to the prohibitive cost of the capture and utilization steps. The market for CO_2 use is expected to remain relatively small in the short term, but early opportunities could be developed.

About FutureBridge

FutureBridge tracks and advises on the future of industries from a 1-to-25 year perspective.

We keep you ahead on the technology curve, propel your growth, identify new opportunities, markets and business models, answer your unknowns, and facilitate best-fit solutions and partnerships using our platforms, programs, and access to global ecosystems and players.