hydrogen production by electrolysis

Hydrogen produced by electrolysis is the missing link in the green energy transition. It offers a way to decarbonize sectors such as heavy transport, steelmaking, and the chemical industry, where it is proving difficult to reduce emissions through electrification alone.

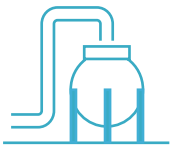
HEAVY TRANSPORT

Aviation, shipping and other heavy transport account for 7% of global CO_2 emissions. For heavy transport, hydrogen and synthetic fuels based on hydrogen are the only at-scale option for direct decarbonization.

STEEL PRODUCTION

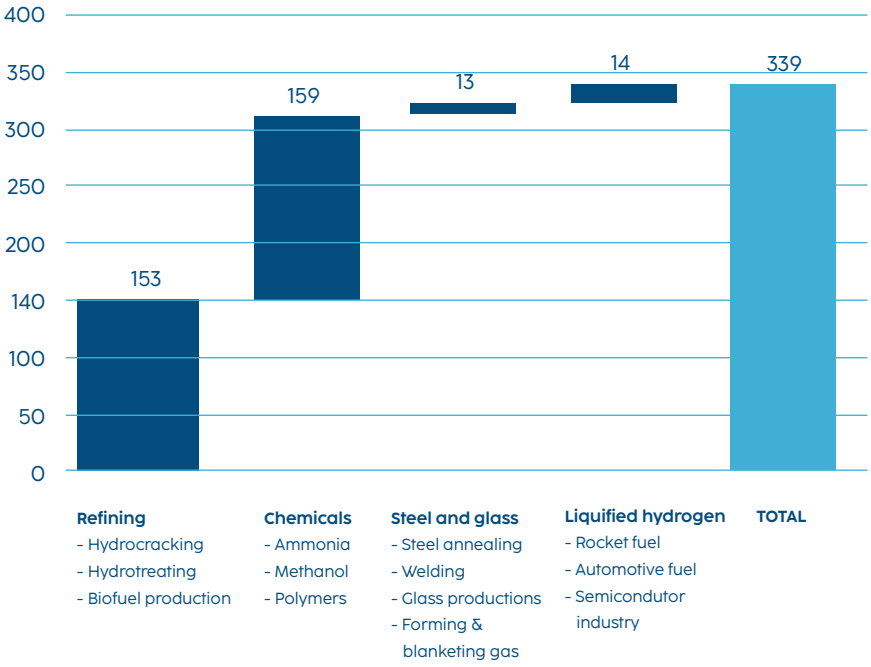
Steel production accounts for 6% of global CO_2 emissions. Hydrogen can enable the production of fossil-free steel by replacing coke as the reducing agent in blast furnaces.

CHEMICAL INDUSTRY



Chemical industry accounts for 5% of global CO_2 emissions. The CO2 footprint of the production of commodity chemicals such as fertilizers (ammonia) and plastics can be decreased significantly by replacing fossil feedstock with green hydrogen.

Total hydrogen use in the EU, in TWh



Hydrogen consumption in the EU was 10 million tonnes (339 TWh) in 2015, according to Fuel Cells and Hydrogen Joint Undertaking. This amounts to ~10% of the current global hydrogen use.

Hydrogen could cover 6% of EU energy needs by 2030. By 2050, hydrogen is expected to provide up to 24% (2250 TWh) of the total energy demand in the EU by 2050.

Maakri tn 19/1, 10145 Tallinn info@stargatehydrogen.com stargatehydrogen.com

stargate hydrogen