

TRACTEBEL

ENGIE

Green Hydrogen Carbon-neutral solutions



Green Hydrogen is scaling-up rapidly. And so are we!

For us, green hydrogen is a key enabler to decarbonize industry and transport and a massive energy carrier to manage the intermittency of renewable sources.

We have been providing for several years green hydrogen solutions to industries, utilities and project developers to help them in the execution of their carbon neutral projects: from production through renewable energy to its final use. Whether it be for energy storage, mobility, industry or as raw material for the production of e-fuels such as ammonia, methane or methanol.

Our approach

Optimization of energetic solution in function of regional renewables specificities, electrical grid characteristics, energy/molecule demand profile on client side and best available technologies (batteries, gas storage, heat storage, hydrogen, ...)

Full engineering support from project inception, feasibility, tendering to realization based on multi-disciplinary teams with specific green H₂ expertise

Client benefits

- Minimum Levelized Cost of Hydrogen
- Independent assessment with experience with all electrolyzer manufacturers
- Strong support from experts and references globally covering all building blocks from kW to GW scale

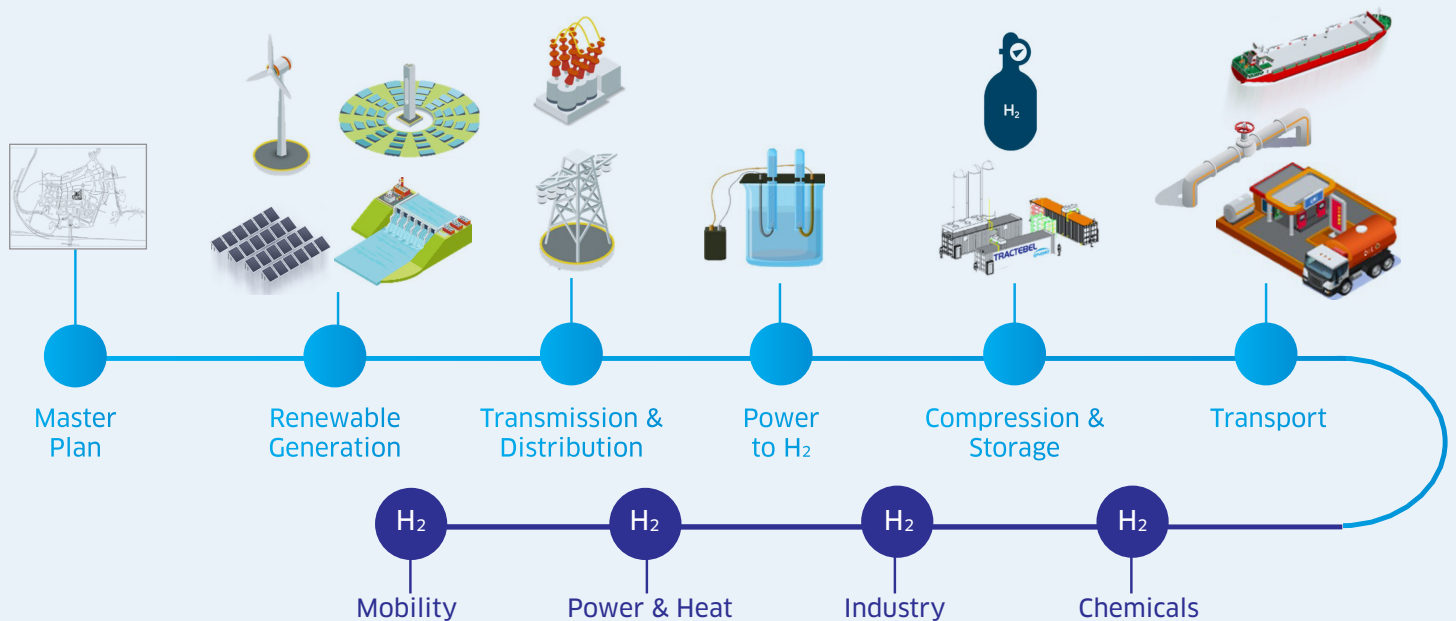
Our added value

- Holistic approach in close collaboration with client with profound knowledge in H₂ and energy in general
- State-of-the-art software for optimizing energy flows and zero carbon solution
- Actively contributing to project economical feasibility
- Demonstrated experience with several projects developed by us reaching FID and some already COD
- Special focus on H&S in design



Developing green hydrogen projects with best available emerging H₂ technology combined with proven energy solutions

Our approach allows us to deliver solutions with minimum Levelized Cost of Hydrogen. We valorize our first mover green hydrogen experience with our renewable, gas, power/heat, water and urban in-house world-wide experience. Our imaginative experts actively contribute to boost game-changing green hydrogen solutions.



SOME REFERENCES HYDROGEN

MOBILITY

Belgium - Revive*, Program manager for 8 cities and 8 industrial partners for H₂ refuse truck operating trial

France - Zero Emission Valley, EPCM mission for 20 H₂ refueling stations for various kind of vehicles

Germany - Frankfurt MH₂ Regio, Development studies for a regional H₂ mobility Waste to Wheels strategy

POWER & HEAT

Chile - H₂ for Carbon Impact Reduction, Assessment of carbon reduction for cement industry 130MWth rotary kilns

Western Europe - H₂ blending in gas network, Assessment of H₂ blending on turbines, engines and compressors

INDUSTRY

The Netherlands - HyNetherlands, Green H₂, Feasibility study and Tendering for the development of a future 100MW green H₂ production at Eemshaven

South Africa - Mining Operations Decarbonization, EPCM mission for a proof of concept of the H₂ supply chain and one retro-fitted truck before scaling up the whole fleet of 40 trucks support

Green Production for Ammonia Plant, Feasibility study for the development of a continuous green H₂ supply via on-site electrolysis

STORAGE AND TRANSPORT

World - H₂ export and import, Techno-economic study for large H₂ transport by ship

CHEMICALS

Australia - Yuri Green Ammonia, Feasibility study for the development of a continuous green H₂ supply via on-site electrolysis

France - Masshilia Green H₂ Site for Biorefinery, Feasibility and Advanced Engineering Studies of continuous green H₂ supply via on site electrolysis for largest H₂ site in France

OFFSHORE HYDROGEN

United Kingdom - Dolhryn Floating Hydrogen, Conceptual design and Feasibility for large scale decentralized offshore floating H₂ production

Europe - Fixed Offshore Hydrogen, R&D for sizeable large scale centralized offshore fixed H₂ production