

Economic Industrial Decarbonization

H2Gen[®] decarbonizes hard-to-abate sectors with a proven field track record by utilizing off gases from existing assets to drive hydrogen production from water without electricity and concentrating CO₂ to lower CCUS costs. Decarbonize without compromise.

Hard-to-Abate Sectors

Active Markets



Refining/Petrochemical/Chemical

9% of Global Emissions

Feedstock driven emissions



Low Carbon Fuels (Transport)

20% of Global Emissions

Road, Rail, Maritime, and Aviation emissions



Steel

7% of Global Emissions

Coal & Gas feedstock driven emissions

Global Project Development

Accelerating Uptake



Steel: Up to 3 tonnes per day H₂ Commercial H2Gen | Brazil



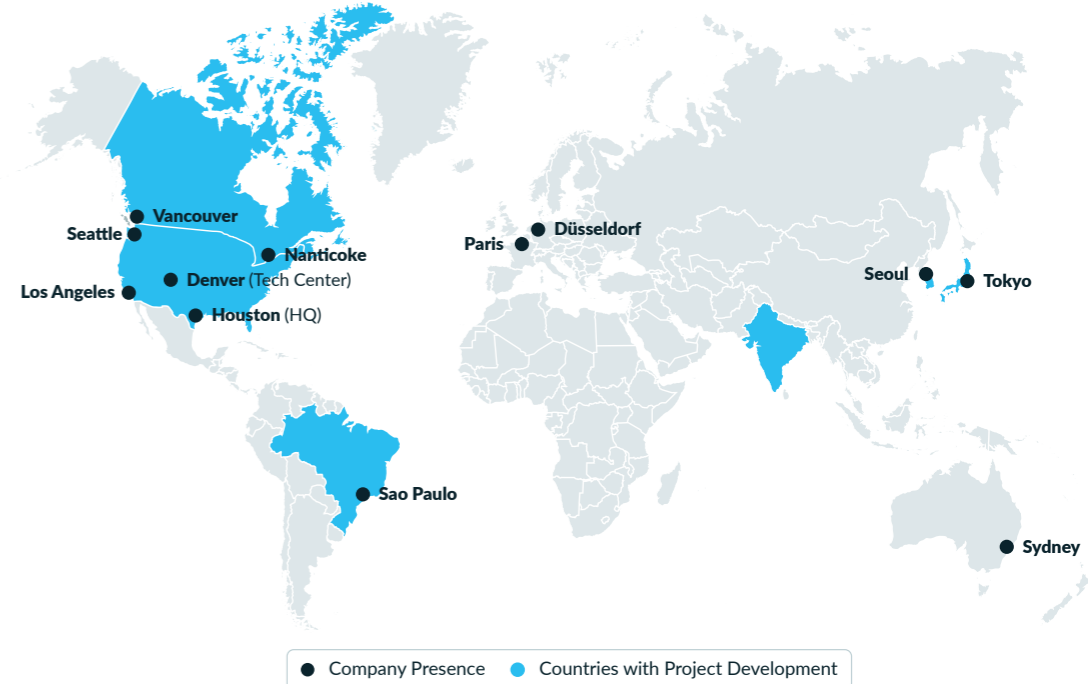
Mobility: 3 tonnes per day H₂ Commercial H2Gen. Offtake LOI oversubscribed | USA



Mobility: Certification & Demonstration Plant | Korea

Utility is experiencing significant commercial traction as it brings H2Gen[®] to market. With the first projects announced in steel decarbonization and biogas driven hydrogen mobility, commercial momentum is accelerating.

With projects in development from Brazil to Korea, and India to Europe, Utility operates in steel, transport, refining, petrochemicals and chemicals.



World Class Investors



Industry Leading Advisors



Eric Duchesne

Former Head of Capital Projects at TotalEnergies
Former CTO for downstream at TotalEnergies
Led global multi-billion dollar projects
Refining, Petrochemical, and Chemical



Makoto Saito

Former Senior Leadership of JGC Corporation
Advisor to Ara Partners on EPC matters
Responsible for multi-billion-dollar refining deployments
Refining & Petrochemicals and EPC



Dr. Henrik Adam

President of EUROFER, the European Steel Association
Former CEO of Tata Steel Europe
Former CEO of ThyssenKrupp Electrical Steel
Steel Industry

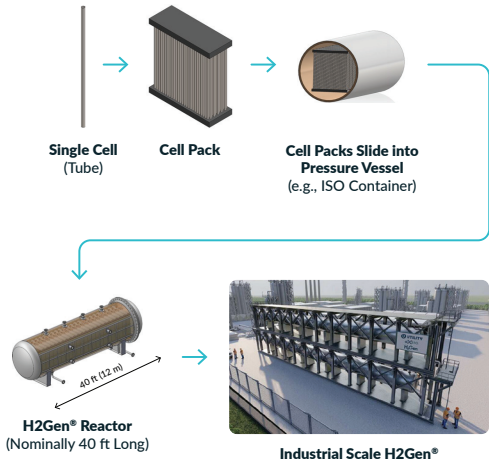


Tetsuya Shioda

Lead Nippon Steel Decarbonization over the last decade
40-year blast furnace expert
Steel Industry

H2Gen® Technology:

Modular. Scalable.

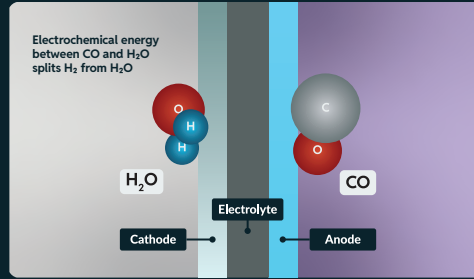


How H2Gen® Works:

H2Gen operates by utilizing two key inputs: water (in the form of steam) and off-gas (e.g., CO) from industrial processes. The system efficiently converts these inputs into Hydrogen and Enriched carbon dioxide (CO₂).

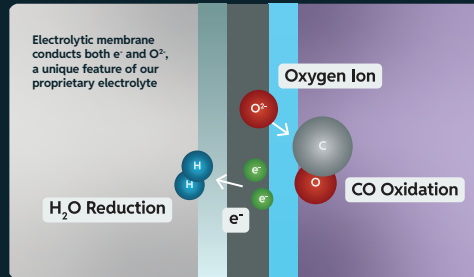
The hydrogen is ready for use in industrial, transport and energy applications. The concentrated CO₂ can easily be captured at lower cost for utilization or storage, to enable decarbonization.

H2Gen® Technology Process Flow



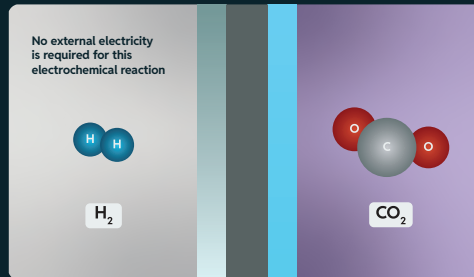
Setup

Steam (H₂O) approaches the cathode side while carbon monoxide (CO) approaches the anode side to spontaneously initiate the electrochemical reaction to reduce water to hydrogen (H₂).



Reaction

H₂O is reduced to H₂ by releasing an oxygen ion (O²⁻), which moves through the electrolyte to the anode to oxidize CO into carbon dioxide (CO₂), releasing two electrons (2e⁻) that move through the electrolyte to the cathode to reduce H₂O to H₂.



Products

H₂ and CO₂ molecules detach from the cathode and anode to free up the surface area for new H₂O and CO molecules to come to the surface and repeat the reaction.