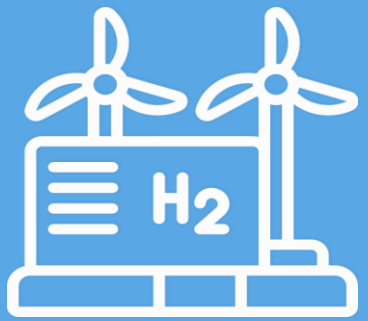
H2 ENERGY

in a Nutshell



Together towards energy transition

H2 Energy

March 2024

WHO WE ARE

H2E is a new Italian company established to proactively meet the challenges of the Green Hydrogen industry, as a founded-for-purpose engineering manufacturer. With 30 years of management and founder experience in the green energy sector, the company focuses on the manufacture of electrolysers, which is a critical step in all green H2 implementations and a capital and efficiency bottleneck. H2E employs around 30 staff in R&D, engineering and administration.

Building the best electrolysers, meeting our clients' needs

Unlocking the Potential of Green Hydrogen with 30 Years of Experience

Founding, Board of Directors and Goals

CLAUDIO MASCIALINO – COFOUNDER, CEO & PRESIDENT OF THE BOARD

Engineer and entrepreneur in the automotive and energy industries, focused on innovation and sustainable business

RICCARDO DUCOLI – COFOUNDER AND BOARD MEMBER

Finance and investments background. An expert in special project development, and renewable energy entrepreneur

ALEXANDRO FLORIS – CHIEF FINANCIAL OFFICER & BOARD MEMBER

Finance and investments background.
An expert in special project development in the gas industry. Energy entrepreneur

DANIELE ARNONE – TECHNICAL & OPERATIONS DIRECTOR

M.Sc.(Eng) Mech. 18 years of energy experience
as Engineering Director of multinational oil and gas companies

PAOLO CARRERA – GENERAL MANAGER & BOARD MEMBER

30+ years experience in the energy sector. Comprehensive managerial skills in R&D, project management and commercial roles. More recently head of energy transition market in multinational oil & gas Companies.

GREEN HYDROGEN – diverse needs, a common transition

Manufacturers of a Focused Range of Electrolysers to meet Client Needs for Green H_2 Production

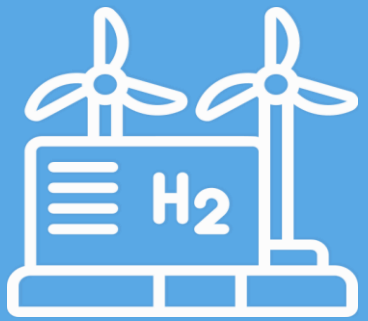
Extensive understanding energy sector and customer need for optimal solutions

Scalable production facilities in Italy to deliver high performance and safety

Advanced Electrochemical Laboratory and R&D facilities

End to End Implementations for Green H_2 Solutions in every environment

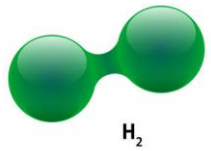
H2E design and produces various types of electrolysers: well-established alkaline water electrolysis (AWE) and proton exchange membrane (PEM) technologies. Additionally, we are currently developing our Proprietary AMSE^R technology which combines the cost and efficiency advantages of AWE AND PEM.



H2E also implements end-to-end green hydrogen projects. This means that we provide a comprehensive solution for the production, storage, and distribution of green hydrogen, including dispatch smoothing of peaking/volatile renewables.

H2 Energy

The Market for GREEN HYDROGEN, now and in the future



PRODUCTION

- Renewables
- Electrolysis
- Non-traditional reactions
- Responsive base load management
- Peak smoothing

STORAGE & TRANSIT

- Compression
- Liquefaction
- Metal hydride
- Novel compounds
- Organic carriers

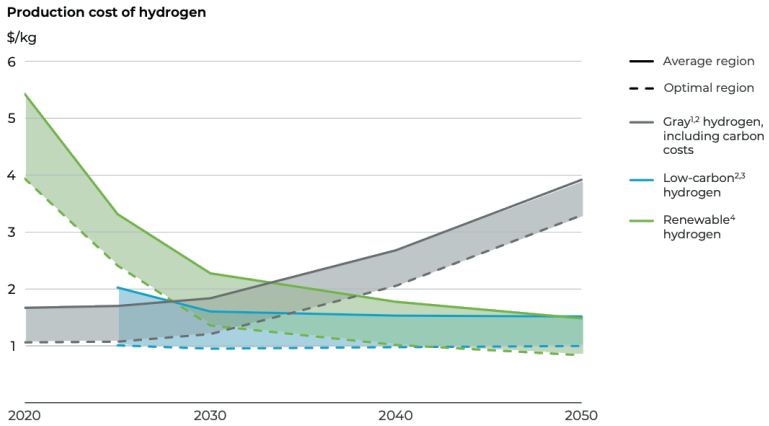
GENERATION & DIRECT USE

- Mixed fuel ICE / turbine
- Direct drive
- H2 burners/boilers
- Fuel cells
- Agriculture
- Industry

ENGINEERING

- Materials handling
- Retrofit of existing capabilities
- Leverage of existing capital
- Pipeline tech

Green Hydrogen touches all links in the value chain and every related industry



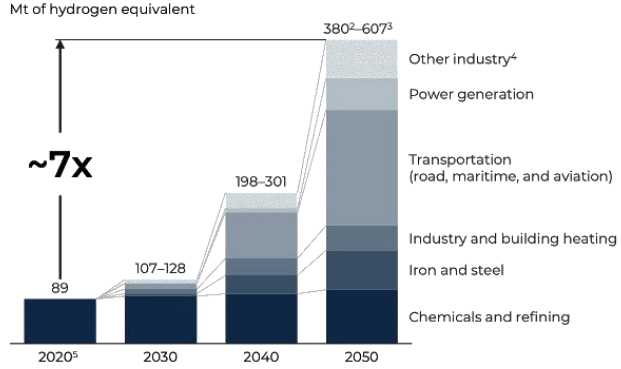
Green Hydrogen Demand is on the Rise: A 7x Increase in Global H_2 Demand and Green H_2 price parity with gas by 2050

(www.iea.org)

Global hydrogen demand could grow sevenfold by 2050 in Achieved Commitments scenario

18–22%
of global final energy demand[1]

607 Mt
of hydrogen required in 2050 in Achieved Commitments scenario



OUR CORE PRODUCTS – Modular Electrolysers

Containerised modular electrolysers with balance of plant for ease of maintenance and installation

1MW PEM electrolyser

Leading edge components engineered and integrated for safety, efficiency and longevity

Stack & related components

Electrolysis is a well understood stoichiometric process that is at the heart of any green hydrogen application. H2E was founded as a new ground-up manufacturer to serve this broad need.

H2E manufactures three types of electrolysers to maximize client choice and solution suitability.

An AWE electrolyser, produced with an Indian JV partner, designed to optimize capital expenditure. This “older tech” electrolyser iscost-effective and provides a reliable solution for clients, with some turndown limitations.

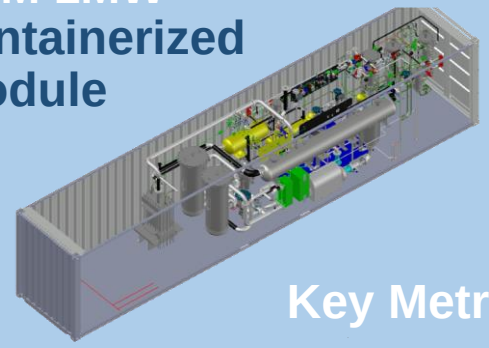
The PEM electrolyser is industry standard technology and is the most widely used electrolyser in the market. It is efficient and provides a reliable and cost-effective solution for clients.
We make 1, 3 and 5MW modules

Our AMSE® electrolyser is proprietary technology in late stage development. It is designed to provide a more efficient and cost-effective solution. It is designed specifically to minimize operational complexity, and costs.

Leading with PEM,

but letting the market decide technology options

PEM 1MW containerized module



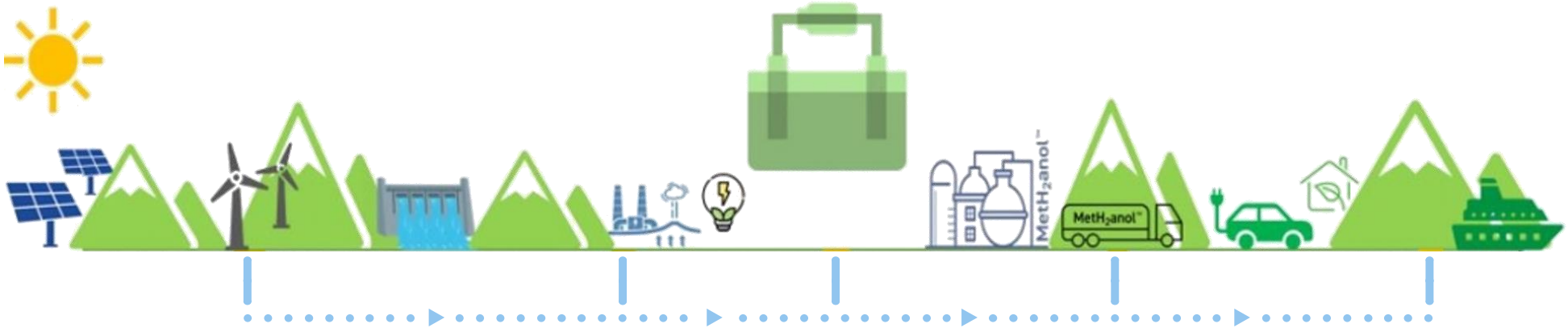
Key Metrics

Parameter	Unit	Value
Water Consumption	l/h	**250**
Hydrogen Flow	Nm^3/h	**200**
Oxygen Flow	Nm^3/h	**100**
Life Expectancy (stack)	Hours	**80 000**
Stack Efficiency (full output)	kWh/kg	**51.7**
Turndown Ratio	%	**20-100**

Modular, high efficiency electrolysis, producing hydrogen at high pressure and purity, using well established, industry leading Proton Exchange Membrane (PEM) technology

REALISING THE PROJECT: We Deliver End-to-End Solutions

Digitalization for a sustainable OPERATION & MAINTENANCE service



Renewable Energy Sources

Getting Electricity to the Electrolyzer

H2 Electrolyzer

Distribution and Storage of Hydrogen

Net Zero Emissions

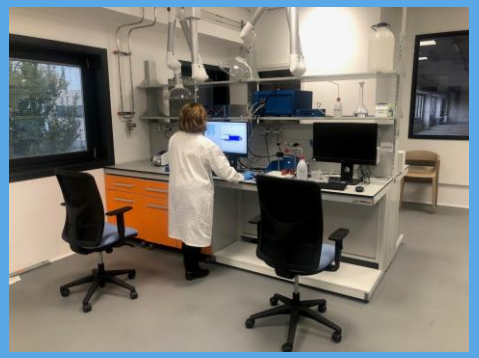
With many critical value chain components, the entire project should work together holistically

H2E is a full-service provider for green hydrogen projects, offering a comprehensive suite of services that span the entire project lifecycle. We provide engineering, procurement, and sometimes construction (EPC) services for the integration of upstream and downstream components which utilise our electrolysers

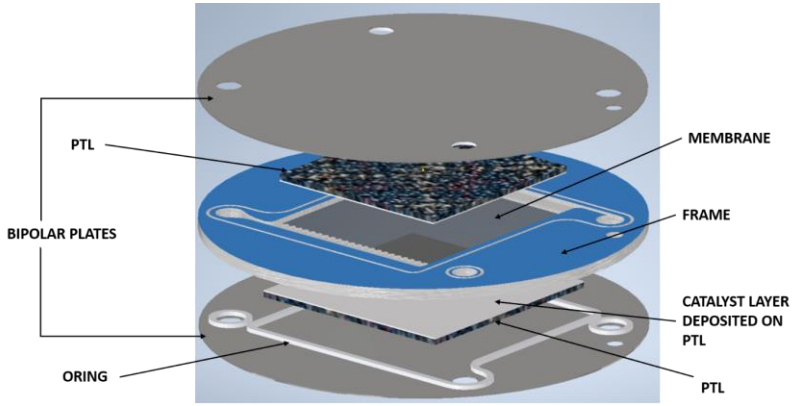
Upstream components include the production of renewable energy, such as solar or wind, and the conversion of that energy into hydrogen via electrolysis. We also provide services for the storage and transportation of hydrogen, such as the installation of tanks and pipelines.

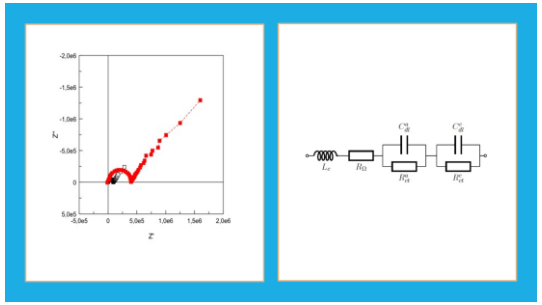
Downstream components include the distribution of hydrogen to end-users, such as fuel cell vehicles or industrial applications. We also provide services for the conversion of hydrogen into electricity or other forms of energy, such as heat. Additionally, we offer services for the monitoring and control of the entire system, ensuring that the project is running safely and efficiently.

R&D: Innovation is our goal !

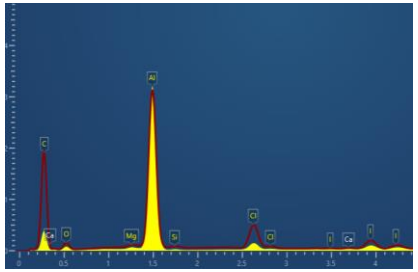


New AMSE[R] Proprietary Technology



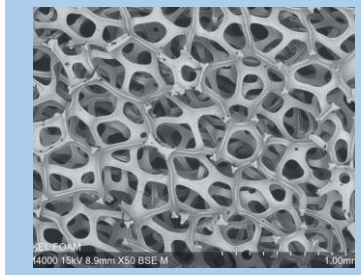


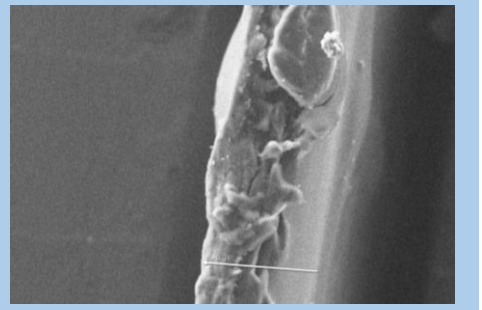
We are convinced that R&D is fundamental for the tomorrow's technology. For this reasons we set up a "Hydrogen lab" for the development and testing of brand-new materials for the existing technologies and scouting for innovative disruptive technologies based on new concepts.



R&D partner

- UNIBS
- POLIMI
- BICOCCA
- UNIMI
- UNIGE
- PETROCERAMICS
- ITALFIMET
- PROTECTIM





A strong network of partner to be at the front line of the Market

R&D and innovation

Industry, Technology & Business

Location, Offices and Key Contact Details

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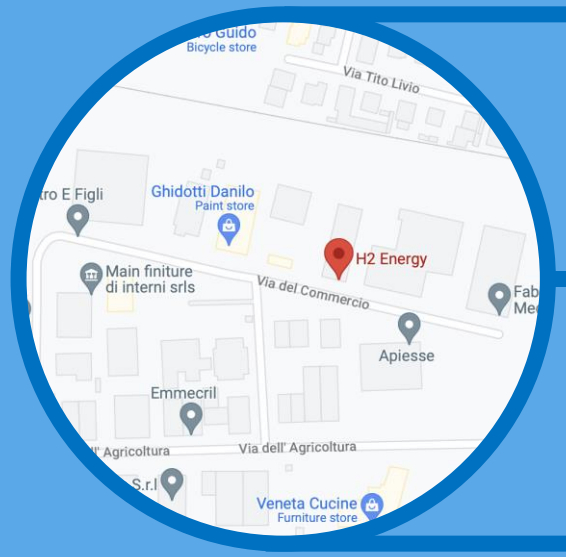
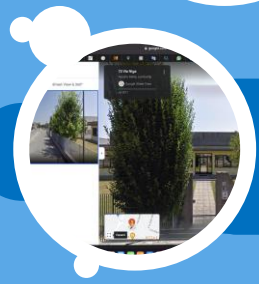


Production and Lab:
Via Del Commercio 27,
Pizzighettone (CR)



Commercial:
Via Milano 5,
Locate Triulzi (MI)

Legal:
Via Niga, 73,
Azzano Mella (BS)