Haffner Energy

Decarbonize · Innovate · Regenerate

FOR IMMEDIATE RELEASE

Haffner Energy Unveils the H6 Generation

Hydrogen and Syngas Finally Become Competitive for Small-Scale Applications

---

Vitry-le-François, France (November 17, 2025, 8:00am CET)

Designed for small-scale units up to 10 MW, the new H6 generation of HYNOCA® and SYNOCA® technologies marks a major breakthrough in the renewable gas economy.

With HYNOCA® H6, the cost of producing green hydrogen from a 5 MW unit falls to €2.34/kg, slashing costs from €3.57/kg in the previous generation and offering a major advantage over electrolyzers, which remain around €7.81/kg.

Meanwhile, SYNOCA® H6 achieves a threefold reduction in CAPEX per thermal kilowatt produced, enabling syngas to outperform heat from conventional biomass boilers on cost and to be markedly more economical than biogas from methanation.

These two advances pave the way for a new generation of local, modular, and profitable units, capable of accelerating real-world decarbonization at the local level.

Philippe Haffner, Chairman and Chief Executive Officer of Haffner Energy, emphasizes that "*this technological step-change and the unique competitiveness it delivers undoubtedly mark the most significant turning point for our company in the past five years.*

For years, Haffner Energy struggled to finance small- and medium-scale projects due to insufficient competitiveness against alternative solutions—particularly fossil fuels—and the near-total absence of public support to bridge that gap. Today, this reality is shifting.

The long-awaited take-off of the hydrogen sector, anticipated since 2022, has yet to materialize. However, the breakthrough we are unveiling today will help accelerate its emergence.

The impact is even more pronounced for syngas: thermolysis is poised to become the new standard, replacing conventional biomass boilers, which will gradually disappear—much as steam locomotives rapidly ceded to diesel engines 70 years ago. The global market for small biomass boilers (under 10 MW) is currently valued at around €11 billion annually and is projected to approach €30 billion by 2034, according to Reports and Data.

These two advances are expected to translate rapidly into strong order intake and a substantial increase in revenue. The H6 generation fully aligns with clear market expectations: local, competitive, and sustainable energy production for small- and medium-scale ecosystems."

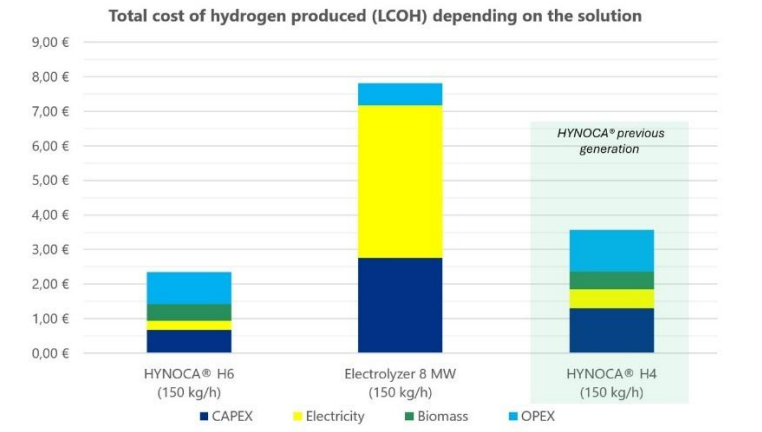
An Unprecedented Economic Breakthrough

Producing green hydrogen on a small scale is finally becoming economically viable.

While electrolyzers powered by electricity at €79/MWh show a Levelized Cost of Hydrogen (LCOH) exceeding €7.81/kg, the new HYNOCA® H6 generation achieves just €2.34/kg.

This threefold reduction stems from two main drivers:

- biomass energy that costs roughly one-quarter as much as electricity; and
- faster thermolysis and a streamlined, more durable mechanical architecture.



***Sources**: The European Hydrogen Market, November 2024 (European Hydrogen Observatory); Clean Energy Observatory 2023 (European Commission)*

A Deeper Revolution for Syngas

On the thermal side, the new SYNOCA® H6 technology completely redefines current industry benchmarks.

CAPEX per thermal kilowatt produced drops from €1,800 to about €500, a more-than-threefold reduction.

At this performance level, H6 syngas becomes as competitive as heat from a conventional biomass boiler, while providing:

- higher energy efficiency,
- far greater versatility — from high-temperature heat and syngas to power generation, synthetic fuels, and district heating,
- and a drastic reduction in emissions — a growing priority, given that emissions from biomass combustion are often higher than those of fuel oil on an equivalent thermal basis.

The economic advantage is even stronger when compared with biogas produced via methanation. H6 thermochemical syngas delivers substantially lower investment and operating costs, positioning it as the new reference solution for future biogas and biofuel production.

Compact, Accessible, and Quick to Deploy

The H6 range is now commercially available, with the first deliveries expected as early as 2026 for thermal capacities ranging from 500 kW to 5 MW.

These units target a strategic segment: regional and local projects that are easier to finance, faster to install, and based on locally available residual biomass.

They address the needs of municipalities and industrial players seeking to replace fossil or biomass boilers with more efficient systems, or to generate electricity on demand.

Their installation simplicity, high efficiency, and near-zero carbon footprint open the way for rapid, large-scale deployment.

Simplified Design, Strengthened Technological Core

Under "the hood", the H6 generation is built on three major advancements:

- a significant acceleration of thermolysis kinetics,
- a radical mechanical simplification that lowers manufacturing and maintenance costs,
- and the expansion of Haffner Energy's thermochemical expertise, now reinforced by new patents stemming from these innovations.

These improvements do not change Haffner Energy's core intellectual property—they enhance its reach and industrial maturity.

They pave the way for renewable hydrogen and syngas production that is **competitive, local, and sustainable** — a critical factor in making projects more bankable, profitable, and lower risk.

A Strategic Turning Point for Decarbonization

With the H6 generation, Haffner Energy eliminates the long-standing tradeoff between economic performance and the energy transition, a compromise that historically favored competitiveness over sustainability.

Renewable gas is now immediately cost-competitive with fossil fuels, while delivering high efficiency and an almost zero-carbon footprint.

This breakthrough unlocks a new generation of regional and industrial projects — smaller, faster, and more profitable.

Haffner Energy anticipates strong commercial momentum in the coming quarters, supported by firm orders already underway.

About Haffner Energy

Haffner Energy designs, manufactures, supplies, and operates biofuel and hydrogen solutions using biomass residues. Its innovative, patented thermolysis technology produces Sustainable Aviation Fuel, as well as renewable gas, hydrogen, and methanol. The company also contributes to regenerating the planet through the co-production of biogenic CO2 and biochar. A company co-founded 32 years ago by Marc and Philippe Haffner, Haffner Energy has been working from the outset to decarbonize industry and all forms of mobility, as well as governments and local communities. More information is available at www.haffner-energy.com.

Media relations

Haffner Energy
Laetitia Mailhes
laetitia.mailhes@haffner-energy.com
+33 (0)6 07 12 96 76

Investors relations

Haffner Energy
investisseurs@haffner-energy.com