

## **CARBONLOOP and HAFFNER ENERGY announce order for HYNOCA equipment for first two hydrogen and biochar production sites from biomass**

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**Paris, April 4, 2023,**

**CARBONLOOP and HAFFNER ENERGY** announced today that they have signed two purchase orders for the supply, installation and commissioning by HAFFNER ENERGY of the first two HYNOCA® stations for the first two CARBONLOOP sites. These two orders are part of the Commercial Contract signed in October 2021.

Each site will allow CARBONLOOP to produce 225 tons of hydrogen and 1,100 tons of biochar from 7,000 tons of biomass residues per year, and to sequester approximately 2,400 t CO<sub>2</sub> e, certified by carbon credits. CARBONLOOP will market the hydrogen to HYLIKO (Kouros Group), which will distribute it through its network of service stations for trucks. Thanks to its water retention and fertilizer properties, the biochar produced will be marketed by CARBONLOOP to the agricultural sector in order to help restore soils in a context of increasing water stress and inflation of nitrogen fertilizers.

The first CARBONLOOP site will be located in Villabé (Essonne), near the HYLIKO distribution station, ideally situated along the A6 motorway, south of Paris. The hydrogen produced from biomass residues will supply the first trucks in the Paris region. The second site will be unveiled by CARBONLOOP during 2023.

These orders are a confirmation for HAFFNER ENERGY of the relevance of its HYNOCA® technology to produce hydrogen and biochar from biomass residues. The result of nearly a decade of research and development, the HYNOCA® technology produces hydrogen from biomass residues in three stages: a thermolysis unit during which the heated biomass is broken down into a solid residue (biochar) and a gas that is then refined in a high-temperature cracking unit and finally purified in a third unit to retain only the hydrogen. Because it produces biochar recognized as a sustainable carbon sink by the IPCC, the HYNOCA® process produces renewable hydrogen and removes CO<sub>2</sub> from the atmosphere in a sustainable way.

In the current context of high energy prices, these two projects offer an interesting valorization of biomass residues, contribute to the accelerated decarbonization of road freight transport and to soil restoration. Biomass thermolysis offers a complementary and agile response to water electrolysis for the production of renewable hydrogen, serving the resilience of territories and the development of their local resources.

*"We chose HAFFNER ENERGY's HYNOCA® technology because not only does it produce renewable hydrogen from biomass residues, thus offering an interesting alternative to hydrogen production by electrolysis of water, but also because it allows the co-production of biochar, a plant-based charcoal with agronomic benefits that respond to water stress issues and remove CO<sub>2</sub> from the atmosphere. The fact that HAFFNER ENERGY is a French company has also reinforced our approach of favoring French and European channels for our solution,"* says Claire Chastrusse, CEO of CARBONLOOP.

*"We are delighted to implement for our customer and long-term partner CARBONLOOP these two renewable hydrogen production contracts, which will enable the production of competitive carbon-negative hydrogen. This dual characteristic is a strong differentiator for customers who will choose HYNOCA® technology,"* concludes Philippe Haffner, Chairman and CEO of HAFFNER ENERGY."

### **About CARBONLOOP**

A start-up launched in 2021, CARBONLOOP offers an accelerated decarbonization service for industries and heavy mobility, based on a process combining the production of carbon-neutral energy from biomass residues and a local and sustainable carbon sink, biochar. This innovative and fully integrated energy solution (including project

financing, biomass supply, operation and management of services associated with biochar and carbon certification) allows industrial companies consuming natural gas or hydrogen to benefit from "carbon-negative" energy and to meet their commitments to reduce greenhouse gases in a practical and concrete way. By aiming to develop more than 100 projects in Europe by 2030, CARBONLOOP's ambition is to be able to avoid and sequester more than 1 million t CO<sub>2</sub>e per year by that time.

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#### About HAFFNER ENERGY

HAFFNER ENERGY is a family-owned and operated company co-founded and co-managed by Marc and Philippe Haffner, and has been involved in the energy transition for 30 years. HAFFNER ENERGY designs and provides technologies and services that enable its customers to produce green hydrogen and renewable gas as a substitute for natural gas, while capturing carbon through the co- production of biochar thanks to its HYNOCA® and SYNOCA® processes based on the thermolysis of biomass. These processes enable the production of highly cost-competitive hydrogen or renewable gas, with a negative carbon footprint of 12 kg (net) of CO<sub>2</sub> per kg of hydrogen, while relying very little on the electricity grid and the cost of electricity . This enables HAFFNER ENERGY to make a very rapid and agile contribution to the strategic challenges of Europe's energy independence combined with the acceleration of its decarbonization.

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