

# ClimaHtech®

a CATAGEN formula

## High temperature boosted decarbonisation

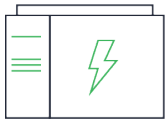
CATAGEN's ClimaHtech system accelerates the decarbonisation of cement production by displacing coal while complementing the use of alternative fuels and flue stack capture.

Due to its high operating temperatures (1500 °C), large energy demand, and high carbon intensity, the cement industry is an ideal application for utilising hydrogen in kiln operation to boost temperature. The ClimaHtech BIOHGEN reactor can produce biohydrogen on site with a direct feed to the kiln.

BIOHGEN uses CATAGEN proprietary technology to produce cost-effective biohydrogen from sustainable organic waste streams and renewable energy.



# BIOGEN BENEFITS



**Powered by CATAGEN's OMEGA electric reactor** utilising low-cost renewable energy

**X2**

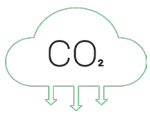
**Twice as much biohydrogen produced** per unit of renewable electricity



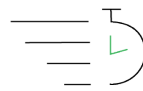
**Modular component designed to integrate** into the ClimaHtech system



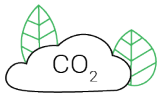
**Produces biohydrogen & biogenic carbon dioxide** from underutilised organic waste streams



**Potential for carbon negative emissions** with responsible use of biogenic carbon dioxide



**Ease and speed of manufacture** using existing supply chains due to industrially familiar componentry



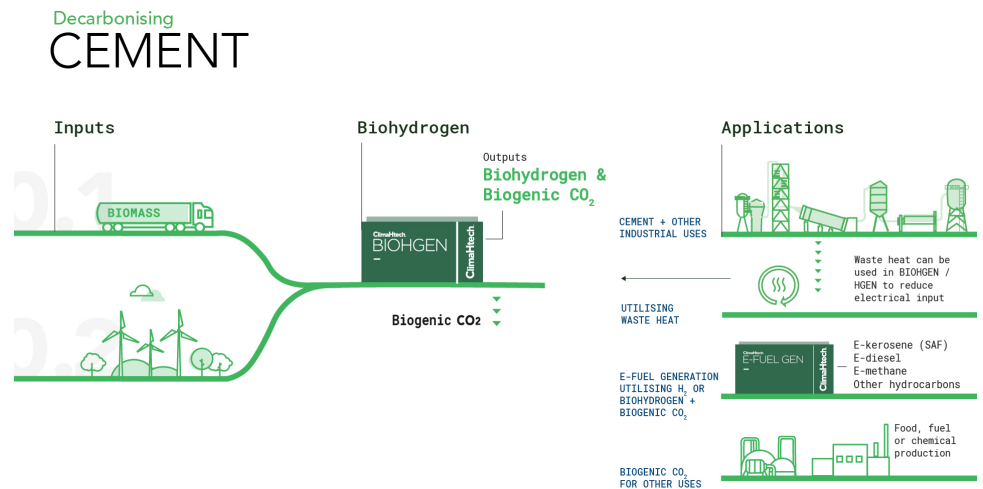
**Biogenic CO<sub>2</sub> is produced** as a valuable byproduct that can be used directly or for synthetic fuels



**'Drop in' or blended synthetic fuels** can be produced such as bio derived e-diesel, e-kerosene and sustainable aviation fuel (SAF)

CATAGEN's core business provides GREEN emissions testing to global automotive manufacturers in the development of new vehicles and, more recently, for solid oxide fuel cells. Approved by vehicle certification bodies in the UK, Europe and Germany and continues to support U.S. manufacturers to gain accreditation.

CATAGEN's patented electrically driven e-reactor technology is powered by 100% renewable energy and provides vehicle catalyst testing without consuming fossil fuels. It has completed more than 100,000 run hours for partners.



Harnessing expertise in the mobility sector, deep domain knowledge and patented technology has led CATAGEN to develop ClimaHtech, an acceleration system towards decarbonisation using advanced climate technologies. Since 2022, CATAGEN has received Project Funding of c. £22m from the UK Government to develop the ClimaHtech technologies to generate renewable hydrogen, gHreen e-fuels (e-SAF, bio-SAF (non-HEFA) and e-diesel), with complementary systems for carbon capture and hydrogen compression.

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