

GasTechno Corp Unveils Breakthrough CO₂ Conversion Technologies to Fuel a Carbon-Neutral Future

GasTechno Energy Centers reveal a basket of technologies after 20 years in the Northern Michigan garage! Look forward to clean fuels someday.

BOYNE FALLS, MI, UNITED STATES, June 11, 2025 /EINPresswire.com/ -- GasTechno Corp, a Wyoming-based clean energy company, today announced its latest suite of patented technologies designed to transform carbon dioxide (CO₂) into high-value fuels and chemicals. With multiple U.S. patents issued under the leadership of founder and CEO Walter Breidenstein, the company is setting a new benchmark in CO₂ utilization, offering scalable solutions that redefine the economics of climate innovation.

Among the company's flagship innovations is a radio frequency (RF)-enhanced catalytic process for CO₂ hydrogenation, enabling direct conversion of CO₂ into ethanol with high selectivity and energy efficiency. Using a dielectric barrier discharge (DBD) plasma reactor filled with a Cu/Zn/Al₂O₃ catalyst, the technology operates under moderate conditions and achieves superior yield outcomes compared to traditional thermocatalytic routes.

"We believe CO₂ is not a waste product—it's only one of many alternative feedstocks of the future," said Breidenstein. "Our patented technologies prove that low-cost, carbon-negative fuel production is not just possible—it's commercially viable and just more healthy all around personally."

Patents Supporting a Cleaner Energy Ecosystem

GasTechno's technology platform is protected by a robust intellectual property portfolio, including:

- US Patent 10,590,357 – System and method for partial oxidation of hydrocarbons to methanol and conversion to oxygenated fuels
- US Patent 11,103,849 – CO₂ hydrogenation process using RF-enhanced plasma with copper-zinc-alumina catalysts
- US Patent 11,859,137 – Integrated gas-to-liquids systems including syngas production and CO₂ conversion
- US Patent 11,986,793 – Biomass-to-methanol systems incorporating CO₂ capture and fuel

synthesis

Collectively, these technologies support the production of methanol, ethanol, dimethyl ether (DME), and dimethoxymethane (DMM) that are integrated with a renewable natural gas (RNG) production system with minimal emissions and maximum energy efficiency.

Powering the Fuel of the Future

GasTechno's inventions serve as the cornerstone of its GasTechno Energy Centers, modular clean fuel production hubs that process stranded natural gas, biogas, or CO₂ from industrial emitters at offsite strategic locations across the United States. These centers aim to produce low-carbon, scalable fuels that can be used in long-haul Class 8 trucking fleets, power generation, or chemical manufacturing.

As governments and corporations look to decarbonize industrial supply chains, GasTechno's technologies offer a turnkey pathway to carbon circularity—converting climate liabilities into economic opportunities.

About GasTechno Corp

GasTechno Corp is an advanced energy solutions company focused on methane and carbon dioxide conversion. With over 40 patents issued and pending globally, the company is a recognized leader in modular gas-to-liquids (GTL) technologies and low-carbon fuel innovations. GasTechno's mission is to commercialize clean energy systems that address climate change while generating sustainable returns for shareholders.

For more information, visit www.gastechnocorp.com.

In addition to methanol and dimethyl ether (DME), the company's innovations enable the production of **dimethoxymethane (DMM)**—a high-performance, low-emission fuel additive. DMM is synthesized from methanol and formaldehyde, offering a high cetane number, excellent cold-start capabilities, and significantly reduced particulate emissions. This makes it a powerful substitute for traditional diesel fuels in regulatory-compliant, cleaner-burning engine platforms.

Expanded Patent Portfolio and DMM Innovation

GasTechno's growing patent family now includes US Patent 9,587,189 – Process for converting natural gas into oxygenated fuels using single-step partial oxidation with integrated separation and purification methods. This foundational patent enhances GasTechno's ability to generate value-added chemicals and fuels from natural gas in a single modular system.

Walter Breidenstein
GasTechno Corp

+1 231-535-2914

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