GASTECHNO DEVELOPS DME AND POM TECHNOLOGY WITH BIO FRIENDS & H&H WORLDWIDE

Renewable natural gas from landfills, anerobic digesters and wastewater treatment plant (WWTP) facilities used to produce renewable methanol and DME.


Bio Friends DME Production Facility

WALLOON LAKE, MICHIGAN, USA, November 11, 2020 / EINPresswire.com/ -- Gas Technologies LLC (GTL), based in Michigan, has entered into a Memorandum of Understanding with Bio Friends Inc. (BFI) and H&H Worldwide, Inc. to develop a fully integrated Renewable Methanol to Dimethyl ether (DME) and Polyoxymethylene (POM) system within the United States. The integrated systems will use renewable gas from landfills, anerobic digesters and wastewater treatment plant (WWTP) facilities as feedstocks to produce renewable fuels and chemicals including methanol. The partners plan to move into exclusive technology agreements in specific markets.

The parties will develop their first commercial projects in California and Michigan and then build out across the United States with an option to expand internationally.

There is a growing demand for clean transportation fuels in the United States and DME and POM have significant potential to supply the automobile, heavy equipment, and trucking fleet markets. Further, DME delivered in a gaseous liquid phase can be blended with Propane for residential, commercial and industrial heating and power applications. POM is sold as a liquid chemical or fuel additive, and can be blended into diesel fuel, aviation fuel, shipping and bunker fuels to significantly reduce carbon emissions.

GTL has been involved in DME and POM technology development since 2010. To expand on its efforts, the POM process was funded June 8, 2015 by the US Department of Energy (DOE) through a Small Business Innovation Research (SBIR) grant using GTL's patented Mini-GTL® technology making a clean diesel-like fuel with zero SOX and reduced NOX emissions. The DOE-funded study was completed on March 18, 2016 and validated the company's assumptions.

On November 14, 2017, GTL entered into a Confidentiality and Intellectual Property Agreement with Polytechnique de Montréal, one of Canada's most prestigious Universities, to further develop the economic business case for the new diesel technology.

"We have been seeking a commercial partner to produce DME and POM products for a couple of years to build upon our extensive work in this field. In June 2015, we were awarded by DOE an SBIR grant to innovate and develop a new diesel replacement technology making POM. We successfully completed the DOE pilot study in March 2016", said Walter Breidenstein, CEO. "We have multiple patents in this field and, since renewable fuels and chemicals are making significant progress, we are so delighted to move forward and collaborate with Bio Friends and H&H Worldwide."

Bio Friends Inc. was established in 2016 and has successfully completed the construction of a commercialized DME plant in South Korea. BFI is also developing a technology that can produce DME and methanol from biomass and small-scale oil fields. BFI has participated in various national projects promoted by the government of South Korea. For example, in 2018 BFI was awarded KRW 3 billion (USD 2.5 million) for the demonstration of a new DME engine that can reduce emissions of fine particulate matters. This project was announced and supported by Ministry of Trade, Industry and Energy of the Korea government, and it will end next year.

In August 2020, Bio Friends completed construction of their latest DME plant in the Boeun Industrial Complex, which is in the center part of South Korea. This commercial-scale DME production facility generates 20,000 liters per day that is used as a blowing agent (35%) and aerosol (65%). It will serve as a liquid carrier for hydrogen production, an alternative diesel fuel competitor, and for blending with LPG.

BFI and its USA partner H&H Worldwide are joining GasTechno for plans to construct a new a BioDME plant in California to produce renewable DME using the GasTechno® Mini-GTL® 300 methanol system. The commercial market for DME in California will be used for LPG and propane blending, an alternative fuel over diesel, and hydrogen fueling.

According to Wonjun Cho, CEO of BFI, he stated: "We have been looking for a renewable methanol partner in the United States to integrate our DME-Hydrogen system, and GasTechno is scaled for the perfect size using our smaller plants. Since they are developing automobile and engine relationships in Michigan, this joint California project producing renewable methanol and DME will shorten our development plans. Our goal is to construct a renewable methanol based DME-Hydrogen ecosystem. Our DME and H2 system is ready for commercialization now."

The new DME-Hydrogen production facility will provide a pathway into the hydrogen economy in California and promote various hydrogen businesses such as hydrogen refueling, distributed power generation for hydrogen fuel cells, and hydrogen for heavy-duty trucks and railroad cars. BFI has developed strong financial and cooperative support from three of the largest Korean

conglomerates that are seeking various pathways to renewable methanol, DME and hydrogen starting in the United States.

Bio Friends Inc ("BFI") – Bio Friends Inc is based in South Korea and developing DME as a world leading technology in Asia with plans to expand into North America and Europe using its own technology. Dr. Cho, CEO of BFI, was a chief researcher of Korea Gas Corporation and led the development of DME technology. He succeeded in developing the DME technology and built a demo DME plant to operate it for three years. After that, he established BFI to develop its unique DME technology and commercialize. For more information, Wonjun Cho, Bio Friends Inc., http://en.bfi.co.kr

H&H Worldwide, Inc. ("H&H") – H&H Worldwide, Inc. was established in California in 2014 and is providing maintenance services, consulting services, and equipment for power generation companies in South Korea and the Middle East. H&H also provides various equipment and consulting services to the South Korea Navy. For More Information: Bongjoo Bryce Shim, H&H Worldwide, Inc., bongjoo@hnhworldwide.com.

Gas Technologies LLC ("GasTechno") - GasTechno Energy & Fuels (USA) LLC and GasTechno Energy & Fuels Holding (UK) Limited are subsidiaries of their parent Gas Technologies LLC. GasTechno has exclusively licensed to these subsidiaries its advanced, revolutionary technologies for converting previously uneconomical sources of stranded renewable gas, natural gas and associated gas into high-value liquid fuels and chemicals. For more information, Walter Breidenstein, Gas Technologies LLC, www.gastechno.com

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