



EXPANDER ENERGY INC.
INNOVATIVE ENERGY SOLUTIONS

EXPANDER ENERGY INC. TO PRODUCE NET-ZERO CARBON INTENSITY BIO-SYNTHETIC DIESEL FUEL

Calgary, Alberta Canada (June 8, 2022)

Expander Energy Inc. (Expander) is pleased to announce that independent, third-party analysis confirms negative (-44gCO₂e/MJ) Carbon Intensity for its Bio-SynDiesel™.

Expander Energy has developed a way to turn wood waste and other biomass into green, Net-Zero carbon emissions diesel fuel and plan to start production in 2024, 26 years ahead of Canada's Net-Zero Carbon emissions pledge.

Expander's new Enhanced Biomass-to-Liquids ("EBTL™") shifts the paradigm for converting cellulosic biomass to Bio-SynDiesel™. This fuel complies with North America's ASTM D975 and Europe's CEN 15940 diesel specifications as "drop-in" or as fully fungible blend stock to meet current and future Low Carbon Fuel Standards ("LCFS"). Key properties are 100% renewable, high Cetane Number (>70), zero sulphur, high stability and biodegradability.

The EBTL™ process comprises proven Steam Methane Reforming (SMR), Fischer Tropsch Synthesis ("FTS") and Expander's patented tar-free Biomass Gasifier plus conventional gas scrubbing and compression to recover pure bio-carbon dioxide for sequestration. A minimum size EBTL™ plant with a single gasifier produces 24,000 liters per day of Net-Zero Bio-SynDiesel™ and sequesters 50 tonnes of net bio-carbon dioxide per day. This compares to 12 tonnes per day of carbon dioxide removed by the recently completed Orca Direct-Air-Capture project in Iceland.

Air Technic of Prague, Czechia developed the Biomass Gasification technology with European Union support to generate renewable, green power. Several of its gasifier units have run continuously producing tar-free syngas, receiving formal EU Certification. The current version of the gasifier technology is co-patented by Expander and Air Technic specifically for FT synthesis to Bio-SynDiesel™.

The EBTL™ process achieves its low, negative Carbon Intensity by feeding only bio-carbon to the FTS reactor and SMR; utilizing low carbon intensity electrical power; and recovering and sequestering by-product bio-carbon dioxide. Natural gas only supplements the fuel to the SMR furnace. The sequestered bio-carbon dioxide substantially exceeds the fossil carbon emissions from the SMR flue gas ensuring a net negative Carbon Intensity. The Life Cycle Analysis calculating the negative (-44 gCO₂e/MJ) Carbon Intensity conforms to ISO 14040 requirements using GHGenius 5.01G.

Expander plans to construct its first EBTL facility in Slave Lake Alberta adjacent to the Vanderwell sawmill. This location offers the shortest timeline to commercial operation since Expander has completed a Front End Engineering Design package and obtained an Alberta Environment and Parks permit. The site addresses all the key prerequisites for success—ample wood waste biomass; fuel gas supply; road and rail access; low carbon intensity electric power; carbon dioxide disposal facilities; experienced forestry and energy industry labour force and close proximity to British Columbia – the most mature low carbon fuel market in Canada.

Expander will proceed to build several more plants and license technology by providing engineering/technical support and fabrication of critical proprietary components to meet Canada's growing need for low carbon fuels.

About Expander Energy

Expander Energy Inc. is a technology company founded and owned by Albertans that developed and patented its own technologies to answer the challenges of creating Fossil Free Net-Zero Carbon Intensity bio-synthetic fuels for Alberta, Canada, and the world markets. We believe that net-zero carbon intensity and profitability are not mutually exclusive.

Our mission is to revolutionize the fuels of today to provide a bridge to the fuels of tomorrow. Expander Energy Inc. is a privately held energy company located in Calgary, Alberta, Canada.

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