

Enerkem Achieves a Major Breakthrough by Producing Sustainable Aviation Fuel from Local Forest Biomass

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Enerkem, a world leader in the production of biofuels from waste materials, is proud to have achieved a major breakthrough in converting carbon from forest biomass into sustainable aviation fuel (SAF) using its proprietary thermochemical process. This important milestone was achieved at Enerkem's Innovation Centre in Westbury, Quebec. It will be followed by the demonstration phase, which will lead to commercialization in the near future. This research is part of The Sky's the Limit Challenge organized by Natural Resources Canada and for which Enerkem was selected as a finalist.

The aviation sector alone accounts for 3% of total global GHG emissions and its carbon footprint appears difficult to reduce. With the favorable support provided by the Renewable Transportation Fuels Regulation, the production of sustainable aviation fuel from end-of-life materials has emerged as a future solution that will be the cornerstone of aviation's efforts to reduce its GHG emissions and eliminate them completely by 2050.

Currently, sustainable aviation fuel can be produced from a number of sources, including waste materials, corn grain and CO₂. Enerkem is already working with Shell on the use of waste materials for its Rotterdam project, and as part of The Sky's the Limit Challenge, Enerkem has chosen a fourth source: forest biomass.

"Our diligent and innovative approach in developing our forest biomass conversion technology has enabled us to produce a sustainable aviation fuel that will reduce the full life cycle carbon emissions of the aviation industry by over 90% compared to conventional fuel. This breakthrough will allow travelers to take flights that emit significantly less GHGs," says Michel Chornet, Enerkem's Executive Vice President, Engineering, Innovation and Operations.

Enerkem's aviation fuel is already in the process of being certified by Canadian, American and European authorities. Enerkem already has the infrastructure in place to move to the commercialization stage (plant in Edmonton and innovation center in Westbury) and will be able to proceed as soon as the market conditions are met.

Agroforestry captures atmospheric CO₂ and, through photosynthesis, water and nutrients, converts the carbon in the CO₂ into biomass molecules. The transformation of biomass into biofuels and marketable bioproducts represents a unique opportunity for innovation. It is this eco-friendly approach that inspired Enerkem to take part in the The Sky's the Limit Challenge and convert Canadian forest biomass residues into sustainable aviation fuel. The benefits of this approach are numerous: creation of partnerships with

regional communities, sustainable economic development, job and wealth creation in the region, diversion of urban biomass from landfill and valorization of residual forest biomass.

“Our technology is proven. We already have a commercial-scale biofuel plant in Edmonton, Alberta. It converts residual municipal waste into biofuels. A second plant is currently under construction in Varennes, Quebec, in partnership with Shell, Suncor, Proman, the Quebec government and with support from Infrastructure Canada. This plant will process forest biomass in addition to non-recyclable and non-compostable waste. In addition, last June, due to the substantial demand for sustainable aviation fuel, we decided, with our partners Shell and the Port of Rotterdam, to transform the proposed Rotterdam plant in the Netherlands. The planned production at this plant will now focus on converting waste materials into aviation fuels rather than renewable chemicals. The commercialization potential is there and we believe in it,” adds Dominique Boies, Enerkem’s Chief Executive Officer and Chief Financial Officer.