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Sustane Technologies to produce MSW-derived pellets in Canada

By Erin Voegele | April 24, 2015

- Sustane Technologies Inc. produces recovered biomass fuel (RBF). Sustane Technologies Inc.

Sustane Technologies Inc. is developing a facility in Chester, Nova Scotia, that will produce waste-derived biomass pellets. The Canadian government is providing the project a $500,000 repayable contribution through the Atlantic Canada Opportunities Agency's Business Development Program. Sustane Technologies will use the funding to acquire special equipment for the development of the plant.

Peter Vinall, CEO of Sustane Technologies, said that the proposed pellet plant will feature his company's proprietary technology, which separates biogenic material—or biomass—from municipal solid waste (MSW) streams at a very high purity level. Vinall explained that the facility will take in "black bag garbage" collected from households that consists approximately of 50 percent biomass material. The components of the black bag garbage include a variety of waste types, including paperboard, plastic and other household waste. The local community segregates food waste and yard waste from their garbage, along with other materials that can be recycled curbside. These materials do not comprise a significant proportion of the black bag garbage.

Vinall describes the company's process as third-generation recycling. We take the materials that cannot be economically recycled at the curb, he said. On the front end, the material is shredded and cooked using a continuous autoclave and then fed through a series of proprietary thermos-mechanical technologies to

purify product streams, including a biomass stream and a plastic stream. While the biomass stream is processed into pellets, the plastics are converted to a liquid fuel via a pyrolysis process.

Regarding the biomass portion of the product stream, Vinall said, "Our final product is called recovered biomass fuel (RBF) and it is virtually free of any plastics, metals or contaminants that present issues with direct combustion. The recovered biomass is dried to under 10 percent moisture and pelletized using conventional forest biomass pelletizing equipment."

To date, the technology has been deployed on the pilot scale and beyond. According to Vinall, portions of the process are being trialed in full commercial-scale. That work is being completed in Spain.

Permitting activities for the proposed plant are underway and Vinall said the company is in the process of securing financing for the project. Groundbreaking is scheduled for mid-2015, with startup expected in mid-2016. Once complete, the plant is expected to have an annual capacity of 35,000 metric tons.

According to Vinall, the resulting biomass pellets are the same size as wood pellets and feature a similar energy value at approximately 17.5 megajouls per kilogram. The pellets have a moisture level of less than 10 percent and contain less than 0.1 percent contaminants. In addition, the RBF fuel is more moisture resident than traditional wood pellets.

Sustane Technologies plans to sell its products into the industrial market. Initially, Vinall said Sustane Technologies is working with a company in Nova Scotia that is helping with the technical development of the product and will burn it to produce electricity. Vinall said his company's long term goal is to scale up operations to deliver larger volumes of pellets, primarily serving European markets.

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