CASTLEROCK BIOFUELS FACILITY, MILLINOCKET MAINE

FREQUENTLY ASKED QUESTIONS

1/2025

What is the Castlerock Biofuels project? Castlerock Biofuels is building a biocrude facility that will produce ~20MM gallons of renewable bio-oil annually from 300,000 green tons of woody biomass – locally sourced, low-grade forest residue known as "slash". The plant will be built on an undeveloped site within One North, the former Great Northern paper mill location.

Is this a new technology? No, Castlerock and its partner Ensyn are using Ensyn's patented RTP® technology, a commercial thermal conversion process that produces high yields of valuable biocrude from renewable cellulosic biomass, typically wood-derived feedstocks. The biocrude is a renewable fuel oil that can be sold as an industrial-scale heating oil replacement, marketed as RFO®, or as a refinery feedstock to produce renewable 'drop-in' gasoline and diesel. Liquid biocrude yields are typically 70 to 75 wt% from dried wood residues. Ensyn's RTP process is the leading technology for commercially producing liquids from wood biomass using fast thermal conversion. The Millinocket facility will be a larger version of the successful RTP processing plant in Quebec, where fuel oil production has been effectively established at scale since 2018. This project represents no technology scale risk. *Learn more here:* *https://www.ensyn.com/technology.html*

How many jobs will this bring to the Katahdin region? Approximately 150 construction jobs at peak development and 80 full-time jobs when the facility is fully operational. The project is also expected to support 92 jobs in the forest industry supply chain, supporting the harvest and transport of feedstock and the transport of finished fuel.

What is the timeline for this project?

- Permitting: In progress, with approvals expected soon.

- Financing: Debt and equity funding to close in 2025.
- On-Site Construction Start: Approximately 6 months after funding closes.
- Full Operations: Expected in 2027.

How will this facility affect local air and water?

- **AIR:** The particulate emissions are well below the thresholds established by Maine's Department of Environmental Protection. Castlerock has already received an air permit for potential development at an alternate site in Maine and has submitted the permit request for the Millinocket location.
- **WATER:** The sanitary sewer discharge will be connected to the Town of Millinocket municipal plant. There is no process water discharge from the plant. Non-process contact cooling water will be returned to Ferguson Lake at a minimal flow rate of 10-11gpm through a permit issued by Maine DEP. The water will be tested on-site before being sent back to Ferguson Lake.

How will the oil be transported from the facility to their customers? It will be transported from the facility in tanker trucks. Ideally, rail will be an option in the future.

Does Castlerock have funding for the project? Yes, Castlerock is financing the project through debt and equity and will close on the funding process in 2025.

What is low-grade wood/slash? Wood for our process (aka "slash") is defined under the 2007 Renewable Fuel Standard law. It is specifically the tops and branches of a tree when the stem of the tree is harvested for another merchantable product. In practice, if the tree is cut and sent to a sawmill or pulp mill (or both) then the remaining tops and branches, which would have previously been unmerchantable, are what we use as slash. Currently, there is a very limited market for slash to be used so it decomposes on the forest floor, where it can inhibit new growth and release its stored carbon into the atmosphere. No trees are being cut down expressly for the production of renewable bio-oil.

Castlerock has *Letters of Intent* from local Maine forestry companies and logistics providers that supply well in excess of the project's feedstock needs.

Does this company have buyers for this product? Castlerock has an "off-take" term sheet in hand from a global commodities firm committed to purchasing all 20MM gallons of production.

How are biofuels and bio-oils used? As a renewable, liquid fuel for heating and cooling applications that replaces traditional fossil-based heating oil. The primary clients are colleges

and universities, district energy plants, and industrial facilities that currently burn over 1,00,000 gallons annually of heating oil.

Biofuels can also be used as low-carbon biocrude in co-processing at refineries. Bio-oil has been tested at scale, up to a 5% blend, in refineries and has been proven to increase yields and profitability.

Biofuels can also be used as a homogenous feedstock for other "upgrade" technologies that can convert the bio-oil into cellulosic ethanol, green hydrogen, green methanol and sustainable aviation fuel.

Do Biofuels emit carbon like traditional fossil fuels? Castlerock engaged an energy consultant to measure the Carbon Intensity score of the bio-oil. This is the measure of carbon dioxide emissions (CO_2e) produced per unit of energy, typically expressed in grams of CO_2e per megajoule. Including feedstock, the CI score of our bio-oil is 4.34 gCO_2e/MJ and by comparison, Natural Gas has a CI of ~52.91 and Heating Oil comes in at ~74.14 (usage and transportation can impact these #'s). Use of our bio-oil represents a ~92% reduction of CO_2 when compared to Natural Gas and a ~94% reduction compared to Heating Oil usage.

What is the industry outlook for biofuels? Global market trends are shifting from nuclear and hydrocarbons, increasing the need for clean, renewable energy sources. The market for biofuel is strong and sustainable.

Where can I find more information about One North in Millinocket? Learn more at www.onenorth.net.