



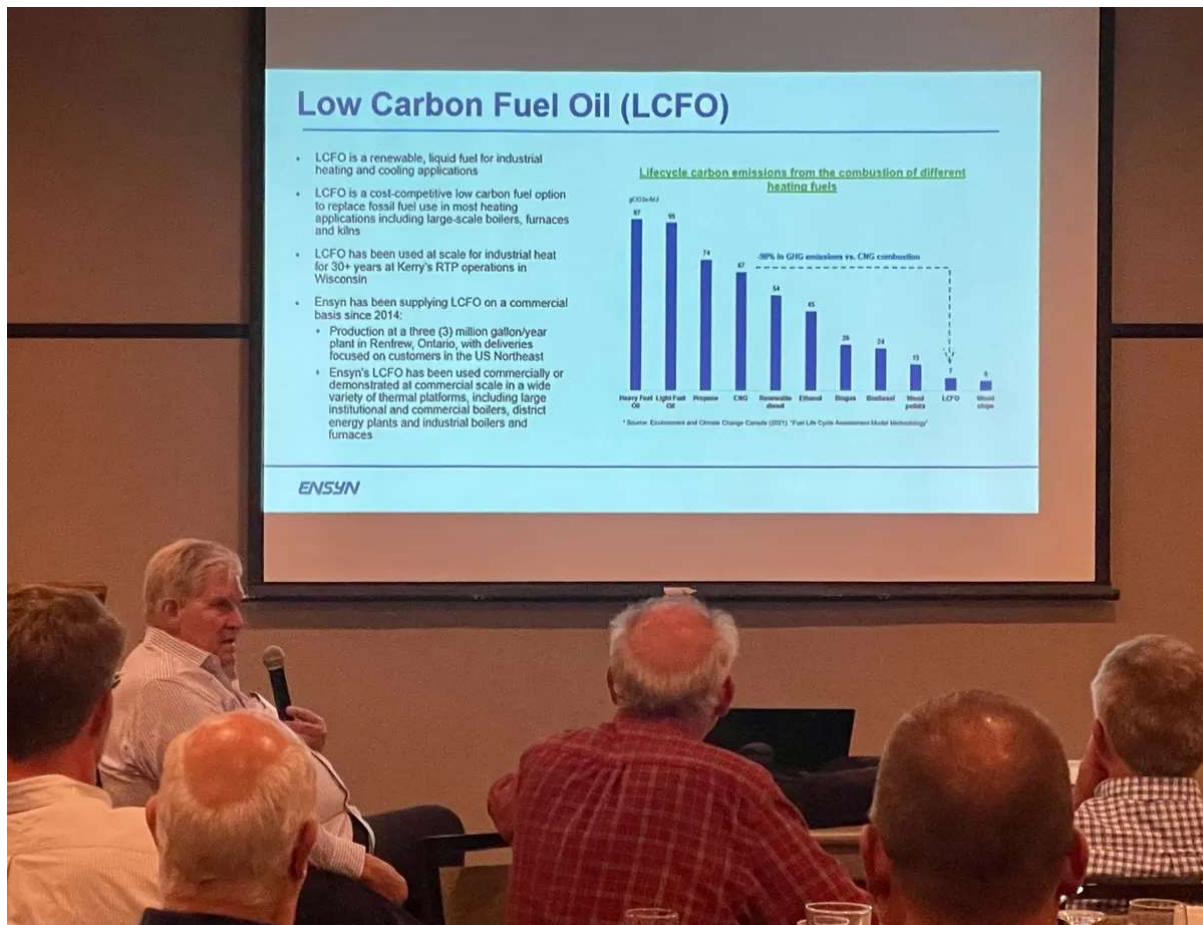
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'Liquid wood' maker hopes to open East Millinocket biorefinery in 2 years

by **Mehr Sher**
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Lee Torrens, the president of Ensyn Fuels Inc., presented his plans to build a biorefinery on the former East Millinocket mill site to industry leaders at the Forest Resources Association's forestry forum in Brewer on Thursday. Credit: Mehr Sher / BDN

People working in the Maine woods may find a new viable market for their low-grade lumber if a Canadian company's plans to build a biorefinery at the former East Millinocket mill site come to fruition.

Ensyn Fuels Inc. intends to produce low-carbon heating fuel from wood chips, likely within the next two years, Lee Torrens, the company's president, recently told industry leaders.

If the Ottawa-based company receives its remaining permit, which it intends to, it plans to lease and start construction on a portion of the former mill site to produce the liquid fuel. The cleaner alternative to natural gas can be used to heat large buildings looking to reduce their carbon emissions.

Ensyn Fuels Inc. has an existing market in Canada and Maine. Customers include Bates College in Lewiston, one of only 10 carbon-neutral colleges in the country, which is supplied with the company's heating oil produced in Quebec. The company is hoping to expand its commercial customer base in Maine but would not be selling the fuel to homes.

The mill, owned by East Millinocket, used to be the site of the Great Northern Paper Co. In July, Ensyn signed an extension of its option-to-lease agreement for the site with the town, effective until July 16, 2023.



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For Torrens' company, the site is ideal both in terms of access to the forests, where the wood chips would be sourced from, and the hydropower available to run the facility.

“No promises; this is a process. These guys here are the ones that provide the fuel, and we’re going to get to know them a little better,” Torrens said at the Forest Resources Association’s forestry forum on Thursday in Brewer.

His company’s low-carbon product is environmentally friendly because it uses “unwanted materials in the forest,” Torrens said. “We can use this material and make something useful out of it.”

Low-carbon heating alternative

Ensyn, founded in 1984, developed a process to convert wood to liquid fuel in the 1980s. The proposed facility, called a biorefinery, would use technology to convert **biomass**, or organic materials such as wood chips, into products typically made from petroleum or other fossil fuels.

The facility would rely solely on wood scraps and would not cut trees to produce its product, Torrens said. Through a process involving high temperatures and high pressure, the facility would make biocrude, a thick, black liquid fuel that can be burned like oil or natural gas.

Torrens described the fuel as liquid wood.

“It looks like espresso coffee and has the pH of red wine,” Torrens said.

Because biofuel is produced from processed wood waste, it is considered a renewable material. It can be produced domestically and help reduce greenhouse gas emissions and dependence on fossil fuel imports, according to the [U.S. Environmental Protection Agency](#).

By using Ensyn’s fuel to heat its 1.1-million-square-foot campus, Bates College was able to reach its goal to **become carbon neutral** in 2019.

But some scientists say that while biofuels are low carbon, fully evaluating their environmental effects can be difficult.

“Any effort to import less fossil fuels into Maine could be promising. But accounting for the climate impacts of biofuels is complicated,” said Jack Shapiro, the climate and clean energy director at the Natural Resources Council of Maine.

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The production process of biofuels can result in greenhouse gas emissions at several stages, but the levels are far lower than gasoline or other conventional fuels.

Ensyn's facility would use green wood chips, or wood residuals that have not fully dried or decomposed, to produce the low-carbon biofuel through its patented rapid thermal process technology, according to its air emissions license application, which the company submitted to the Maine Department of Environmental Protection in April.

Torrens' company aims to use more than 300,000 green tons of wood to produce an estimated 20 million gallons of "liquid wood" per year for its customers.

Where the project stands

On Friday, the East Millinocket Industrial Board presented a draft lease agreement to Torrens and his team, which they will now review, said Mike Michaud, the town's Select Board chair and a member of the industrial board.

But the town has seen projects fall through before. In the past, several companies announced plans for the mill site that didn't materialize.

"We're cautiously optimistic," Michaud said.

So far, Ensyn has received all state and federal approvals for the project, except for the Maine Department of Environmental Protection's air emissions license. The application for the license is being reviewed by a project manager at the Bureau of Air Quality, said Jane Gilbert, the air licensing program manager.

The process to obtain an air emissions license can take several months, and Torrens said he expects his company will receive it soon. If approved, the company will lease the site and build the biorefinery on 29 acres of the 200-acre East Millinocket mill site, according to the extension of the option-to-lease agreement.

"No environmental concerns in relation to air emissions have been brought to my attention so far," Gilbert said. The company's application is moving forward, she said.

The company's feedstock supply plan — how it will harvest, collect, process, transport and store biomass for use — has been approved by the EPA, Torrens said.

Ensyn is still developing a design of the facility, Michaud said. Friday marked the industrial board's first in-person meeting with Ensyn.

The facility would be the first biorefinery owned by the company in the United States. However, Ensyn has built 13 facilities for other companies that use its technology in the country, Torrens said.

The significance for Maine

Ensyn's proposed biorefinery in East Millinocket could benefit the forestry industry both in terms of business and job creation, said those in attendance at the Forest Resources Association's forestry forum on Thursday.

The company would need to invest an estimated \$150 million to \$200 million to bring the project to fruition, based on initial discussions Michaud has participated in with the company over the last few months, he said.

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When the town first decided to buy the mill, it wanted to get \$30 million worth of taxable property, and Ensyn's investment would put the town over that goal, according to Michaud.

"It's a win-win all the way around, not only with the jobs coming but also the valuation of the town," he said.

Ensyn hopes to employ more than 35 people at the facility but, depending on how it expands, could employ up to 200 people, Torrens said.

"The jobs won't all be here in East Millinocket, but there will be a lot of loggers that will benefit from this facility," Michaud said.

Mehr Sher is a Report for America corps member. Additional support for this reporting is provided by the Unity Foundation and donations by BDN readers.

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