Biofuel company plans to bring industrial site to LAC

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In what could be a significant and long-term economic impact for Trinidad and Las Animas County, EcoTech Biofuels has started the planning process to bring its industrial site to the county. The company hopes to start production as soon as 2027.

EcoTech’s goal with the project is to extract dry-standing dead and diseased trees from Colorado’s forests, which they claim would reduce fire risk and help regrow forested areas. They will then use the biomass to produce Sustainable Aviation Fuel, which, according to the U.S. Environmental Protection Agency, could lower carbon intensity.

Essentially, the objective is to use the forests’ biomass and transform it into jet fuel, supporting forest regrowth and lowering aviation carbon emissions.

“Restoring Colorado’s forest to greater health would be my greatest ambition,” President and Founder Linda-Rose Myers told The Chronicle-News. “And that’s something that we’re trying to achieve.”

Myers grew up in Colorado Springs and noted the visual difference of the forests in the state after prolonged fires, burn scars, and gaps of trees and vegetation upon mountainous landscapes. She said, “If you drive east to west, you’ll see mile after mile of standing dead trees. It’s heartbreaking. I grew up in Colorado, and it didn’t used to be like that.”

EcoTech recently received the 2024 U.S. Forest Service Wood Innovations Grant for its plan to convert Colorado’s tinder dry forest waste into SAF. The project will begin with biomass from the Rio Grande National Forest.

How could bringing a biofuel plant site, or Qualified Opportunity Zone, to LAC affect the local economy?

EcoTech's Annual Economic Impact report claims that for the local area, there would be an estimated yearly increase of $9.4 million in labor earnings, an increase in the labor market of at least 650 workers, and a $463,000 annual increase in local tax production.

It'll be a tremendous economic boost for Las Animas (County) and the local area," Myers said.

According to EcoTech, they will hire locally, train, and create over 200 construction jobs, with over 90 direct full-time hires, such as chemical engineers, managers, skilled laborers, and entry-level workers. Additionally, according to what the company referred to as a 'high jobs multiplier effect,' for every person they hire, seven more would be created in response, amounting to over 650 jobs. The multiplier accounts for jobs such as food service, trucking, logging, transportation, legal, healthcare and more.

"There's going to be a need for a lot of other businesses to support the [project]. There's going to be a need for housing as well," Myers noted.

EcoTech also emphasized hiring U.S. veterans. The company stated, "Our goal is to mentor, train, and hire as many unemployed veterans located in this low-income area of Colorado as possible."

Myers said, "One of the things I feel very strongly about is hiring unemployed veterans, and whenever possible, I'd like to see us train and hire them."

When asked about the company's longevity in the county, particularly with its history of economic phases of growth and decline, or boom-and-bust cycles, Myers said, "According to the [Colorado Forest Service, the state] will need this kind of project long past my lifetime. So, the minimum amount of time for this duration is 30 years, but most likely, it's going to be much longer... We will keep the plant operating at peak proficiency and upgrade it as necessary. But this is permanent."

So, how would removing dead, diseased trees help reduce forest fires, regrow Colorado's forests?

EcoTech sourced a claim from the Proceedings of the National Academy of Science that said, "Rockey Mountain forests (are) now burning more than any time in the past 2,000 years."

The NAS report predicted an increase in destructive wildfires in coming years across western states, noting higher average temperatures, persistent drought, and tinder-dry forests that are prone to fire.

EcoTech plans to extract, in a single day, at least 500 tons of fire-prone forest waste to produce 1,150 barrels of SAF and diesel, which, they say, will significantly reduce fire risk.

According to EcoTech, in addition to reducing fire risk, removing dead and diseased trees and then remediating burn scar areas will allow new trees to grow and flourish

“When there’s a severe forest fire, the temperatures of that fire basically sterilize the land. And those burn scar areas make it difficult for trees and vegetation to grow again, except for brush,” Myers said. “There’s a lot of material that needs to be removed that’s very fire-prone. And the goal is to reduce forest fires throughout the state.”

When informed about the Titan Fire burn scar, Myers said, “This is the case in many areas across the state. And it breaks my heart to see this happening... Some naturally occurring forest fires are okay. But when it gets out of control, it’s because everything is dead and tinder-dry. That’s when you have a big problem.

What makes Las Animas County ideal for EcoTech’s industrial plant site?

In short, the county has natural gas, meets the company’s power and resource needs, and, most prominently, has railway access that would support their logistical operations to source woody biomass from national, state, and private forested land and ship out the final product.

Although EcoTech’s president shared a vision of saving Colorado’s forests, one of the company’s first and primary targets is the Rio Grande National Forest (RGNF). One of the most important reasons for the company choosing LAC as its sight location is a railway with a route near the RGNF. Also, LAC has direct railway routes to both of Colorado’s major airports.

Although the land that the company had its eyes on has yet to be procured, Myers referred to it as “a perfect site” and noted that it is an industrial zone. She said, “We’ve been working with the city of Trinidad for over a year. They pointed us to a site (that could) work as an industrial zone.”

Myers said, “The Rio Grande National Forest is the target. The majority of the forest waste that we’ll be utilizing for this project will be sourced from there... The site we’re looking at has a railway from the Rio Grande to the plant site... Another reason we like the site in Las Animas (County) is the people with the city... We’ve been working with Trinidad and the city council... They have made it very possible for us to do a project like this. There is adequate water and other necessary components to operate the plant ... The other reason is the rail line [with] a direct shot north to the major airports.”

EcoTech plans to create a feedstock prep and storage facility in Mona Monte Vista, east of the RGNF.

Why start with the Rio Grande National Forest?

Dan Dallas, US Forest Service renewable resource director for Colorado’s Region 2, was forest supervisor for Rio Grande National Forest before his promotion last year. He was a pioneer in looking toward biomass technology as an industry that could support

the ecology of forests, most prominently the RGNF, at a time when biomass wasn't nearly as sophisticated as it is today.

"We had a couple of very large fires," Dallas said, reflecting on his time as the RGNF supervisor. "The reason for that is we had a large spruce bark beetle outbreak, an epidemic, that basically killed every mature spruce throughout the forest. So out of that we had a collaborative group form that got $2.5 million, and we created what we called 'future papers.'.. One of the papers was about biomass. We did that because we knew the dead-standing trees would degrade to a point where we would have a bunch of standing dead and down biomass across the landscape. So, we were interested in reducing future (fire) risk by incentivizing the biomass industry to build some sort of biomass utilization plant."

Out of the paper, Dallas initiated a complete inventory of the RGNF's biomass, which allowed companies to create business plans and work out the logistical operations.

"Most other forests don't have that," Dallas said, referring to the biomass inventory. "That's the connection between the forest service and the biomass entities who may be interested in investing so they could start utilizing [it]. One of the biomass industries that heard about our inventories was EcoTech."

Myers said, "The former supervisor of the Rio Grande (Dallas) is the one who convinced me we needed to do this project. And they already did a lot of work to determine exactly where the material is, how much there is, and how many years of supply there is. And they're desperate to get the material out of the forest. So that will be our first targeted area, but there's material all over the state that needs to be taken out of the forests."

When asked about the prospect of other companies interested in the forests' biomass inventory, Dallas said, "Others produce pure hydrogen, sustainable organic fertilizer. There are all sorts of uses for biomass... The advancement of the biomass industry over the last ten years, five really, is incredible. Most people's mental model of the peak of biomass utilization technology ten years ago was like animal bedding and pellets for stoves. Now they can produce sustainable aviation fuel, gasoline, diesel, hydrogen, you name it."

"I'm not in it for the money," Myers said. "I'm in it to solve problems that we're capable of solving. That's what motivates me. Getting our forest cleaned out of incendiary materials and getting our forests healthy again."

So, what are the environmental benefits of SAFs?

With a massive biomass supply across Colorado's forests, there's an apparent plethora of demand for biofuel production within the U.S.

The Biden-Harris Administration set a goal for the county to have net-zero carbon emissions by 2050 and worked with the U.S. Department of Transportation's Federal

Aviation Administration and airports across the U.S., offering funding programs, grants, and more.

“The only way they (U.S airlines) can reach zero carbon emissions by 2050 is by replacing fossil jet fuel with this kind of fuel,” Myers said. “The airlines are desperate to get their hands on it.”

Airports Council International North America President and CEO Kevin M. Burke said in a 2022 press release, “Airports remain committed to creating a more sustainable future for air travel. Reaching net-zero carbon emissions by 2050 will require steadfast dedication from government and industry partners.”

One of those industry partners could be EcoTech, which offers an alternative to fossil fuels and claims to have technology that could create and process SAFs with a negative carbon emissions score.

The U.S. Environmental Protection Agency stated that aviation greenhouse gases make up 9%–12% of U.S. transportation greenhouse gas emissions and that SAFs could be a solution to reducing them.

The Colorado Department of Natural Resources 2021 report on the health of the state’s forests stated, “SAF is a biofuel used to power aircraft that has similar properties to conventional jet fuel but with a smaller carbon footprint. Depending on the feedstock and technologies used to produce it, SAF can reduce life cycle GHG (Greenhouse gas) emissions dramatically compared to conventional jet fuel. Some emerging SAF pathways even have a net-negative GHG footprint.”

EcoTech claims to have a method to create a negative carbon emissions score by feeding the greenhouse gases produced during the gasification process to specifically designed algae that will act as a soil amendment in burn scar areas. The process also helps to regrow the forests. The company referred to the process as a ‘closed loop process,’ which would virtually prevent the plant site from emitting any greenhouse gases.

Taking everything into consideration

EcoTech Biofuels’ plan to establish an industrial site in Las Animas County could have a significant impact.

Economically, the project could be substantial, with estimated increases in labor earnings, job creation, and local tax revenue. Although there are concerns about industrial long-term viability within a county with historical economic fluctuations, EcoTech’s project claims to be sustainable in the long term.

By converting fire hazard biomass into SAF, the company could contribute to Colorado’s forest regeneration, reduce fire risk and mitigate aviation carbon emissions.