

ECOTECH BIOFUELS, LLC



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Converting Dead and Diseased Trees from our Western Forests to Sustainable Aviation Fuel



EcoTech Biofuels is the recipient of the 2024 U.S. Forest Service Wood Innovations Grant, in support of the Company's Rio Grande Biofuels project to convert Colorado's tinder dry forest waste to SAF.



Forests in my Colorado home are being consumed by wildfires. Rocky Mountain National Park (East Troublesome Fire)



WHY: Year-Round Wildfires in Western Forests?



CAUSES:

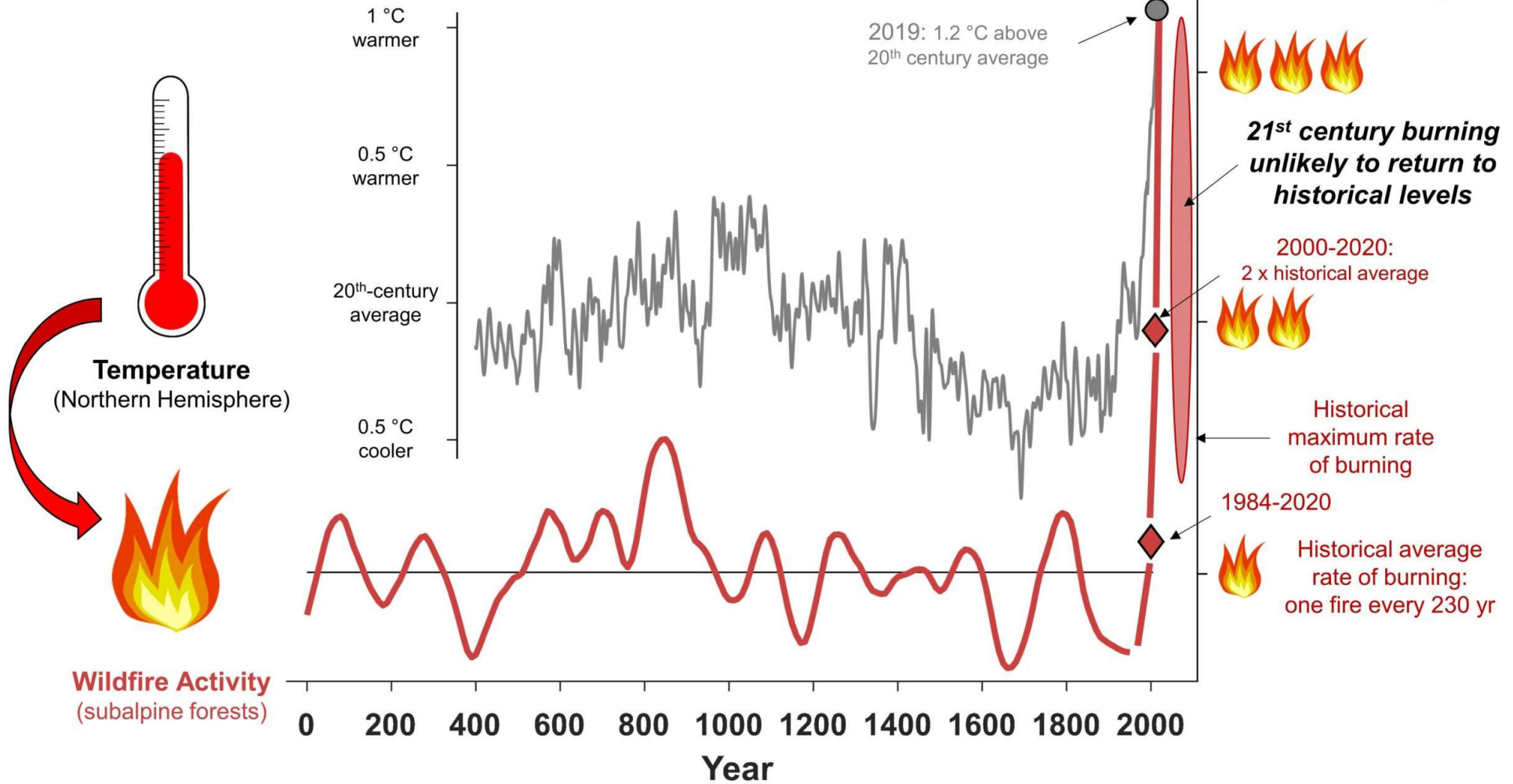
- Higher average temps
- Persistent drought
- Tinder dry fire-prone forests

RESULT:

- Increasingly destructive wildfires are expected in coming years



Rocky Mountain forests now burning more than any time in the past 2000 years



Higuera, P. E., Shuman, B. N., & Wolf, K. D. (2021) Rocky Mountain subalpine forests now burning more than any time in recent millennia. *Proceedings of the National Academy of Science*



EcoTech Biofuels' Solution:



We will:

- **Extract 500 or more tons per day of these dead and diseased trees from Colorado forests**
- **Produce 1150 barrels per day of Sustainable Aviation Fuel and diesel**
- **Greatly reduce fire risk**
- **Create over 600 local jobs from the high jobs multiplier impact**



Chosen Technologies

- **Gasification:** a thermochemical process that converts biomass into synthesis gas, resulting in value-added downstream products, including energy and fuels. Currently over 270 operating gasification plants worldwide and 74 more under construction.
- **Fischer-Tropsch (Gas-to-Liquids):** a well-established process in use for 100 years. Converts synthesis gas to synthetic liquid fuels.
- **We will feed produced CO₂ to specially designed algae, resulting in a negative CI score.**



Project Snapshot

Capital Stack (000's)		Highlights
Developer investment in FEL 1:	\$4,861	Feedstock: Colo forest waste
FEL 2-3 Debt/Equity:	\$20,000	One 500 TPD Unit
Construction Cost:	\$272,461	Location: Walsenburg, CO
Capitalized Interest:	\$40,144	Outputs: 16 million gallons per year of SAF
Owner's Contingency:	\$5,449	Synthetic Diesel
Developer's Fee:	\$4,060	Vitreous Slag
Working Capital:	\$10,000	
Total:	\$362,140	Jobs Created: 95 (direct hires) 665 (in the community)

PROJECTED FIRST FIVE YEARS CASH FLOWS

Years	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Total Revenues	\$97,220,108	\$157,349,932	\$150,415,086	\$152,585,946	\$155,239,112
Total Expenses	\$9,109,861	\$14,984,362	\$15,317,340	\$15,753,444	\$16,206,803
EBITDA	\$88,110,247	\$142,365,570	\$135,097,747	\$136,832,502	\$139,032,309
Debt Service	\$37,382,275	\$47,416,475	\$47,418,550	\$47,419,250	\$47,418,075
Debt Service Coverage Ratio	2.36x	3.00x	2.85x	2.89x	2.93x



Key Deal Attributes

- **Woody Biomass Feedstock Supply Commitment:** for this and subsequent projects
- **SAF Offtake:** AEG Fuels
- **Site:** Qualified Economic Opportunity Zone in South Central Colorado with all necessary infrastructure requirements, including:
 - Water
 - Natural Gas
 - Rail Access
 - Power
 - Roads



Annual Economic Impact

Rio Grande Biofuels

• Increase in Labor Earnings (Direct Employment)	\$9.4M
• Increase in Labor Market (Direct and Indirect)	650
• Increase in Taxes on Production	\$463,000
• Local	\$198,000
• State	\$172,000
• Federal	\$ 93,000

JOBS! **Our plant will create:**

- **200+ construction jobs**
- **93 Permanent jobs with
excellent benefits**
- **Opportunities for
advancement & training**



Jobs breakdown

- **Chemical Engineers**
- **Plant Managers / Safety Officers**
- **Shift Supervisors**
- **Timber recovery, hauling, chipping**
- **Operators**
- **Instrument Techs**
- **Security**
- **Electricians**
- **Welders**
- **Lab Techs**
- **Mechanics**
- **Maintenance**
- **Entry Level Laborers (Loading/Sorting)**



Environmental Benefits

- **Virtually no GHG plant emissions due to closed-loop process**
- **Restoring forest health**
- **Reducing forest fire risk**
- **Avoided GHGs, VOCs caused by the seasonal burning of diseased trees**



ALGAE to the RESCUE

- **Extreme temps of forest fires sterilize soil; kill soil nutrients**
- **No trees will grow again on burn areas without soil remediation**
- **We will feed our produced GHG gases to algae specifically designed to act as a soil amendment**
- **Now trees will grow again in burn areas**
- **Result = no produced GHG emissions; restored forests**



Partnering with EcoTech Biofuels



Our engineering team:

- Decades of experience transforming waste materials, including woody biomass into superior synthetic fuels
- Black & Veatch contracted for FEL 2-3 + EPC



Our management team:

- Decades of technical project management experience



Eliminating investor risk: All plant components and processes guaranteed by AON Risk Solutions coverages

The U.S. Forest Service trusts us and is counting on us to do similar projects throughout the Western States including CA



Construction Financing Options:

Total construction cost : \$327 million includes capitalized interest and closing fees.

DOE's Loan Programs Office offering 90% loan guarantees to any qualified lender

This debt would be supported by 30% equity investment.

Benefits to Equity Investor

- **IRA § 48 ITCs and Qualified Economic Opportunity Zone Tax Benefits** - Defer and eliminate capital gains tax, or
- **IRA § 45Z SAF Production Tax Credits** – We are listed on [Atheva](#). AON provides tax transaction insurance backstop to protect these investments



QUESTIONS?

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THANK YOU!

