

PRESS RELEASE

Arizona Synthetic Fuels Project

A Collaborative Research Partnership between Northern Arizona University and Mogollon Brewing Co.

The Arizona Synthetic Fuels Project at NAU currently has a chemical reactor that is producing methanol from hydrogen (H₂) and carbon dioxide (CO₂). This reactor will utilize CO₂ derived from fermentation processes and H₂ derived from wind energy to produce a carbon-neutral transportation fuel for immediate use. Although currently in the test phase, the group is constructing a larger reactor that will be capable of producing up to 1,000 gallons of methanol per month -- enough methanol to power the entire NAU automotive fleet on a 10% methanol/gasoline (M10) blend. This means that NAU vehicles could use 10% less gasoline each month, significantly decrease carbon emissions, and suffer no losses in fuel economy or vehicle performance.

In August of 2007, the Arizona Synthetic Fuels Group formed a strategic partnership with Mogollon Brewing Company to pursue the idea of producing methanol on the premises of Mogollon. Using technology developed by NAU researchers, the current operation at Mogollon Brewing Co. provides a unique opportunity to develop and optimize small-scale CO₂ recovery and utilization processes for the purpose of commercialization and large-scale methanol production.

The primary use of methanol is as an energy carrier. Like ethanol, methanol can be blended with gasoline up to 20% in conventional engines and 85% in flex fuel vehicles with no modifications to the vehicle or existing transportation fuel infrastructure. For years, methanol, with an octane rating of 100, has been used as a racing fuel for stock cars, dragsters and Formula 1 race cars.

To be a carbon neutral fuel, methanol must be synthesized from atmospheric CO₂, which can be captured from power plant emission, fermentation processes or "scrubbed" from the atmosphere; the hydrogen must be derived from a non-CO₂ producing energy source such as wind, hydro, biomass, solar, tidal, geothermal, even nuclear. A carbon-neutral fuel does not add greenhouse gasses to the atmosphere and will not contribute to global warming.

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