U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Benefits of Biofuel Production and Use in New Mexico

New Mexico

New Mexico's abundance of land and unique climate are well suited to the production of drop-in biofuels from versatile feedstocks such as algae. The Bioenergy Technologies Office (BETO) enables the development of novel technologies that can establish New Mexico as a leader in the bioeconomy.

Drop-in biofuels are the non-petroleum fuel option that is compatible with today's U.S. transportation infrastructure. Investing in drop-in biofuels can stimulate economic growth, improve energy security, reduce carbon emissions, and create new jobs in New Mexico.

Economy

New Mexico spent **$5.5 billion** on petroleum fuels for transportation in 2013. Investments in New Mexico's **biofuels help keep those dollars in the state** to stimulate economic development and add to the state's 24,000+ **jobs** in green goods and services.

Energy

In 2012, New Mexico consumed over **36 million barrels** of petroleum for transportation—nearly 75% of all petroleum use in the state. New Mexico can leverage its unique climate to become a leader in **drop-in biofuel production**, which can **reduce** the state's **dependence on petroleum-based fuels**.

Environment

In 2011, petroleum use in New Mexico's transportation sector emitted **13.5 million metric tonnes of carbon dioxide** (CO_2). On a life-cycle basis, **advanced biofuels reduce emissions by ≥ 50%** compared to petroleum alternatives—helping to reduce climate change impacts.

Feedstocks

The climate of New Mexico is well suited for the cultivation of **algae**, which thrives on **sunlight**, **wastewater**, and CO_2 and can transform these resources into drop-in biofuels. **Waste** from New Mexico's **dairy farms** offer another good resource for the production of advanced biofuels.

Strategic policies and investments help *bridge the gap* between promising research and large-scale production of advanced biofuels.

The Agricultural Biomass Income Tax Credit recognizes the long-term economic and environmental benefits of converting New Mexico's dairy waste into biofuel.

The U.S. Department of Energy (DOE) has awarded more than **$68 million** to partners in New Mexico to research, develop, and deploy sustainable bio-based fuels and products since 2005.

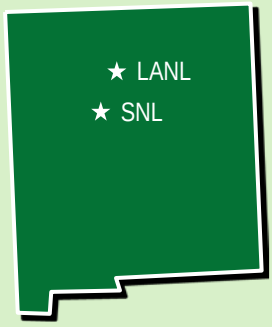
DOE funded the **New Mexico State University's Realization of Algae Potential** (REAP) program, which is focused on improving algae biomass yield to achieve commercial viability.

New Mexico's two national laboratories play a key role in biofuels research.

Los Alamos National Laboratory (LANL) — LANL leads research on the new DOE-funded consortium to produce algae for valuable coproducts and bioenergy. Novel technologies in development seek to improve the efficiency of plant photosynthesis and accelerate algae production and harvesting.

Sandia National Laboratory (SNL) — Albuquerque, New Mexico, is home to the primary campus of SNL, which develops conversion technologies for drop-in hydrocarbon biofuels. These can be used in all vehicles without engine modifications.

Why New Mexico?



Plentiful sunlight and abundant marginal land provide favorable growing conditions for algae.

Dairy waste can support advanced biofuel production, including algae cultivation for biofuel production—also increasing revenue for farmers.

Developing in-state resources reduces dependence on imported petroleum products.

Innovative research in New Mexico supports the growing bioeconomy.

For more information on the economic benefits of biofuels for New Mexico, visit:
eia.gov/state/analysis.cfm?sid=NM
energy.gov/eere/bioenergy/about-bioenergy-technologies-office-growing-americas-energy-future-replacing-whole
acore.org/files/pdfs/states/NewMexico.pdf (based on 2011 survey by the Bureau of Labor Statistics)
For more information on biomass resources and the environmental benefits of biofuels, visit:
epa.gov/otaq/fuels/renewablefuels/documents/420f12078.pdf
eia.gov/environment/emissions/state/state_emissions.cfm
eere.energy.gov/bioenergy/pdfs/billion_ton_update.pdf, maps.nrel.gov/biofuels-atlas

For more information on New Mexico clean energy initiatives, research, and partnerships, visit:
emnrd.state.nm.us/ECMD/RenewableEnergy/biomass.htm
emnrd.state.nm.us/ECMD/CleanEnergyTaxIncentives/documents/AgBiomassTaxCredit-7.2.18.26NMSA.pdf
energy.gov/eere/bioenergy/financial-opportunities
lanl.gov/science-innovation/capabilities/bioscience-biosecurity-health/bioenergy/index.php
energy.sandia.gov/energy/renewable-energy/biomass/biofuels

For more information, visit: bioenergy.energy.gov

DOE/EERE-1184 • September 2015