

Advancing Colorado's Renewable Energy Program

ACRE

Agriculture's Commitment to Growing the New Energy Economy

SB 09-124

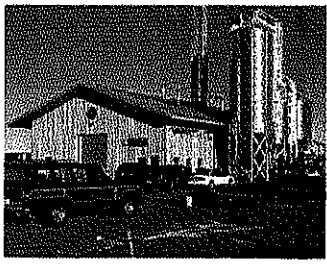
Background

The Advancing Colorado's Renewable Energy (ACRE) Program is a statewide effort to promote the research and development of energy-related projects beneficial to Colorado's agriculture industry. The ACRE Program is administered by the Colorado Department of Agriculture in cooperation with the Colorado Agriculture Value-Added Development Board.

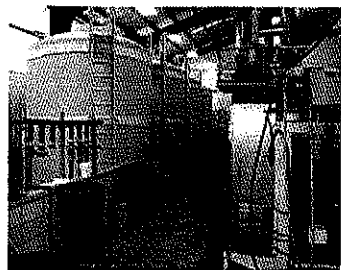
- ✓ Passage of HB-1332 in 2006 authorized that \$500,000 be annually appropriated to fund the ACRE Program through FY09.
- ✓ SB09-124 proposes to extend funding for the ACRE Program an additional three years.

The ACRE Program contributes to the sustainability and profitability of Colorado's agriculture industry by:

- ✓ encouraging farmers and ranchers to participate in developing Colorado's New Energy Economy,
- ✓ creating new markets for Colorado agricultural products, and
- ✓ fostering new investments in Colorado's rural communities that create new jobs and economic activity.



**ACRE Funds Helped
Develop This
Seed Crushing Facility
in Dove Creek
Completed December 2008**



ACRE's Micro-Hydro Project at Elk View Ranch in Archuleta County Completed November 2008

Program Facts

- ✓ 35 projects totaling almost \$1.5 million have been funded to date. These projects have focused primarily on the development of biofuels, wind, solar, biomass, and micro-hydro. (See reverse for a complete listing of projects)
- ✓ In the 3 years of the program's existence, requests for funding have exceeded available funds by more than \$3.6 million.
- ✓ Matching cash & in-kind contributions by program participants have totaled more than \$13 million – or about \$8.50 for every \$1 invested by ACRE.
- ✓ ACRE projects have had a positive impact on Colorado with projects in the Front Range, the Eastern Plains, the Arkansas Valley, the San Luis Valley, and Southwestern regions.

Projects Funded to Date



Biofuel Projects

- **Blue Sun Biodiesel** – researching the potential of camelina as a new, low-cost, high value energy crop for farmers in Colorado's semi-arid ag regions
- **Colorado Corn Growers Association** – assessing the feasibility of biogas as a renewable energy resource for small off-grid farms
-assisting in developing ethanol pump infrastructure in various rural Colorado locations
- **Colorado Farm Bureau** – assessing to determine optimal location for building an ethanol production facility in Colorado
- **Colorado State University** – researching use of straight vegetable oil as a substitute for on-farm diesel engines
- **Dolores County/San Juan Bioenergy** – assisting to establish a biodiesel production facility in Dove Creek
- **Feedlot Biofuel** – assessing the locations of small ethanol plants in east-central and southeastern Colorado
- **Golden Plains** – evaluating renewable energy crop sequences for Northeastern Colorado Dryland farms
- **iCast** – implementation of two pilot projects for Colorado farm-scale oil seed crushing and biodiesel production
- **National Sorghum Producers** – researching the potential of various sorghum forages as a source for biomass-to-ethanol conversion
- **Rio Grande County** – assessing the economic viability of establishing a seed crushing facility in the San Luis Valley
- **Washington County** – assessing the economic viability of establishing a community-scale biodiesel facility in Northeast Colorado



Biogas Projects

- **Chokecherry Farm** – assessing biogas as a renewable energy source for a small off-grid farm in Saguache
- **Crowley County** – assessing implementation a bio-energy facility that will convert manure into biogas at Ordway Feed Yard
- **Stewart Environmental** – assessing the utilization of anaerobic digesters to generate biogas energy via confined animal feeding operation waste from regional farms
– inventory available feedstock in Colorado for use in anaerobic digestion for biogas production



Biomass Projects

- **Cochetopa Land & Cattle** – assessing the viability of biogas as a renewable energy resource for a small off-grid farm
- **Flux Farm Foundation** – researching a distribution network of biomass pyrolyzers to potentially generate on-farm bioenergy
- **iCast** – researching briquetting biomass ag waste products to produce energy
- **KL Energy** – assessing co-locating a cellulose-based ethanol facility with a wood pellet plant to process beetle-kill pine
- **San Juan Bioenergy** – sampling the analysis of Syngas from a biomass gasifier for performance



Educational Projects

- **Colorado Working Landscapes** – researching ways local communities can benefit from renewable energy projects and develop an action plan to address the issues
- **May Farms** – assist in educating the public on the value of and resources for on-farm renewable energy through the first annual Colorado New Energy Festival at May Farms in Byers, CO June 12 – 14, 2009



Hydro Power Projects

- **Elk View Ranch** – assist to develop micro-hydro energy utilizing irrigation water



Energy Options Analysis Projects

- **Alamosa County** – assessing the viability of establishing a community-scale biodiesel facility in northeast Colorado
- **Crowley County** – assessing a Green Community Plan
- **Synergistic Building Technologies & Cure Organic Farm** – researching the potential of a new style of greenhouse capable of producing through the year with a close-to-zero carbon footprint



Energy Storage Projects

- **iCast** – researching various energy storage technologies that can help Colorado's ag producers save on energy costs and assess which can be the most profitable
- **University of Colorado** – Researching a new system to store electrical energy via a pumped hydroelectric scheme using surface water and the underground water table



Solar Projects

- **Nunatak Alternative Energy Solutions** – to develop year round solar water pumping for remote grazing locations
- **San Luis Valley RC&D** – assisting the Monte Vista Cooperative in promoting solar energy by developing seven solar collection sites in the San Luis Valley



Wind Projects

- **Baca County** – development potential of small scale wind energy for Eastern Colorado ag producers
- **Elbert County/Brink Inc** – assess feasibility of wind energy at livestock facilities
-assist in the measurement and valuation of onsite wind resources at three Colorado livestock facilities
- **Southeast Colorado RC&D** – promote the use of farm scale small wind turbines in Eastern Colorado by assisting in the purchase of seven turbines for ag operations in the area

Visit www.colorado.gov/ag/energy
for complete details