



Advancing Colorado's Renewable Energy Program

ACRE

Agriculture's Commitment to
Growing the New Energy Economy

SB09-124

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.



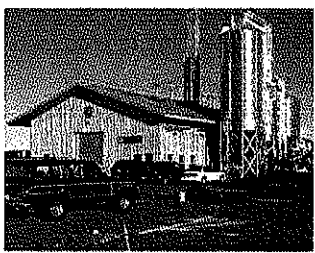
ACRE's Micro-Hydro Project at Elk View Ranch in Archuleta County Completed November 2008

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

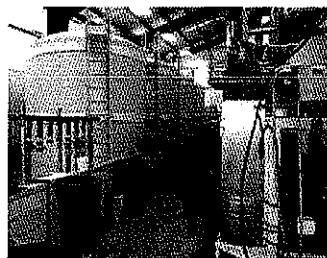
- ✓ encouraging farmers and ranchers to participate in developing Colorado's New Energy Economy,
- ✓ creating new markets for Colorado agricultural products, and
- ✓ fostering new investments in Colorado's rural communities that create new jobs and economic activity.

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.



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



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** –the feasibility of the development of an E85 renewable fuel infrastructure in five rural Colorado locations
 - developing ethanol pump infrastructure in various rural Colorado locations
- **Colorado Farm Bureau** – determining the 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** – establishing a biodiesel production facility in Dove Creek
- **Feedlot Biofuel** – determining the locations for small ethanol plants in east-central and southeastern Colorado
- **Golden Plains** – evaluating renewable energy crop rotations for Northeastern Colorado Dryland farms
- **iCast** – development 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** – gauging the economic viability for establishing a community-scale biodiesel facility in Northeast Colorado



Biogas Projects

- **Chokecherry Farm** – the feasibility of biogas as a renewable energy source for a small off-grid farm in Saguache
- **Crowley County** – determining the economics of a bio-energy facility that will convert manure into biogas at Ordway Feed Yard
- **Stewart Environmental** – evaluating 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** –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** – 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** –educating the public on the value of and resources for agricultural 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** –developing micro-hydro energy utilizing irrigation water



Energy Options Analysis Projects

- **Alamosa County** –the viability of a Sustainable Environmental and Economic Development (SEED) Park in the San Luis Valley
- **Crowley County** – establishing a Green Community Plan
- **Synergistic Building Technologies & Cure Organic Farm** – researching & developing 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** – aiding 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** – evaluating the 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 five turbines for ag operations in the area

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