

COLORADO

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The Colorado Governor's Office of Energy Management and Conservation (OEMC) provides information and education about the value of energy efficiency and conservation, renewable energy devices and emerging energy technologies for the people and businesses of Colorado. OEMC works closely with private industry, non-profits, governmental agencies and environmental groups to form partnerships and other arrangements to implement the full potential of renewable and efficient energy processes and devices across the broadest possible reaches of our state.

We have implemented and are currently implementing SEP programs that:

- ◆ Map the full potential of geothermal energy in Colorado and look forward to producing electricity and new district heating applications using what is now known to be the fourth largest source of geothermal potential in the US;
- ◆ Incorporate a 55 kW Stirling engine at a hog farm to utilize biogas from hog wastes and blend energy with a 65kW wind turbine. The Stirling will run side-by-side with a 30kW Capstone microturbine that has been using the biogas for several years. A virtual video tour of the farm that describes how an anaerobic digester works and talks about the generation devices in use at the farm if available on our website – as a video on how to plan for, install and utilize a wind turbine;
- ◆ By the end of 2007 will quintuple the number (adding about 40) of stations providing E85 to Colorado's flexible fuel vehicles (FFVs) through a task force that has formed partnerships with General Motors, two major fuel distributors and many independent station owners. We are also working with NREL to test FFVs for emissions, mileage and general engine wear at altitude;
- ◆ Increasing the number of building code jurisdictions that use the IECC. Working with several other groups we have seen the number rise to the point that roughly 82 percent of Colorado buildings are now covered (Colorado is currently a state without a statewide building code, but may adopt one in the near future);
- ◆ Assisting groups and businesses of all kinds with understanding and utilizing woody biomass for incorporating district heating for facilities near sustainable waste wood supplies. Additionally, we have released a new video of a step-by-step procedure of how to plan for, incorporate, operate and maintain a district heating application. We are also mapping the state for sustainable waste wood supplies; There is a narrative form of the video that is also available, along with the video, through our website;
- ◆ Have assessed the energy savings of conventional ("brick and mortar") wastewater treatment plants over that gained by constructed wetlands treating effluent such as human waste and runoff from different sources. We have also formed partnerships to improve and repair streamside environments where wetlands can flourish and be used to improve natural streams' water quality, as well as to provide improved wildlife habitat, add recreational opportunities, provide buffer space between heavily populated areas, reduce the likelihood of heavy silt removal – which can require substantial energy input – and provide education about the value of wetlands through signage placed along improved or repaired streams.
- ◆ Established an energy emergency plan that has over 10 years of concentrated effort and expansion to help assure that the state is well prepared to provide fuel for first response teams and for individuals and businesses who serve the most vulnerable portion of the population; e.g., the elderly or the hospitalized people. We have held desktop exercises to include collaboration between police, fire, fuel suppliers and governmental workers to stress the importance of working together and understanding the most likely scenarios that may require a response that would be covered by the energy emergency plan.

◆ Communication of all the office's projects, programs, including lessons learned and data collected from demonstrations, is handled by the public information program. The office conducts several statewide workshops, conferences, and meetings that promote renewable energy, energy efficiency and emerging energy technologies. The office works with Colorado media on events, news announcements and uses a website to distribute information, too.

Rebuild Colorado

Rebuild Colorado provides a full spectrum of information and services for Colorado's state and local governments, addressing each phase of a building's life:

New Buildings: We provide technical design services to make the case for high performance design buildings, help establish LEED-NC as a proven process to achieve high performance design, and to establish a design team committed to achieving LEED goals. To date, we have assisted over 50 new building projects, providing over \$630,000 in grants and technical assistance.

Existing Buildings: We provide technical design services to help building owners initiate and implement performance contracting projects. Services include a feasibility study for performance contracting, presentation to decision-makers, assistance through the procurement and contracting process, review of energy savings calculations and cost estimates, monitoring and verification plan development and review, and continuous professional oversight. We have facilitated over \$170 million in capital investment projects for over 80 clients.

Day-to-Day Operations: We provide a variety of training opportunities to educate maintenance staff to be effective energy managers, including monthly webinars for school district facilities staff and another dedicated to state government and higher education facilities staff, a series of four full-day workshops on the latest approaches to energy management (LEED-NC, LEED-EB, commissioning, and performance contracting), and customized technical support.

To support the three areas, we have developed a variety of resources. The focus on performance contracting has enabled OEMC to leverage over \$50 in capital investment in energy-saving projects for every \$1 spent on program staff, contractors and other costs. This also enabled comprehensive projects to achieve deep energy savings of 20 to 30 percent for all buildings under the same ownership and established both performance contracting and commissioning as standard processes.