Sustainable Energy in Colorado

Clean, Safe Energy That's Renewable and Efficient

Did you know... that over the past 20 years, the price of photovoltaic-generated power has dropped dramatically from $15 per kilowatt-hour in 1975 to less than 25 cents per kilowatt-hour today; the cost of wind energy has dropped over 50%?

And... that Colorado is second only to Texas (which has twice the land area) in having the best wind and solar resources?

Jobs in Sustainable Energy

The U.S. Department of Energy's (DOE's) National Renewable Energy Laboratory (NREL) leads the nation in research, development, and lab-scale demonstration of sustainable energy technologies. More than 800 people are employed at the Laboratory in Golden, Colorado. In 1996, the total amount of salaries paid to NREL employees was more than $45 million. Since 98 percent of employees live in Colorado, most of that money is pumped back into Colorado's economy.

NREL's many programs help facilitate technology deployment with interested consumers and potential partners from industry, business, academia, and the global community. NREL's technologies are clean and green. They include:

- Photovoltaics
- Wind
- Biofuels
- Biomass power
- Hydrogen
- Superconductivity
- Solar thermal
- Geothermal
- Hybrid vehicles
- Building energy systems
- Industrial applications of solar power.

DOE's Federal Energy Management Program (FEMP) activities could add 215 jobs each year and save people in Colorado almost $12 million in annual energy costs.

Of the 30 spin-off companies formed from NREL-developed technologies, 15 are located in Colorado. More than $15 million was also awarded to various Colorado organizations in research contracts, service subcontracts, and procurements.

Clean Energy = Clean Environment

The clean electricity generated from renewable energy sources in Colorado from both utility and nonutility generators displaces about 456 tons of carbon dioxide (measured in carbon units) that would be emitted by coal-fired power plants.

Between March 1996 and March 1997, the U.S. Environmental Protection Agency's Green Lights and Energy Star programs helped save 150 million kilowatt-hours of energy in Colorado. This saved consumers in the state at least $9 million in energy bills and prevented 174,165 tons of carbon dioxide from entering the atmosphere. Projected cost savings through the year 2000 resulting from energy investments already made is $40 million.

Economic Benefits

In 1996, the Office of Energy Efficiency and Renewable Energy (EE) invested $90 million in Colorado. Colorado's consumer energy cost savings from EE research and development products are estimated to be over $400 million.[1]

- One hundred thirty-two businesses in Colorado specialize in renewable energy-related products and services.
- State weatherization programs, aided by federal funding from DOE, helped about 1,500 low-income and other disadvantaged Colorado families last year.
- An innovative solar energy technology had its first commercial application in the state at a new Federal Express distribution facility in Littleton, Colorado. This technology, the transpired solar collector, preheats incoming ventilation air, thus

reducing the building's heating costs and the need to burn fossil fuels.

- Through a $141,000 cost-shared project, the Senior Resource Center of Jefferson County will implement the first Denver-area field test for the NREL transit-on-demand system. This project will improve transportation service for local senior citizens and the physically challenged, while helping to reduce energy use, air pollution, and traffic congestion.

- In Florissant, the Four-Mile Emergency Service uses solar energy for water and space heating, as well as a photovoltaic array for lighting, electricity, and pump operations.
- Solarsource, a program that will give Colorado residents a chance to power their homes with photovoltaic systems, is now being offered by Public Service Company of Colorado (PSCo).
- More than 7,000 residential customers and at least 50 businesses have opted to receive power from PSCo's new wind energy program, "*Wind*source."
- The state's first commercial wind farm, to be run by PSCo, will begin operation with 7 of its 17 wind turbines in June 1998. The remaining 10 turbines should be operational by fall 1998.
- Colorado Governor Roy Romer has issued an executive order committing the State of Colorado to the goal of significantly increasing its use of renewable energy. The governor's mansion will be powered by wind energy offered through PSCo's "*Wind*source."

Want More Information?

Office of Energy Conservation Consumer Hotline:
800-OEC-6662 (in Colorado) or
(303) 620-4284 (metro Denver)

Energy Efficiency and Renewable Energy Clearinghouse (EREC)
800-363-3732
http://www.eren.doe.gov

National Renewable Energy Laboratory (NREL)
http://www.nrel.gov
800-644-NREL

Federal Energy Management Program (FEMP)
http://www.eren.doe.gov/femp/

National Association of State Energy Officials
http://www.naseo.org/

U.S. Environmental Protection Agency's (EPA) Green Lights and Energy Star
http://www.epa.gov/energystar.html

[1]Based on a GAO review and validation of the energy savings of EE research and development success stories.

Questions?
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National Renewable Energy Laboratory
NREL is a national laboratory of the U.S. Department of Energy (DOE), managed for DOE by Midwest Research Institute

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