

Sustainable Energy

*Clean, Safe Energy That's
Renewable and Efficient*

in Nevada

***Did you know ...
that the price of
photovoltaic
electricity has
dropped
dramatically
from \$15 per
kilowatt-hour in
1975 to less
than 25¢ per
kilowatt-hour
today; the cost
of wind energy
has dropped
over 50%?***

***And...
that Nevada
ranks second in
the nation in per
capita electricity
generation from
renewable
resources
(excluding
hydropower),
with renewables
making up
about 10% of
the state's total
consumption?***

Jobs in Sustainable Energy

The U.S. Department of Energy's (DOE's) National Renewable Energy Laboratory (NREL) leads the nation in research and development and lab-scale demonstration of sustainable energy technologies. In FY 1997, a total of \$4,355 in research contracts, service subcontracts, and procurements was awarded to Nevada organizations by NREL to develop renewable energy and energy efficiency technologies.

NREL's many programs help facilitate technology development with interested consumers and potential partners from industry, business, academia, and the global community. NREL's technologies, which are clean and green, 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 64 jobs each year and save people in Nevada \$3.4 million in annual energy costs.

Clean Energy = Clean Environment

The clean electricity generated from renewable energy sources in Nevada from both utility and nonutility generators displaces about 701 tons of carbon dioxide per year (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 50 million kilowatt-hours of energy in Nevada. This saved consumers in the state at least \$3 million in energy bills and prevented more than 50 million pounds of carbon dioxide from entering the atmosphere. Projected savings through the year 2000 resulting from energy investments already made is \$11 million.

Economic Benefits

In FY 1996, DOE's Office of Energy Efficiency and Renewable Energy (EE) invested \$3.7 million in Nevada. Nevada's consumer energy cost savings from EE research and development products are estimated to be more than \$165 million.¹

- Thirty-two businesses in Nevada specialize in renewable energy-related products and services.
- State weatherization programs, aided by federal funding from DOE, helped at least 221 low-income and other disadvantaged Nevada families last year.
- DOE and NREL have signed a memorandum of understanding that frames NREL's assistance to the Corporation for Solar Technology and Renewable Resources (CSTRR). CSTRR is a not-for-profit corporation created in 1995 to develop a Solar Enterprise Zone in Nevada, an area that includes the Nevada Test Site, a Department of Defense facility better known for its cold-war role in the testing of nuclear weapons. CSTRR's mission is to develop a market

*Did you know...
that Nevada
generates more
geothermal
electric power
per capita than
any other state?*

*And...
that Nevada is
a net energy
exporter,
meaning that
more electricity
goes out of the
state than
comes in?*

and build a commercial facility capable of generating 100 megawatts of electricity from renewable energy technologies.

- The Nevada State Energy Office, with the support of an award from EE, is partnering with the Nevada Home Builders Association to develop a unique, multifaceted home energy rating system that maximizes market involvement, emphasizes partnerships with the state's housing industry, and stimulates a broad-based evolution in residential energy efficiency. Elements of the program include a uniform system for measuring energy use, energy efficiency courses for university professionals, and the incorporation of energy efficiency principles throughout the mortgage-underwriting process. The Nevada plan includes financial incentives for maximum performance and will lead to qualification of a larger number of potential new home buyers.
- The Caithness Steamboat Geothermal Power Plant provides a nonpolluting renewable resource to generate electric power and improve air quality and, consequently, public health. The plant generates electricity for about 12,500 homes in Reno's metropolitan and rural areas.
- Utilities throughout the country are using solar technologies as demand-side management (DSM) measures. Sierra Pacific Power, the local utility in Reno, is developing a DSM program designed to save natural gas. Sierra Pacific offers incentive payments to solar home builders to help offset the need for gas heating.
- Rocky Research in Boulder City is partnering with EE in a project to field test chemical heat pumps in a strategy to help

the industry develop a vision and technology roadmap to guide it into the next century. The project focuses on recovering polyurethane foam and iron particles, which comprise 23 percent of Automotive Shredder Residue (ASR) by weight and 75 percent of ASR by value. The materials value of the products that are recovered through these processes exceeds \$490 per ton of ASR.

Want More Information?

**Office of Energy Conservation
Consumer Hotline**
800-OEC-6662

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

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

**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>

¹Based 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

BR-24-712