Sustainable Energy in Alaska

Clean, Safe Energy That's Renewable and Efficient

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 Alaska uses more energy per person than any other state, with its energy use increasing 104% between 1980 and 1993?

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 $582,000 in research contracts, service subcontracts, and procurements was awarded to Alaska organizations by NREL. These funds will aid in the development of Alaska's excellent wind, biomass, and geothermal resources, which could potentially provide significant portions of the state's growing electricity needs. Alaska already derives more than a quarter of its electricity from renewable hydropower.

NREL's many programs help facilitate technology development with interested consumers and potential partners from industry, business, academia, and the global community. NREL's alternative energy 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.

Activities by DOE's Federal Energy Management Program (FEMP), the U.S. government's in-house energy management agency, have the potential to save Alaska $7 million in annual energy costs and create 134 jobs per year.

Clean Energy = Clean Environment

In 1995 (latest figures available), the Energy Information Administration estimated that 14,588 kilowatt-hours of electricity were generated by nonutility generators in Alaska from municipal solid waste landfill gas and 119,534 from wood and wood waste. These represent a total of 134,122 kilowatt-hours of electricity generated by clean and renewable energy sources.

The U.S. Environmental Protection Agency's (EPA's) Green Lights and Energy Star programs, by providing key information about energy-efficient products to businesses and consumers, can also involve the latter in helping to save Alaska's environment while saving money on their energy bills. Program participants are cutting their energy costs by 6 30 percent or more by using energy-efficient equipment.

Economic Benefits

The Alaska legislature funds an alternative energy loan fund, a maximum of $30,000 per project, with a 20-year repayment limit for the development of alternative energy projects that exclude fossil fuel and nuclear power.[1]

- There are 13 businesses in Alaska specializing primarily in renewable energy-related products and services.
- State weatherization programs, aided by federal funding from the U.S. Department of Energy, helped more than 465 low-income and other disadvantaged families in Alaska in FY 1997.
- Several energy efficiency and renewable energy projects are currently under way in Kotzebue. One cost-shared project involves the purchase, installation, and operational

And...

that unlike most states, Alaska neither exports nor imports energy from other states or countries?

operational monitoring of energy-efficient wind turbines. The $589,000 in DOE funds will be augmented by approximately $780,000 in state and local funds. The project will demonstrate how energy storage or productive uses, such as hot water, ice making, or space heating, can utilize excess capacity in high-wind situations.

- Kotzebue Wind Farm, a follow-on project, will define, test, and implement a control system for integrating wind and diesel energy. Another technology demonstration project in Kotzebue will use waste heat from powered refrigeration to reduce refrigeration electricity requirements by 70 percent.
- The Alaska Division of Energy received a three-year Rebuild America Program grant (implemented in Alaska as the Rural Alaskans Conserve Energy Program) in late 1996. This grant covers energy-use assessments in large buildings such as schools and public offices in communities participating in the Power Cost Equalization Program. Rebuild America energy auditors do walk-through assessments and provide building owners and managers with recommendations for energy-saving changes. Energy auditors also provide maintenance workers and building occupants with training on ways to save energy. These services are provided free of charge.

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

[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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