



Pillar Mountain (Kodiak, Alaska) Wind Farm Project

Photo by Carol Scott Photography

**A**laska Energy Authority (AEA) is a public corporation of the state. The Authority was created by the Alaska Legislature in 1976 in order to reduce the cost of energy in Alaska. AEA's major programs include:

### Renewable Energy Fund

The Alaska State Legislature created the \$250 million Renewable Energy Fund (REF) in 2008. This legislation placed Alaska at or near the forefront of the 50 states in funding for renewable energy. The Legislature authorized AEA to manage the REF project application process, project evaluations, recommendations, completion of grant agreements, and disbursement of funds to grantees. Following AEA's recommendations, the 26th Legislature in the 2009 session approved 107 renewable energy projects totaling \$125 million. In February 2010, AEA completed its REF

*"We are in the beginning stages of a journey that requires focus, determination, innovation, and balanced risk-taking. We are striving to reduce our reliance on fossil fuels by looking at local resources as a way to stabilize energy costs."*

**Steve Haagenson**

Round III evaluations and provided the Legislature its recommendation for funding up to 90 projects totaling \$65.8 million.

### Alternative Energy and Energy Efficiency Program

AEA's Alternative Energy and Energy Efficiency (AEEE) program currently manages and funds projects and initiatives totaling \$157 million in state and federal funding (activity substantially



Northern Power Systems

100 kW Northwind 100 Wind Turbine Installation, Toksook Bay

increased after REF implementation). This program promotes the use of renewable resources as alternatives to fossil fuel-based power and heat. It also promotes measures to improve energy production and end-use efficiency. In rural areas, the program may support developing local sources of coal and natural gas as diesel alternatives. The



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AEER program is divided into eight separate program areas: Alaska Energy Inventory; Biomass Energy; Diesel Generation Efficiency; End Use Efficiency (Conservation); Geothermal; Hydroelectric; Ocean and River Energy; and Wind.

### **Bulk Fuel Upgrades Program**

Presently, Alaska's remote communities rely on diesel fuel for heating and power generation. Many rural bulk fuel tank farms were constructed more than 20 years ago and are in poor condition. With substantial contributions from the Denali Commission, AEA's Bulk Fuel Upgrades Program undertakes the design and construction of modern, code-compliant bulk fuel facilities in rural Alaska. As of February 2010, bulk fuel upgrades have been completed in 89 communities. Approximately 29 communities await upgrades.

### **Rural Power Systems Upgrade Program**

Electricity provides for lighting, communications, heat, and power necessary to operate infrastructure that supports all other elements needed in any community to permit safe and healthy living conditions. In rural communities throughout Alaska, electricity is generated by a small, local system using diesel fuel at a cost often three to five times higher than in Alaska's urban areas. AEA's Rural Power Systems Upgrade Program (RPSU) concentrates on powerhouse and electrical distribution upgrades. Energy efficiency, reliability, safety, and sustainability are primary drivers during the conceptual design, final design, and construction process. Identification of available renewable energy and interoperability is high priority. As of February 2010, 44 communities have received upgrades; 47 communities remain.

### **Loan Programs**

- **Power Project Fund:** This program provides loans to local utilities, local governments, or independent power producers for the development or upgrade of electric power facilities, including conservation, bulk fuel storage, and waste energy conservation.
- **Bulk Fuel Revolving Loan Fund:** This program assists communities, utilities, or fuel retailers in rural communities with purchasing emergency, semi-annual, or annual bulk fuel supplies.

### **Power Cost Equalization Program**

AEA's Power Cost Equalization (PCE) Program provides economic assistance to customers in rural areas of Alaska where the kilowatt-hour charge for electricity can be three to five times higher than the charge in more urban areas of the state. PCE

## HIGHLIGHTS

Published **ALASKA ENERGY—A FIRST STEP TOWARD ENERGY INDEPENDENCE**. Continuing development of the Alaska Energy Plan ([http://www.akenergyauthority.org/alaska\\_energy.html](http://www.akenergyauthority.org/alaska_energy.html)).

Launched **RENEWABLE ENERGY FUND GRANTS PROGRAM**. Administering Rounds I and II Project development. Submitted REF Round III recommendations to Alaska Legislature ([http://www.akenergyauthority.org/RE\\_Fund-III.html](http://www.akenergyauthority.org/RE_Fund-III.html)).

Teamed with Alaska Department of Natural Resources (DNR) to launch **ALASKA ENERGY DATA INVENTORY** (<http://akenergyinventory.org/>).

In response to a directive from the Alaska Legislature, AEA led the effort to prepare a **REGIONAL INTEGRATED RESOURCE PLAN** Alaska's Railbelt Region (<http://www.akenergyauthority.org/regionalintegratedresourceplan.html>).

Managing **ALASKA SMALL CITIES ENERGY EFFICIENCY AND CONSERVATION BLOCK GRANTS** (<http://www.akenergyauthority.org/eecbg.html>).

only pays a portion of approximately 30% of all kWh's sold by the participating utilities.

PCE fundamentally improves Alaska's standard of living by helping rural areas maintain the availability of communications and the operation of basic infrastructure and systems, including water and sewer, incinerators, heat, and light. PCE is a core element underlying the financial viability of centralized power generation in rural communities.

### **Technical Assistance Program**

This program provides training, consultation, and on-site technical assistance to rural utilities for the operation and maintenance of their electrical generation and distribution systems. Through this program, AEA helps communities improve the efficiency, safety, and reliability of their power systems and reduce the risk and severity of emergency conditions. The ability a community has and the methods it uses to maintain and operate its powerhouse have a significant impact on efficiency. Operator training, parts availability, automatic system monitoring, data trending, and data analysis along with proper maintenance are key factors in keeping reliability, efficiency, and performance high.

### **Training Program**

AEA and the Denali Commission Training Fund provide training to rural Alaskans to ensure that local residents have the best skills with which to sustain their energy infrastructure in a business-like manner.