

AVEC's Wind Power Program Recap  
March 2010

Alaska Village Electric Cooperative (AVEC) continues to expand its fleet of wind turbines with the installation of 1,200 kW of additional capacity in the past year for a total of 2,564 kW. AVEC owned 1,364 kW of wind generation at the end of 2008.

New additions include wind turbines installed in the villages of Chevak, Mekoryuk, Gambell and Quinhagak. These new projects are currently in the testing and commissioning stage and will be fully functional after new internal software and controls are installed in 2010.

AVEC has installed wind generation capacity in these communities: Toksook Bay – 300 kW (with tielines to Nightmute and Tununak); Kasigluk – 300 kW (with a tieline to Nunapitchuk); Selawik – 264 kW; Savoonga – 200 kW; Hooper Bay – 300 kW; Chevak – 400 kW; Gambell – 300 kW; Mekoryuk – 200 kW; Quinhagak - 300 kW; and Wales – 130 kW (owned by Kotzebue Electric).

Plans for this year include the installation of one additional wind turbine in Toksook Bay and two turbines in Shaktoolik. Final design is underway for the installation of 800 kW of alternative energy in Emmonak with a possible intertie to Alakanuk.

Net wind production in 2009 totaled over 1,926,649 kWh, which displaced nearly 147,000 gallons of diesel fuel that would have been burned for power generation. At AVEC's average 2009 fuel cost of \$3.00 per gallon, this represents a savings of \$441,000.

When the new additions are fully integrated and operational, AVEC estimates that another 3.4 million kWh will be produced by wind and will displace an additional 251,852 gallons of fuel used for power generation. At 2009 average costs of \$2.99 per gallon, this would be an additional savings of \$753,000.

In 2009 AVEC purchased 5,100,360 gallons of fuel and hopes to replace 25% of this amount by 2018 through use of efficiency improvements and renewable energy.

As a major component of the planning phase of these projects, AVEC has operated or installed meteorological towers erected in the communities of Emmonak, St. Mary's, Pitkas Point, Marshall, Mountain Village, Teller and Old Harbor to assess the quality of the wind resource and determine if each location will economically support wind power generation. Additional resource assessment projects are planned to begin in other AVEC communities in 2010.

These projects are made possible thanks to funding assistance received from a variety of organizations, including the Denali Commission, Coastal Villages Region Fund, State of Alaska and the U.S.D.A. Rural Utilities Service. We continue to pursue alternative funding sources as well