# State grants are Bush boon

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ECONOMY

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When government does things right, it's worth a pat on the back.



With that in mind, let's give credit to our Alaska Energy Authority, state legislators and Gov. Sean Parnell, who have given steady support to a renewable energy grant program aimed mainly at helping small rural villages.

The program is already reducing these communities' reliance on costly diesel for power generation and space heating. It's a worthy public investment because reducing the amount rural Alaskans spend on diesel keeps cash at home, strengthening the local village economy.

It's also good for the state's larger cities, including Anchorage, because rural residents will have more money to spend on purchases here. Money stays in Alaska rather than going to purchase oil from countries that are sometimes unfriendly.

Legislators designed the program to last three years, with $250 million in grants to be allocated. We're now two years into the three years.

So far the energy authority has approved $150 million in state funds for 124 projects around the state. By the end of this year the number should be up to 180 projects.

Local partners, and local matching funds, are required, so the actual amounts being spent are higher because of the local contributions, which vary.



The Legislature will consider another $50 million in projects next year, the third and final year.

Considering just the projects completed now, there will be annual savings of 2.5 million gallons of fuel that won't have to be purchased. As more projects are completed, by the end of 2012 the savings will be 8 million gallons per year, increasing to 9 million gallons yearly the following year.

Assuming an average delivered fuel cost of $5 per gallon (the actual prices are higher, no doubt), 9 million gallons a year saved adds $45 million dollars a year to the purchasing power of rural villagers.

If the Legislature completes the third year of funding and the governor approves it, the fuel savings will grow.

This is something to be proud of. Alaska now has the largest renewable energy development program of any state, and it appears to be the only state program aimed at small projects in rural areas.

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The bulk of these are small wind and hydro projects but there are innovative wood-heat and even solar projects. Yes, the sun does shine, even at northern latitudes.

Finding substitutions for diesel is only part of this story. Energy conservation is the cheapest and easiest way to reduce diesel use and the energy authority also has programs under way to upgrade the efficiency of local power plants, many of which are aged, and help communities retrofit public buildings.

So far, efficiency programs, funded with a mix of loans and grants, have reduced electrical use in villages by an average of 4.5 percent. This is power that would otherwise have to be generated, mostly with diesel.

The renewable energy grant program is set to end in another year but it's interesting to consider the possibilities of an extended and truly aggressive renewable energy program for rural Alaska.

The energy authority has charted a path that through a mix of conservation, power plant efficiency improvements and local renewable energy projects could reduce -- to a startling degree -- the use of diesel to generate power in rural communities. And there would be additional reductions in diesel used for space heating.

Here are the numbers: The authority believes 35 million gallons per year now used for power generation could be reduced to 7.5 million gallons. Diesel used for space heating could be cut from the 60 million gallons per year used currently to 35 million gallons.

Between the two, that's a combined reduction of 62.5 million gallons of diesel yearly. That's an annual savings of $312 million per year, and an equal increase in rural residents' income for other purchases.

These numbers and how they were calculated are in the authority's new booklet, "Alaska Energy Pathways," in which the energy authority lays out the state's energy strategies and goals.

All this doesn't mean the authority is focused only on rural Alaska, or that the state won't pursue bigger renewable energy projects like a hydro facility at Watana, north of Anchorage, or Chackachamna, west of the city.

Last year the energy authority worked with regional electric utilities to develop an Integrated Resource Plan for new power projects needed for Southcentral and Interior Alaska, which include provisions for a large hydro project.

The state already has a substantial hydro development track record. In the 1980s, a number of large projects were built in Southeast Alaska and near Homer. These facilities, which include the Bradley Lake project near Homer, provide Alaskans with the lowest-cost power available.

Back to my point: These projects show government can do things right. And it can be done again.

Tim Bradner writes for an Alaska economic reporting service. He also consults for private clients and writes for business publications. His opinion column appears every month in the Anchorage Daily News.



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# Gustavus celebrates diesel-free power

**Posted:** Sunday, June 27, 2010

By PAT FORGEY

GUSTAVUS - Gustavus no longer looks to Juneau, Sitka and Ketchikan and envies their cheap and plentiful hydroelectric power.

Instead, other Southeast Alaska communities are looking towards Gustavus and wondering whether they can do what the Icy Strait city did: Overcome decades-long hurdles, and replace its diesel generators with cheap, clean and plentiful hydroelectric power.

The community recently held a public celebration of its new Falls Creek Hydroelectric Project, which last year began providing all of Gustavus' power.

"It feels nothing short of wonderful," said Dick Levitt, president of the Gustavus Electric Co.

"Dick is the reason this finally got done," said Rep. Bill Thomas, a Haines Republican and a commercial fisherman.

Thomas said Levitt's lobbying efforts brought together multiple agencies and funding sources. Others at the celebration included state and federal officials who oversaw or funded the project, and representatives from neighboring utilities, including Juneau, each working on or already using similar projects.

Gustavus' diesel generators cost 74 cents per kilowatt-hour to produce power during the peak of fuel prices, with a more recent price of 39 cents per kwh. Falls Creek will bring that cost to under 20 cents.

While Gustavus now has surplus power, it didn't come either cheaply or easily. The total cost of the project was $8.2 million, Levitt said.

"Grants paid everything but $1.3 million, and we'll be paying that over time," he said.

State and federal agencies provided the grant money, with the largest part coming from the federally funded Denali Commission.

Gustavus also overcame the hurdle of acquiring the hydroelectric site. Originally within the boundaries of the nearby Glacier Bay National Park, a land trade provided state land elsewhere to the National Park Service in exchange for the site. And that took an act of Congress.

Then came the problem of getting to the location. Gustavus may be the flattest community in Southeast Alaska, and finding a site steep enough to produce power meant going into the nearby hills with an expensive three-mile road.

High in the forest, water enters a penstock where it flows down to the powerhouse after a fall of 600 feet that powers a turbine producing 800 kilowatts of power.

"When we finish with the water we put it back in the river as far upstream as we can," said Pedr Turner, construction superintendent on the project.

Returning the water to the river meant there was no impact to the salmon habitat, and fish screens on the intake also helped the project win environmental approvals, Gustavus Electric officials said.

While work is still being done on the project, it began producing power last July, and the diesel engines have been mostly silent since then.


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When the community toured the power house on June 18, it was producing only 250 kilowatts, all Gustavus needed at that time.

He said he hopes to use some of the surplus soon.

Gustavus isn't yet hooked up to the Park Service facilities at Bartlett Cove, but Levitt said the Park Service wants to make the connection and shut down its own diesels.

Levitt said they're also exploring creating an interruptible power rate for the Gustavus school, to enable it to save diesel by using electric heat when there is surplus available.

Levitt said that while the project had a high initial cost, it will produce immediate savings not only for residents, but the state.

In 2008, Gustavus Electric burned 132,000 gallons of diesel. The equalization program subsidized the first 500 kwh used per month for residences and community facilities. That year, about half of Gustavus Electric's sales were subsidized by the Power Cost Equalization program, at a cost of about $710 per customer.

Southeast Conference Energy Coordinator Robert Venables said other communities can learn from what Gustavus has accomplished, but public officials also need to find ways to make renewable energy easier to finance and develop.

Gustavus Electric's slogan is "Power for Generations," and Levitt said Falls Creek will be producing renewable power for generations to come.

"This project will be generating for Gustavus 100 years from now, when all of us are gone," he said.

He said he looks to Juneau, where Alaska Electric Light & Power's Annex Creek Plant, the utility's older hydroelectric project, has been producing power for more than 100 years.

"Hydro is expensive initially, but it's very cheap in the long run," Levitt said.

• Contact reporter Pat Forgey at 523-2250 or patrick.forgey@ juneauempire.com.

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**Renewable Energy**

# Alaska Co-op Rebuilds Hydro Plant

*By Derrill Holly | ECT Staff WriterPublished: July 5th, 2011*

Nearly five years after flash flooding ripped a co-op-owned hydroelectric project away from the banks of an Alaska creek, a larger, more efficient facility is producing electricity for its consumer-members.

Cordova Electric Cooperative's new Humpback Creek Hydrolectric Project is expected to meet 20 percent of its seasonal power demand. (Photo By: CEC)

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The Humpback Creek Hydroelectric Project is expected to meet up to 20 percent of Cordova Electric Cooperative's seasonal demand. That capacity, combined with the co-op's Power Creek hydroelectric facility, will boost overall hydroelectric capacity to 80 percent of the co-op's load.

"This is a $21 million investment for our co-op, but it is expected to offset the need for 370,000 gallons of diesel fuel a year," said Clay Koplin, CEO of the Cordova-based co-op. "This is energy that is generated in Cordova and is not subject to market fluctuations and barge logistics."

Humpback Creek has a long tradition of producing electricity for the small city of Cordova. The first hydroelectric facility began churning out power in 1909. In 1991, the co-op completed construction of a 1.2 megawatt plant on the creek at a cost of $11.5 million.

That facility was undergoing renovation following a 2005 fire when a major storm hit Oct. 10, 2006. During a 24-hour period, more than 24 inches of rain fell on the area, battering the site with an estimated 2 billion gallons of water. Concrete footings were eroded, the power house was heavily damaged, and much of the equipment was washed away.

Alaska Lt. Gov. Mead Treadwell (left) helps Cordova Electric's Clay Koplin, board chairman Hap Symmonds, state Rep. Bill Thomas, and Sen. Lisa Murkowski dedicate the co-op's hydroelectric facility. (Photo By: CEC)

This was a really violent flood. It washed a five ton transformer away from the site and downstream; a 500 pound transformer from the same facility was literally washed out to sea. It was discovered stuck in the mud during a low tide, more than one mile offshore, said Koplin.

The Federal Emergency Management Agency provided $5.3 million for the rebuilding project. The state of Alaska kicked in $8 million through its renewable energy grant program, and the co-op financed the balance.

"We expect to increase our power generating capacity by as much as 20 percent," said Koplin, following the June 11 dedication ceremony. "The 1,250-kilowatt facility can generate as much as 4 million kilowatt-hours of electricity per year."

Besides supplying the needs of the co-op's nearly 1,600 consumer-members, it is also expected to help meet the demand of seasonal seafood processing plants operating in the region, Koplin said. "This will provide good service to the Cordova community for generations to come."

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