

**HB**

**250**

<TARGET><BILL>HB 250</BILL><SUBJECT>HB  
250</SUBJECT><COMM>SFIN27</COMM></TARGET>

# SENATE FINANCE COMMITTEE REPORT

DATE: 3/21/12

FURTHER: Rules

DATE TURNED  
IN TO OFFICE: 4/7/12

**Finance Committee** considered CS FOR HOUSE BILL NO. 250(ENE)

## HB 250-EXTEND RENEWABLE ENERGY GRANT FUND

"An Act relating to the renewable energy grant fund and recommendation program; and providing for an effective date."

and recommends:

- be replaced with SCS CSHB 250 (FIN)  Same Title  Technical Title Change  
 SCS/CS- Forthcoming  New Title/SCR No. \_\_\_\_\_
- adopt previous SCS \_\_\_\_\_ )  Same Title  Technical Title Change  
 New Title/SCR No. \_\_\_\_\_
- attached amendment(s)
- adopt \_\_\_\_\_ Letter of Intent
- further referral to \_\_\_\_\_ Committee

| Dept Abbr. |     |
|------------|-----|
| ADM        | LEG |
| CED        | LAW |
| COR        | LWF |
| CRT        | MVA |
| EED        | DNR |
| DEC        | DPS |
| DFG        | REV |
| GOV        | DOT |
| DHS        | UA  |

| NEW FISCAL NOTE(S) |        |        |      |      |
|--------------------|--------|--------|------|------|
| Dept.              | Fiscal | Indet. | Zero | FN # |
|                    |        |        |      |      |
|                    |        |        |      |      |
|                    |        |        |      |      |
|                    |        |        |      |      |
|                    |        |        |      |      |
|                    |        |        |      |      |

| PREVIOUS FISCAL NOTE(S) |        |        |      |      |
|-------------------------|--------|--------|------|------|
| Dept.                   | Fiscal | Indet. | Zero | FN # |
| CED                     | ✓      |        |      | 2    |
|                         |        |        |      |      |
|                         |        |        |      |      |
|                         |        |        |      |      |
|                         |        |        |      |      |
|                         |        |        |      |      |
|                         |        |        |      |      |

APPROPRIATION - no fiscal note

| SIGNATURES AND RECOMMENDATIONS: | PRINTED LAST NAME | DO PASS | DO NOT PASS | NO REC | AMEND |
|---------------------------------|-------------------|---------|-------------|--------|-------|
|                                 | Thomas            | ✓       |             |        |       |
|                                 | Wcaque            | ✓       |             |        |       |
|                                 | Ellis             | ✓       |             |        |       |
|                                 | Olson             |         |             | ✓      |       |
| CO-CHAIR:                       | Hoffman           | ✓       |             |        |       |
| CO-CHAIR:                       | Stedman           | ✓       |             |        |       |

# FISCAL NOTE

**STATE OF ALASKA**  
**2012 LEGISLATIVE SESSION**

Bill Version CSHB 250(ENE)  
 Fiscal Note Number 2  
 (H) Publish Date 3/15/12

Identifier (file name) HB250-DCCED-AEA-03-14-12 Dept. Affected DCCED  
 Title Extend Renewable Energy Grant Fund Appropriation Alaska Energy Authority  
 Allocation AEA Statewide Project Dev and AEE  
 Sponsor Representatives Thomas, P.Wilson, Millett  
 Requester House Finance Committee OMB Component Number 2888

**Expenditures/Revenues**

(Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

|                               | FY13<br>Appropriation<br>Requested | Included in<br>Governor's<br>FY13<br>Request | Out-Year Cost Estimates |                |                |                |                |                |
|-------------------------------|------------------------------------|--|-------------------------|----------------|----------------|----------------|----------------|----------------|
|                               |                                    |  | FY13                    | FY14           | FY15           | FY16           | FY17           | FY18           |
| <b>OPERATING EXPENDITURES</b> |                                    |  |                         |                |                |                |                |                |
| Personal Services             |                                    |  |                         |                |                |                |                |                |
| Travel                        |                                    |  |                         |                |                |                |                |                |
| Services                      |                                    | 2,155.0                                      | 2,155.0                 | 2,155.0        | 2,155.0        | 2,155.0        | 2,155.0        | 2,155.0        |
| Commodities                   |                                    |  |                         |                |                |                |                |                |
| Capital Outlay                |                                    |  |                         |                |                |                |                |                |
| Grants, Benefits              |                                    |  |                         |                |                |                |                |                |
| Miscellaneous                 |                                    |  |                         |                |                |                |                |                |
| <b>TOTAL OPERATING</b>        | <b>0.0</b>                         | <b>2,155.0</b>                               | <b>2,155.0</b>          | <b>2,155.0</b> | <b>2,155.0</b> | <b>2,155.0</b> | <b>2,155.0</b> | <b>2,155.0</b> |

| <b>FUND SOURCE</b> |                  | (Thousands of Dollars) |                |                |                |                |                |                |
|--------------------|------------------|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1002               | Federal Receipts |                        |                |                |                |                |                |                |
| 1003               | GF Match         |                        |                |                |                |                |                |                |
| 1004               | GF               | (155.0)                | 155.0          |                |                |                |                |                |
| 1173               | GF MisEarn (UGF) | (2,000.0)              | 2,000.0        |                |                |                |                |                |
| 1210               | Ren Energy (DGF) | 2,155.0                |                | 2,155.0        | 2,155.0        | 2,155.0        | 2,155.0        | 2,155.0        |
| 1178               | temp code (UGF)  |                        |                |                |                |                |                |                |
| <b>TOTAL</b>       |                  | <b>0.0</b>             | <b>2,155.0</b> | <b>2,155.0</b> | <b>2,155.0</b> | <b>2,155.0</b> | <b>2,155.0</b> | <b>2,155.0</b> |

| <b>POSITIONS</b> |  |  |  |  |  |  |  |  |
|------------------|--|--|--|--|--|--|--|--|
| Full-time        |  |  |  |  |  |  |  |  |
| Part-time        |  |  |  |  |  |  |  |  |
| Temporary        |  |  |  |  |  |  |  |  |

| <b>CHANGE IN REVENUES</b> |  |  |  |  |  |  |  |  |
|---------------------------|--|--|--|--|--|--|--|--|
|                           |  |  |  |  |  |  |  |  |

**Estimated SUPPLEMENTAL (FY12) operating costs** 0.0 (separate supplemental appropriation required)  
 (discuss reasons and fund source(s) in analysis section)

**Estimated CAPITAL (FY13) costs** 0.0 (separate capital appropriation required)  
 (discuss reasons and fund source(s) in analysis section)

**Why this fiscal note differs from previous version (if initial version, please note as such)**

This fiscal note realigns the fund sources available to cover the costs of administering the renewable energy grant fund program. This fiscal note reflects a reduction of general fund and miscellaneous earning included in the FY2013 Governor's budget request and identifies earnings available from the Renewable Energy Fund as the alternate funding source.

Prepared by Sara Fisher-Goad, Executive Director  
 Division Alaska Energy Authority  
 Approved by Susan K. Bell, Commissioner  
Commerce, Community, and Economic Development

Phone 907-771-3000  
 Date/Time 3/14/12 12:00 PM  
 Date 3/14/2012

FISCAL NOTE #2

STATE OF ALASKA  
2012 LEGISLATIVE SESSION

BILL NO. CSHB 250(ENE)

**Analysis**

This legislation adds legislative intent language related to the continuation of the renewable energy grant fund and recommendation program (AS.42.45.045) at funding levels of \$50 million each fiscal year to be appropriated to the renewable energy grant fund for projects recommended by the Alaska Energy Authority (AEA); and extends the program an additional 5 years to June 30, 2018.

Costs of Administering the Fund:

The renewable energy grant fund and recommendation program was established by legislation for the fiscal year ending June 30, 2009 (HB152 SLA 2008 CH 31). The associated fiscal note provided an increment of \$226.0 GF for the first year and \$155.0 GF for subsequent years through FY2013 to AEA's Statewide Project Development and AEE component. The \$155.0 increment represented the costs associated with a new grant manager and advisory committee costs. This GF increment is included in the FY2013 Governor's budget request (Fund Code 1004).

Starting in FY2011, investment earnings on the renewable energy grant fund, not to exceed \$2 million, were appropriated to AEA for the costs of administering the renewable energy grant fund and recommendation program (FY2011: SB230 SLA 2010 CH 43 Sec 28 Pg 160 Lines 26-29; FY2012: HB108 FSSLA 2011 CH 3 Sec 13 Pg 72 Lines 2-4). The FY2013 Governor's budget request includes a request for a continuation of this funding through miscellaneous earnings (Fund Code 1173).

In FY2011, the actual costs of administering the renewable energy grant fund and recommendation program were \$1.2 million. Estimated costs for FY2012 are \$1.8 million. Costs include AEA project management, grant management, as well as finance and administrative support. Costs also include contractual services related to the technical analysis and evaluation of applications and project proposals. At June 30, 2011, four renewable energy fund application periods were complete; \$150 million had been appropriated for 133 renewable energy projects and approximately 126 grants were being managed. In FY2012, \$36.6 million was appropriated for an additional 74 projects (\$36.6 million included \$10 million of re-allocated funds).

AEA has projected the net investment earnings on the Renewable Energy Fund through FY2018 to determine whether earnings on the Fund would be available to support the costs of administering the program. Based on certain assumptions made on funding levels, cash outflows and an average net return on investments of 3.2%, we project that the net investment earnings will support the costs of administering the funds through FY2018. Additionally, an accumulation of investment earnings on the fund in FY2009 and FY2010 prior to appropriation to AEA for administrative costs are available.

This fiscal note assumes a continuation of current funding levels estimated at up to \$2.2 million annually for the costs of administering the renewable energy grant fund and recommendation program and reflects a reduction of general fund and miscellaneous earnings included in the FY2013 Governor's budget request being replaced by earnings available from the Renewable Energy Fund.

**SENATE CS FOR CS FOR HOUSE BILL NO. 250(FIN)**

**IN THE LEGISLATURE OF THE STATE OF ALASKA**

**TWENTY-SEVENTH LEGISLATURE - SECOND SESSION**

**BY THE SENATE FINANCE COMMITTEE**

**Offered:  
Referred:**

**Sponsor(s): REPRESENTATIVES THOMAS, PEGGY WILSON, AND MILLETT, Austerman, Edgmon, Herron, Miller, Petersen, Gara, Tuck, Cissna, Tammie Wilson, Guttenberg, Costello, Seaton, Pruitt, Munoz, Lynn, Kawasaki, Saddler, Gruenberg, Johnson**

**SENATORS Hoffman, Stedman, Thomas, Egan, Davis, McGuire, Meyer, Ellis, Menard, Paskvan, Dyson, Wagoner, Stevens**

**A BILL**

**FOR AN ACT ENTITLED**

1 **"An Act relating to the renewable energy grant fund and recommendation program;**  
2 **and providing for an effective date."**

3 **BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

4 **\* Section 1.** The uncodified law of the State of Alaska is amended by adding a new section  
5 to read:

6 LEGISLATIVE INTENT. It is the intent of the legislature that, each fiscal year for the  
7 next 10 fiscal years, \$50,000,000 be appropriated to the renewable energy grant fund for  
8 projects recommended by the Alaska Energy Authority under AS 42.45.045.

9 **\* Sec. 2.** AS 42.45.045(i) is amended to read:

10 (i) An advisory committee is established and consists of nine [SEVEN]  
11 members, appointed as follows:

12 (1) five members shall be appointed by the governor to staggered  
13 three-year terms, with one representative to be appointed from each of the following  
14 groups:

1 (A) small Alaska rural electric utilities;  
2 (B) large Alaska urban electric utilities;  
3 (C) Alaska Native organizations;  
4 (D) businesses or organizations engaged in the renewable  
5 energy sector; and

6 (E) the Denali Commission established under P.L. 105-277, 42  
7 U.S.C. 3121 note;

8 (2) two members [ONE MEMBER] of the house of representatives  
9 shall be appointed by the speaker of the house of representatives; and

10 (3) two members [ONE MEMBER] of the senate shall be appointed  
11 by the president of the senate.

12 \* **Sec. 3.** Section 5, ch. 31, SLA 2008, is amended to read:

13 Sec. 5. AS 42.45.045 is repealed June 30, 2023 [2013].

14 \* **Sec. 4.** This Act takes effect immediately under AS 01.10.070(c).

27-LS1060X  
Nauman  
3/29/12

Adopted 4/7/12

SENATE CS FOR CS FOR HOUSE BILL NO. 250(FIN)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SEVENTH LEGISLATURE - SECOND SESSION

BY THE SENATE FINANCE COMMITTEE

Offered:  
Referred:

Sponsor(s): REPRESENTATIVES THOMAS, PEGGY WILSON, AND MILLETT, Austerman, Edgmon, Herron, Miller, Petersen, Gara, Tuck, Cissna, Tammie Wilson, Guttenberg, Costello, Seaton, Pruitt, Muñoz, Lynn, Kawasaki, Saddler, Gruenberg, Johnson

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14 groups:

1  
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14

- (A) small Alaska rural electric utilities;
- (B) large Alaska urban electric utilities;
- (C) Alaska Native organizations;
- (D) businesses or organizations engaged in the renewable energy sector; and
- (E) the Denali Commission established under P.L. 105-277, 42 U.S.C. 3121 note;

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\* **Sec. 3.** Section 5, ch. 31, SLA 2008, is amended to read:

Sec. 5. AS 42.45.045 is repealed June 30, **2023** [2013].

\* **Sec. 4.** This Act takes effect immediately under AS 01.10.070(c).



## REPRESENTATIVE BILL THOMAS

ALASKA STATE LEGISLATURE DISTRICT 5

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webpage: [www.akrepublicans.org/thomas/](http://www.akrepublicans.org/thomas/)

State Capitol

Juneau AK, 99801-1182

907-465-3732

888-461-3732

FAX 907-465-2652

### Sponsor Statement for HB 250 Relating to the Renewable Energy Fund and Recommendation Program

In 2008, the Alaska Legislature passed HB 152 which established an energy fund for renewable projects across the state. Since then, the program has gone through four rounds of grant applications and issued grants for more than 200 renewable energy projects across the state. With an emphasis towards issuing grants for those who see the highest energy costs, these grants have had a significant impact in the cost of energy for many small communities who otherwise would be totally dependent on diesel fuel.

AEA, along with the Renewable Energy Fund Advisory Committee, evaluates each grant application based on various criteria including the current cost of energy in the area, availability of matching funds, and the overall feasibility of the project. By 2013 it is estimated that the Renewable Energy Grant Fund will displace six million gallons of diesel fuel each year.

The program is set to expire in 2013. HB 250 reauthorizes the program until 2018. It also continues the legislative intent that was made in 2008 to fund the program at \$50,000,000 a year.

I urge your support of HB 250.



## REPRESENTATIVE BILL THOMAS

ALASKA STATE LEGISLATURE DISTRICT 5

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State Capitol

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FAX 907-465-2652

### AS 44.99.115. Declaration of state energy policy.

The State of Alaska recognizes that the state's economic prosperity is dependent on available, reliable, and affordable residential, commercial, and industrial energy to supply the state's electric, heating, and transportation needs. The state also recognizes that worldwide supply and demand for fossil fuels and concerns about global climate change will affect the price of fossil fuels consumed by Alaskans and exported from the state to other markets. In establishing a state energy policy, the state further recognizes the immense diversity of the state's geography, cultures, and resource availability. Therefore, it is the policy of the state to

(1) institute a comprehensive and coordinated approach to supporting energy efficiency and conservation by

(A) encouraging statewide energy efficiency codes for new and renovated residential, commercial, and public buildings;

(B) decreasing public building energy consumption through conservation measures and energy-efficient technologies; and

(C) initiating and supporting a program to educate state residents on the benefits of energy efficiency and conservation, including dissemination of information on state and federal programs that reward energy efficiency;

(2) encourage economic development by

(A) **promoting the development of renewable and alternative energy resources, including geothermal, wind, solar, hydroelectric, hydrokinetic, tidal, and biomass energy, for use by Alaskans;**

(B) promoting the development, transport, and efficient use of nonrenewable and alternative energy resources, including natural gas, coal, oil, gas hydrates, heavy oil, and nuclear energy, for use by Alaskans and for export;

(C) working to identify and assist with development of the most cost-effective, long-term sources of energy for each community statewide;

(D) creating and maintaining a state fiscal regime and permitting and regulatory processes that encourage private sector development of the state's energy resources; and

(E) promoting the efficiency of energy used for transportation;

(3) support energy research, education, and workforce development by investing in

(A) training and education programs that will help create jobs for Alaskans and that address energy conservation, efficiency, and availability, including programs that address workforce development and workforce transition; and

(B) applied energy research and development of alternative and emerging technologies, including university programs, to achieve reductions in state energy costs and stimulate industry investment in the state;

(4) coordinate governmental functions

(A) by reviewing and streamlining regulatory processes and balancing the economic costs of review with the level of regulation necessary to protect the public interest;

(B) by using one office or agency, as may be specified by law, to serve as a clearinghouse in managing the state's energy-related functions to avoid fragmentation and duplication and to increase effectiveness; and

(C) by actively collaborating with federal agencies to achieve the state's energy goals and to meet emissions, renewable and alternative energy, and energy production targets.

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## State grants are Bush boon

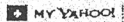
TIM BRADNER  
ECONOMY

Published: November 20th, 2010 07:01 PM  
Last Modified: November 20th, 2010 07:02 PM

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

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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.

### More Tim Bradner stories >>

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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](mailto:patrick.forgey@juneauempire.com).


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## [Renewable Energy](#)

### **Alaska Co-op Rebuilds Hydro Plant**

*By Derrill Holly | ECT Staff Writer* *Published: 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 Hydroelectric 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 Koplín, 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 Koplín, 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 Koplín.

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 Koplín, 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, Koplín said. "This will provide good service to the Cordova community for generations to come."

Tags: [Federal Emergency Management Agency](#), [Flooding](#), [Hydroelectric Power](#), [Renewable Energy](#)

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217 Second Street, Suite 200 • Juneau, Alaska 99801

Tel (907) 586-1325 • Fax (907) 463-5480 • [www.akml.org](http://www.akml.org)

February 27, 2012

House Finance  
State Capitol Building  
Juneau, Alaska 99811

Dear House Finance Members;

The Alaska Municipal League is in full support of HB 250. The expiration of a program that has been so successful would be very destructive to the State of Alaska, as over 200 renewable energy projects throughout the State of Alaska have been granted funds. The economic boon to those communities has been tremendous, as diesel fuel is no longer affordable by most small communities.

The Alaska Municipal League has closely watched those communities that have been fortunate enough to be awarded funds through this program. The continuation of HB 250 and the \$50 million per year until 2018 is necessary if small municipalities are to remain viable communities in which to live and carry on business.

Thank you for your interest and dedication to this issue.

Sincerely,

*Kathie Wasserman*

Kathie Wasserman  
Executive Director

Kathy Morgan  
Box 342  
Tok, AK 99780-0342

March 8, 2012

Representative Bill Thomas  
120 4<sup>th</sup> Street, State Capitol, Room 501  
Juneau, AK 998011-1182

Re: HB 250

Dear Representative Thomas:


I strongly support House Bill 250, extending the renewable energy fund. This fund is critically important to the entire State of Alaska. We need that renewable energy fund to encourage renewable energy projects that can reduce our high cost of energy and help the State meet its renewable energy production goals.

My community of Tok has benefited from the program with the building of an efficient wood-fired boiler to heat the Tok School and eventually also power it electrically. Already the school is saving thousands of dollars per year in heating costs, using a carbon-neutral fuel that otherwise threatens our homes with wildfire—and produces less pollution than standard oil boilers. Extending the renewable energy grant fund so that other communities can enjoy similar benefits, using whatever appropriate resources are available in their local area, is the right thing to do.

Tok School's heating and electrical generation projects funded by the renewable energy fund prove that there are feasible renewable alternatives that reduce our dependence on petroleum fuels and in the long run save both State money and private money. In the case of Tok's projects, as an extra bonus, while the projects are saving money for the school they are providing new jobs that benefit the community's economy and reduce our air pollution levels.

To turn renewable resource potential into reality, we need funding for projects to prove the validity and reliability of alternate energy projects in the unique conditions that we face in our state, with the wide variation and extremes of climate and ecology and the challenges of transportation and technology in remote areas. Different areas of the state have different resources that call for different solutions. Thank you for sponsoring HB 250.

Sincerely,



Kathy I. Morgan



Tok Community Umbrella Corporation  
Box 547  
Tok, AK 99780-0547



MARCH 8, 2012

Representative Bill Thomas  
120 4<sup>th</sup> Street, State Capitol, Room 501  
Juneau, AK 998011-1182

Re: HB 250

Dear Representative Thomas:

This letter is in support of House Bill 250, extending the renewable energy fund. This fund is critically important to the entire State of Alaska and is needed to encourage renewable energy projects that can reduce our high cost of energy and help the State meet its renewable energy production goals.

The cost of petroleum-based energy is high and increasing throughout the world, but particularly in Alaska. It has reached crisis proportion in some of the rural areas. There are feasible renewable alternatives that are carbon-neutral or add no carbon to the atmosphere, reduce our dependence of foreign fuels, in some cases make our homes safer, and in the long run save both State money and private money.

To turn renewable resource potential into reality, we need funding for projects to prove the validity and reliability of alternate energy projects in the unique conditions that we face in our state, with the wide variation and extremes of climate and ecology and the challenges of transportation and technology in remote areas. We also need funding to build projects that involve proven technology with an up-front capital cost that our smaller communities can't fund through local resources.

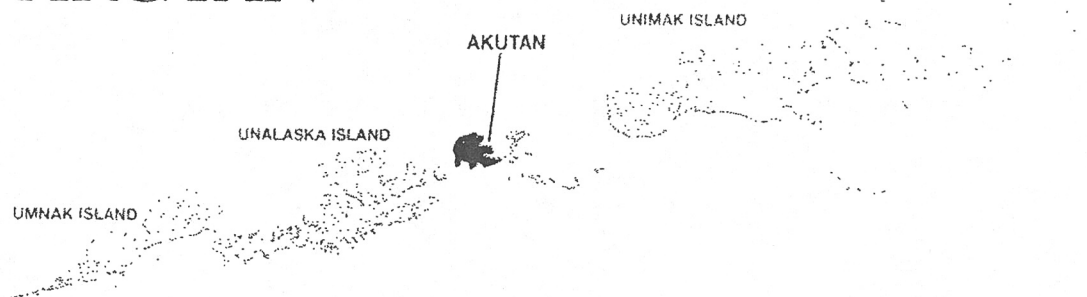
My community of Tok has benefited from the program with the building of an efficient wood-fired boiler to heat the Tok School and eventually also power it electrically. Already the school is saving thousands of dollars per year in heating costs, using a carbon-neutral fuel that otherwise threatens our homes with wildfire—and produces less pollution than standard oil boilers. Extending the renewable energy grant fund so that other communities can enjoy similar benefits is the right thing to do.

Sincerely,

A handwritten signature in cursive script that reads "Kathy I. Morgan".

Kathy I. Morgan, President

# AKUTAN



March 8, 2012

The Honorable Representative Bill Thomas  
Alaska State Capital  
Room 505  
Juneau, AK 99801-1182

Re: HB 250

Dear Representative Thomas:

The City of Akutan is writing to express its support for passage of House Bill No. 250, An Act Relating to the Renewable Energy Grant Fund. We support an extension of at least five years, and suggest making it a longer period.

As a result of the grant fund, the City of Akutan and Alaska Energy Authority (AEA) have jointly funded the exploration of a geothermal power resource located in the Hot Springs Bay Valley of Akutan Island, approximately five miles from the City and Native Village of Akutan. Our feasibility work is very promising as we work to bring the project to fruition. Continuation of the grant fund will be instrumental in helping communities to pursue a wide range of renewable energy projects.

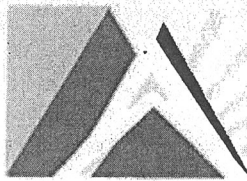
Thank you for your leadership in sponsoring this bill.

Sincerely,

/s/

Mayor Joe Bereskin

cc: Hermann Scanlan, City Administrator  
Representative Bryce Edgmon



## ALASKA PARTNERSHIP FOR ECONOMIC DEVELOPMENT

**A RESOLUTION OF THE ALASKA PARTNERSHIP FOR ECONOMIC  
DEVELOPMENT BOARD OF DIRECTORS SUPPORTING HOUSE BILL NUMBER  
250; "AN ACT RELATING TO THE RENEWABLE ENERGY GRANT FUND AND  
RECCOMENDATION PROGRAM; AND PROVIDING FOR AN EFFECTIVE  
DATE"**

**Resolution # 12-13**

Whereas; the Alaska Regional Development Organizations (ARDOR) was established by the Alaska Legislature in 1988; and

Whereas; the ARDOR's statutory mandate is to encourage the formation of regions development organizations to prepare and implement regional development strategies; and

Whereas; the ARDOR's represent a diverse network of public, private and economic development groups that drive local initiatives and advance economic diversification through partnerships with state and local governments; and

Whereas; the ARDOR's established the Alaska Partnership for Economic Development, (APED), in 2009, to advance economic development and address initiatives affecting development and to help develop a state-wide comprehensive strategic plan; and

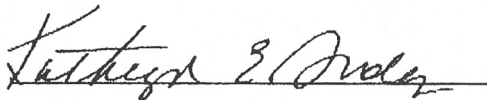
Whereas; the ARDOR/APED programs have established partnerships with more than 300 local, regional, private, municipal and public organizations to pool resources, decrease duplication and foster new businesses; and

Whereas; the APED now comes in support of the following legislation being considered by the Alaska State Legislature:

**NOW THEREFORE BE IT RESOLVED;** the Alaska Partnership for Economic Development supports House Bill 250; "AN ACT RELATING TO THE RENEWABLE ENERGY GRANT FUND AND RECCOMENDATION PROGRAM; AND PROVIDING FOR AN EFFECTIVE DATE"

**BE IT FURTHER RESOLVED** that a copy of this resolution be sent to the REPRESENTATIVES THOMAS, P. WILSON, MILLETT, the prime sponsors of SB250.

APPROVED THIS 24<sup>th</sup> DAY of FEBRUARY 2012.

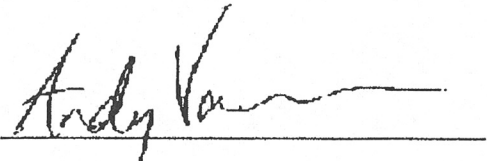


2/24/2012

President

Date

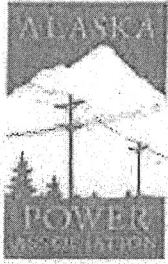
ATTEST:



2/24/2012

Secretary

Date



Alaska Power Association  
703 West Tudor Road, Suite 200  
Anchorage, Alaska 99503-6650  
907-561-6103  
Fax: 907-561-5547  
www.alaskapower.org

January 27, 2012

Representative Neal Foster, Co-Chairman, House Special Committee on Energy  
Representative Lance Pruitt, Co-Chairman, House Special Committee on Energy  
Representative Bob Lynn  
Representative Kurt Olson  
Representative Pete Petersen  
Representative Dan Saddler  
Representative Chris Tuck

Honorable Members of the House Special Committee on Energy:

Alaska Power Association respectfully requests your support for House Bill 250. Since its creation in 2008, the Alaska Renewable Energy Fund has provided \$80 million in funding for projects that utilize renewable energy resources in communities throughout the state.

Many electric utility members of our statewide trade association are recipients of this funding, and they have several success stories of how their renewable energy projects have significantly reduced reliance on diesel fuel.

The Alaska Renewable Energy Fund is one of the most successful policy mechanisms in the nation for stimulating rapid renewable energy development.

- By the end of 2011, 58 projects (Rounds I-IV) were completed.
- Eleven of the projects in operation at the end of 2011 produce power for Power Cost Equalization utilities.
- By the end of 2012, 120 projects are expected to have been completed.
- By the end of 2013, 184 projects are expected to have been completed and fuel displacement is expected to be approximately 3.4 million gallons equivalent per year.
- By the end of 2016, fuel displacement is anticipated to be 11.6 million gallons per year.

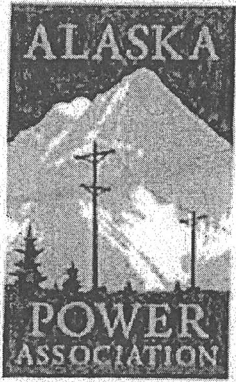
*(Source: Alaska Renewable Energy Fund Status Report, January 21, 2012)*

Thank you for your dedication to ensuring that all Alaskans have access to safe, reliable and affordable energy. We believe that continued funding of the Alaska Renewable Energy Fund will keep us moving in this direction.

Sincerely,

Marilyn Leland  
Executive Director

cc: Representative Bill Thomas



# ALASKA POWER ASSOCIATION R E S O L U T I O N

## A Resolution Urging Capital Funding in Support of Alaska Energy Policy (12-2)

In light of the ambitious and aggressive goals set forth in the Alaska Sustainable Energy Act (SB 220) and State Energy Policy (HB 306), the Alaska electric utility sector needs sources of capital for infrastructure and transmission.

Alaska Power Association urges the Alaska Legislature to fully support the following funding mechanisms:

- Extend the authorizing language for the Renewable Energy Grant Fund, which supports the intent of the legislature to provide funds annually for projects recommended by the Renewable Energy Fund Advisory Committee;
- Properly capitalize the Power Project Loan Fund, enabling meaningful funding for infrastructure projects; and
- Establish a State of Alaska-funded and administered revolving loan fund for the sustainable financing of infrastructure projects.

(Adopted Dec. 2010, updated Dec. 2011)

### Association Members

Alaska Electric and Energy Co-op  
Alaska Electric Light & Power  
Alaska Power & Telephone  
Alaska Railbelt Energy Authority JAA  
Alaska Village Electric Cooperative  
Anchorage Municipal Light & Power  
Aurora Energy  
Barrow Utilities & Electric Co-op  
Chugach Electric Association  
Copper Valley Electric Association  
Copper Valley Telephone Co-op  
Cordova Electric Cooperative  
Doyon Utilities  
City of Galena  
Golden Valley Electric Association  
Homer Electric Association  
INN Electric Cooperative  
Inside Passage Electric Co-op  
Kodiak Electric Association  
Kotzebue Electric Association  
Kwaan Electric Transmission  
Intertec Cooperative  
Matanuska Electric Association  
McGrath Light and Power  
Metlakatla Power & Light  
Middle Kuskokwim Electric Co-op  
Naknek Electric Association  
Nome Joint Utility System  
North Slope Borough  
Nushagak Cooperative  
OTZ Telephone Cooperative  
City of Seward  
Southeast Alaska Power Agency  
Tanalian Electric Cooperative  
Tanana Power Company  
TDX Power  
Unalakleet Valley Electric Co-op  
Yakutat Power

### Anchorage office

1015 W. 11th Avenue  
Anchorage, Alaska  
99501  
Phone: (907) 552-1111  
Fax: (907) 552-1112

### Juneau office

1015 W. 11th Avenue  
Juneau, Alaska  
99801  
Phone: (907) 586-1111  
Fax: (907) 586-1112

Headquarters: Anchorage, Alaska



MUNICIPAL  
LIGHT & POWER

January 27, 2012

faxed / mailed  
907-465-2652

The Honorable Bill Thomas  
House of Representatives  
Alaska State Capitol  
Juneau, Alaska 99801-1182

Subject: HB 250

Dear Representative Thomas:

*Mr. Chair*

- Municipal Light and Power Supports HB 250, the time extension of the Alaska Renewal Energy Grant Fund until 2023. Dozens of projects currently in the reconnaissance, feasibility and design stage will be put into limbo if the program is not extended this year.
- So far 21 projects have been constructed under the program, which have cumulatively displaced over \$7 million in fuel since 2009. By the end of 2016, AEA estimates that diesel fuel displacement from Fund projects will be approximately 11.6 million gallons per year.
- The program has so far leveraged over \$100 million federal and other dollars in matching funds for projects funded.

Sincerely,

*[Handwritten signature of James M. Posey]*  
James M. Posey  
General Manager

*Dated*  
JAN 30 2012  
*+ mailed*



# Homer Electric Association, Inc.

---

**Corporate Office**  
3977 Lake Street  
Homer, Alaska 99603-7680  
Phone (907) 235-8551  
FAX (907) 235-3313

**Central Peninsula Service Center**  
280 Airport Way  
Kenai, Alaska 99611-5280  
Phone (907) 283-5831  
FAX (907) 283-7122

January 30, 2012

Representative Bill Thomas, Jr.  
State Capitol, Room 505  
Juneau AK, 99801

Dear Representative Thomas:

Homer Electric Association, Inc. (HEA) strongly supports HB 250, extending the sunset clause of the renewable energy grant program to 2023. This bill will allow the state to continue to support a wide variety of renewable energy technologies that holds great promise for Alaska such as wind, hydroelectric, biomass, and geothermal.

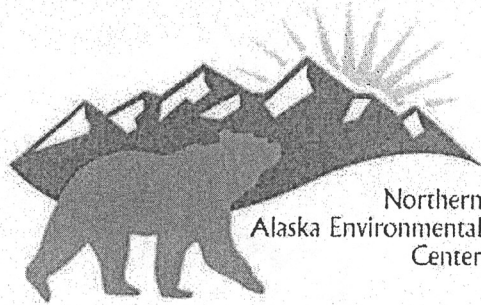
HEA has been fortunate to receive two grants from the renewable energy program that have allowed us to proceed with field work and scoping for a hydroelectric project on the Kenai Peninsula. This renewable energy project would not be possible without the support of the renewable energy grant program.

On behalf of Homer Electric Association, thank you very much for your unwavering commitment to renewable energy.

Sincerely,

Bradley P. Janorschke  
General Manager

# Memo



Northern  
Alaska Environmental  
Center

To: Representative Bill Thomas  
via FAX, 907-465-2652

From: Karen Kelly, Executive Director

Cc: The House Energy Committee via e-mail:

- Representative Foster Co-Chair
- Representative Pruitt Co-Chair
- Representative Lynn
- Representative Olson
- Representative Saddler
- Representative Petersen
- Representative Tuck

Date: January 30, 2012

Re: Support for HB 250

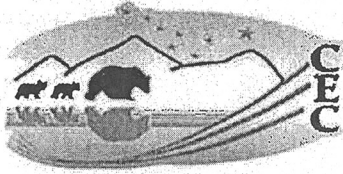
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The Northern Alaska Environmental Center (NAEC) Board of Directors and staff extend our thanks and appreciation for your support and consideration of HB 250, "An Act relating to the renewable energy grant fund and recommendation program; and providing for an effective date"

The NAEC is also dedicated to supporting renewable energy projects that promote the health, wealth and sustainability of our Interior Alaskan communities, while maintaining the integrity of the wild places in which we live. Extending the Renewable Energy Grant Fund for another 10 years through HB 250 will help provide opportunities for renewable energy projects that we need to meet the economic demands of the present and future. The Interior's unique geography, remote rural communities and incredible diversity of abundant renewable energy resources provides an excellent opportunity to become a world leader in energy technology development. Renewable technologies like wind, geothermal, biomass, solar, tidal or small scale hydropower, have the potential to impart significant environmental, health and economic benefits to communities throughout Alaska.

We are honored to be among those in support of your ongoing efforts to encourage renewable energy. If there is anything the NAEC can do to further this legislation, please do not hesitate to contact us.

Page 1 of 1



CORDOVA  
ELECTRIC  
COOPERATIVE, INC

P.O. Box 20, 705 Second Street, Cordova, Alaska 99574-0020 \* (907) 424-5555 \* Fax (907) 424-5527

January 31, 2012

The Honorable Bill Thomas, Neal Foster, Lance Pruitt, and  
House Special Energy Committee Members

RE: HB 250 Extension

Dear Representative Thomas and Committee,

Cordova Electric Cooperative (CEC) strongly supports HB 250 reauthorization to "Extend the Renewable Energy Grant Fund". CEC was a recipient of renewable energy grant funds for the Humpback Creek Hydroelectric Project, which was matched with Federal and CEC funds. Since the project went into operation on July 13, 2011 just over 6 months ago, it has produced over 1,500,000 kWh of energy or 110,000 gallons of diesel fuel savings despite a dry 2011 and low fall production. The project is designed to save 370,000 gallons of diesel a year average for at least 50 years.

The program benefits both rural and railbelt utilities, large and small. The application, review, and award process is straightforward, fair, and accountable. It has been touted as the most successful renewable energy grant incentive program in the world and I am inclined to agree.

This program is an excellent investment of State resources that will pay dividends for generations. While it would be nice to commit to this successful program for ten years, the State of Alaska has other priorities and a five year commitment is appropriate.

CEC urges reauthorization of this important bill and thanks you for your colleagues' efforts to support and cosponsor the original bill and this extension.

Sincerely,

Clay Koplín, CEO

January 31, 2012

Representative Bill Thomas  
State Capitol, Room 505  
Juneau, Alaska 99801

Subject: Support for HB 250

Dear Representative Bill Thomas:

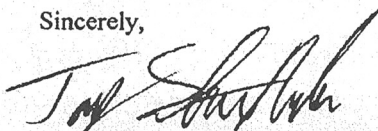
Myself and Coffman Engineers is in support of HB 250. The Alaska Renewable Energy Grant Fund allows alternative energy projects to be funded throughout the state. The communities benefit from this in many ways:

- By creating local jobs maintaining and operating equipment (wind turbines, wood fired boilers, etc)
- By creating local jobs to provide fuel that is locally created (wood/pellets)
- Reduce the impact of high fuel prices and fuel price volatility
- Reducing the overall cost of energy and increasing energy security
- Taking advantage of locally renewable energy sources
- Reduces environmental pollution

Additionally, so far 21 projects have been constructed under the program, which have cumulatively displaced over \$7 million in fuel since 2009. By the end of 2016, AEA estimates that diesel fuel displacement from Fund projects will be approximately *11.6 million gallons per year*. The program has so far leveraged over \$100 million federal and other dollars in matching funds for projects funded. Dozens of projects currently in the reconnaissance, feasibility and design stage will be put into limbo if the program is not extended this year.

Please take what steps you can so this program does not lapse. Thank you

Sincerely,



Tony SlatonBarker, P.E., LEED AP  
Program Manager, Alternative Energy and Sustainability  
Coffman Engineers

cc: House Energy Committee Members

## Alaska Renewable Energy Fund Grant Recommendation Program

### Preliminary Assessment of Project Performance

February 4, 2012

#### Background

Alaska Energy Authority (AEA) has at least one year of operational data for 14 of the 21 Renewable Energy Fund (REF) projects that were producing energy at the end of 2011. The following assessment is based on the technical and economic performance of these 14 projects summarized in table 1.

This assessment is preliminary. It

- Reports on only a portion of the 73 construction projects that have been funded by the REF since inception. Status of all projects funded by the REF is available in the 2012 REF Program Status Report at [http://www.akenergyauthority.org/RE\\_Fund\\_Applications-V.html](http://www.akenergyauthority.org/RE_Fund_Applications-V.html).
- Is based on one year of production (2011). As is common to most energy projects, some of the projects—particularly biomass and small wind systems—require additional time for operators to debug and integrate the equipment into the existing fossil system.
- Does not address non-fuel operation and maintenance (O&M) cost increases or savings. For the purposes of this assessment, the costs of O&M for diesel-fired power and heat generation is assumed to be equal to that of renewable energy generation.
- Does not address positive or negative impacts on overall system efficiency. For example, higher penetration of wind energy into a diesel power system may decrease diesel generation efficiency. More detailed study is required to assess such an impact in a particular location.
- Does not address impacts on the cost of electricity, the Power Cost Equalization program, air quality, greenhouse gas emissions, fuel spills, economic development, community stability, or other more complex environmental and socioeconomic issues.

Despite these limitations, however, AEA believes it is appropriate to focus, at least initially, on quantity and value of fuel displacement as a program metric given the overwhelming impact that fossil fuel usage has on energy cost.

AEA maintains an ongoing program to monitor energy production, operation and maintenance issues, and economic performance of construction projects funded by the REF and other programs. As more data becomes available AEA will expand the analysis of project performance to include additional projects, assess cost of electricity impacts on ratepayers, and analyze distribution of benefits to the public. AEA will continue to coordinate this work with the University of Alaska and make results publicly available.

As part of the REF program evaluation that is in progress, AEA contractor Vermont Energy Investment Corporation is conducting an assessment of program impact versus cost that will address project cost versus savings, jobs, development of infrastructure, and other public benefits. A draft report will be available in March, while the final report is due in June.

## Overall Results

Table 1 indicates that the 14 projects displaced 1.46 million gallons of diesel in 2011—approximately 84% of the amount of fuel that was expected by AEA, UAA Institute of Social and Economic Research (ISER), and private economists that reviewed REF applications. (This expected amount of fuel is termed “Goal” in the table.)

The value of the fuel displaced in 2011 was \$4.87 million. Dividing the total unsubsidized cost of all projects (\$55.6 million) by the \$4.87 million in savings 2011 indicates a simple payback of 11 years for projects that AEA expects have a 20-year useful life (except for the hydro project that is assumed to have a 50-year life). Dividing the total REF grant for these projects (\$20.65 million) by the \$4.87 million in savings indicates a payback on the grant portion of the projects of 4 years.

2011 fuel prices may be rather low in the long run. Based on the USDOE Energy Information Administration’s mid-case projection of the cost of crude and other (see Alaska Fuel Price Projections 2011-2035 [ftp://ftp.aidea.org/ReFund-5/4\\_Program\\_Update/Fuel\\_price\\_projection\\_2011-2035\\_final.pdf](ftp://ftp.aidea.org/ReFund-5/4_Program_Update/Fuel_price_projection_2011-2035_final.pdf)), ISER estimates that the average price of fuel in rural areas will increase by 42% during the next 20 years over 2011 levels.

The following sections provide more detailed information on project performance. Information is organized by renewable energy resource.

## Biomass

The Tok School Biomass system reported fuel displacement for 2011 at 48% of the estimated displacement from their application. The Tok boiler only operated from January to May in 2011, when it was shut down to be retrofitted for steam, and a steam turbine-generator was added to the system. The heating system was not restarted until January 2012. Therefore thermal production was substantially less than expected. During 2013 the wood-fired system is expected to produce both heat and power during the year. The Alaska Gateway School District has used fuelwood harvested in wildfire mitigation efforts to date. Thus biomass fuel cost has been limited to handling and processing.

The Native Village of Eyak processed 75 cords of local logs in 2011. Although this is only 13% of the original goal, payback time of the REF investment appears short.

The Gulkana Central Wood Heating system displaced fuel at 40% of the goal. This is a basic biomass system with minimal instrumentation, so the estimates for displaced fuel are derived from quantity of harvested wood. This system’s lower-than-expected performance may be caused by less than 100% utilization of the system. AEA will monitor the system with the Native Village of Gulkana. Despite this apparent underperformance, the project saved the Village approximately \$24,000 in fuel cost. Similar to Tok, the project is firing the boiler with wood stored from earlier harvest operations.

## Geothermal

The City and Borough of Juneau's ground source heat pump is performing at 126% of its fuel displacement goals using figures from a recent preliminary report prepared by the CBJ for AEA. Simple payback is 8 years for total cost and 4 years for REF funding. The CBJ report assesses economics more fully and includes costs of increased power consumption and benefits of reduced snow removal costs.

## Heat Recovery

Golden Valley Electric Association's (GVEA's) heat recovery facility at its North Pole power plant is performing well, if somewhat below the original goal. Having saved \$172,000 in naphtha fuel during 2011, the \$1 million project promises to be highly economic.

McGrath Heat Recovery System reported fuel displacement for 2011 at 72% of goal. In late 2011, the new McGrath Clinic was connected to the district heating system and will increase the fuel displaced by approximately 5,400 gallons. The system is operating well and saved the community \$157,000 in fuel during 2011.

## Hydroelectric

The City and Borough of Wrangell's electric boilers are operating as planned and displaced \$230,000 of fuel in 2011.

Gustavus Electric Company's Falls Creek hydro project produced 117% of its energy goal. The 50-year, \$8.4 million project offset fuel worth \$583,000 in 2011. It should be noted that hydropower is subject to yearly weather, and annual energy may vary by +/- 20% of the predictions based upon a "normal" water year.

## Solar

GVEA's McKinley Village solar thermal project offset less than a third of the amount of fuel expected during 2011. GVEA staff and contractors established a data collection system for the \$193,000 demonstration project, however, and are working on understanding and improving performance.

## Wind

The AEA wind program publishes a quarterly report card of all utility-scale wind projects in the state. The first report card was released in late September 2011, while the second report was completed in early January 2012.

Wind energy varies seasonally with greater wind turbine output in the winter and less in the summer. Therefore a 12-month average is needed to accurately assess wind project performance.

Kodiak Electric's Pillar Mountain Wind Farm continues to meet or exceed energy goals. In 2011 it displaced over 870,000 gallons of diesel fuel, saving \$2.9 million. With a total installed cost of \$21.4 million, payback by fuel savings is 7 years.

Alaska Environmental Power's Delta wind project resolved some key equipment issues last summer and produced 82% of its energy goal. The project, which displaced 95,900 gallons of naphtha worth \$256,000 in 2011, appears to be on track to reach its energy goal in 2012.

Alaska Village Electric Cooperative installed a third Northwind 100 turbine with funding from the REF in Toksook Bay. Based on prorated generation figures the project generated at 77% of goal and saved \$43,000 in fuel.

The privately owned Banner Peak Wind project experienced equipment issues and produced at only 28% of its capacity in 2011. No state funds were used for the wind farm. The REF-funded intertie, however, performs as expected and will provide additional benefit when Nome Joint Utility System installs larger wind turbines if REF round 5 funding is received.

Unalakleet Valley Electric Company's project produced near its expected energy goal. However system cost payback remains high. UVEC and AEA staff is working to improve system performance and turbine downtime. The project saved \$211,000 in fuel during 2011.

Figure 1. 2011 Energy production and diesel cost savings vs goals from RE Fund projects with at least 12 months of operation.

| Resource      | Grantee                        | Project Name                    | Energy Performance     |                 |                               |                |               | Economic Performance     |               |                              |                            |             |              |
|---------------|--------------------------------|---------------------------------|------------------------|-----------------|-------------------------------|----------------|---------------|--------------------------|---------------|------------------------------|----------------------------|-------------|--------------|
|               |                                |                                 | 2011 Energy Production |                 | Diesel Displaced (gal x 1000) |                | Actual / Goal | Project Cost (\$ x 1000) |               | 2011 Fuel Savings (\$ x1000) | Simple Payback (Years) on: |             | Project Life |
|               |                                |                                 | Electrical (MWh)       | Thermal (mmBtu) | 2011 Actual                   | Goal           |               | Total Cost               | REF Funding   |                              | Total Cost                 | REF Funding |              |
| Biomass       | Alaska Gateway School District | Tok Wood Heating                | -                      | 3.2             | 24.4                          | 50.4           | 48%           | 3,260                    | 3,245         | 92                           | 35                         | 35          | 20           |
|               | Native Village of Eyak         | Cordova Wood Processor          | -                      | 1.5             | 11.4                          | 88.7           | 13%           | 78                       | 75            | 42                           | 2                          | 2           | 20           |
|               | Gulkana Village Council        | Gulkana Central Wood Heating    | -                      | 0.8             | 5.9                           | 14.6           | 40%           | 500                      | 500           | 24                           | 21                         | 21          | 20           |
| Geothermal    | City and Borough of Juneau     | Juneau Airport GS Heat Pump     | -                      | 5.1             | 37.1                          | 29.5           | 126%          | 1,026                    | 513           | 131                          | 8                          | 4           | 20           |
| Heat Recovery | Golden Valley Electric Assoc   | North Pole Heat Recovery        | -                      | 5.2             | 61.5                          | 89.6           | 69%           | 1,022                    | 817           | 172                          | 6                          | 5           | 20           |
|               | McGrath Light & Power Co       | McGrath Heat Recovery           | -                      | 2.9             | 23.0                          | 32.0           | 72%           | 1,179                    | 712           | 157                          | 8                          | 5           | 20           |
| Hydro         | City and Borough of Wrangell   | Wrangell Hydro Electric Boilers | -                      | 6.9             | 66.0                          | 69.6           | 95%           | 2,082                    | 2,000         | 230                          | 9                          | 9           | 20           |
|               | Gustavus Electric Co           | Falls Creek Hydroelectric       | 1,933                  | -               | 138.1                         | 118.3          | 117%          | 8,400                    | 750           | 483                          | 17                         | 2           | 50           |
| Solar         | Golden Valley Electric Assoc   | McKinley Village Solar Thermal  | -                      | 0.1             | 1.8                           | 5.7            | 31%           | 194                      | 193           | 7                            | 27                         | 27          | 20           |
| Wind          | Kodiak Electric Association    | Pillar Mountain Wind            | 12,448                 | -               | 870.7                         | 852.0          | 102%          | 21,400                   | 4,000         | 2,873                        | 7                          | 1           | 20           |
|               | Alaska Env Power               | Delta Area Wind                 | 1,425                  | -               | 95.9                          | 117.0          | 82%           | 2,802                    | 2,000         | 256                          | 11                         | 8           | 20           |
|               | Alaska Village Electric Coop   | Toksook Wind Farm               | 187                    | -               | 12.6                          | 16.3           | 77%           | 1,253                    | 1,038         | 43                           | 29                         | 24          | 20           |
|               | Nome Joint Utility Systems     | Banner Pk Wind Transmission     | 955                    | -               | 53.9                          | 191.3          | 28%           | 6,390                    | 801           | 152                          | 42                         | 5           | 20           |
|               | Unalakleet Valley Electric Co  | Unalakleet Wind Farm            | 958                    | -               | 58.2                          | 61.9           | 94%           | 6,000                    | 4,000         | 211                          | 28                         | 19          | 20           |
| <b>TOTAL</b>  |                                |                                 | <b>17,907</b>          | <b>25.8</b>     | <b>1,460.4</b>                | <b>1,736.8</b> | <b>84%</b>    | <b>55,585</b>            | <b>20,645</b> | <b>4,872</b>                 | <b>11</b>                  | <b>4</b>    |              |

Notes:

1. Includes projects in operation for at least 12 months
2. Assumes that operation and maintenance costs of new and existing projects are the same.
3. Assumes no impact on existing oil-fired system efficiency.

**From:** Peter Crimp  
**To:** Weston Eiler ([Weston\\_Eiler@legis.state.ak.us](mailto:Weston_Eiler@legis.state.ak.us))  
**Cc:** Sara Fisher-Goad  
**Subject:** Assessment of projected REF savings

Attached is a spreadsheet that gives projected average annual energy production, fossil fuel displacement, and savings for 63 construction projects funded by the Alaska Renewable Energy Fund (REF) program. Five additional construction projects are funded by the program, but are not presented because they are not yet scheduled for completion. (See the REF program Status Report at [http://www.akenergyauthority.org/re-fund-5/4\\_Program\\_Update/StatusReport2012.pdf](http://www.akenergyauthority.org/re-fund-5/4_Program_Update/StatusReport2012.pdf) for additional information). Notes at the bottom of the chart explain how the information was compiled.

This information follows up a 2-4-12 report (attached) that AEA provided to the Senate Finance Committee that provided a preliminary assessment of performance of projects with 12 months of operation during 2011. The current deliverable includes all projects scheduled for construction. Since only a subset of the projects have representative operational data, future performance is projected based on the original economic analyses performed by contracted economists under coordination of ISER with modifications by AEA given additional information that became available after the projects were analyzed.

Net Savings are estimated as Fuel Savings minus O&M costs. Payback time in years is estimated based on total or REF Funding quantity divided by net savings.

**Results:**

1. Average net savings per year for the round 1-4 projects is estimated at \$35.3 million/yr. Given a total installed cost of \$358 million, payback time for all projects is 10 years.
2. Project life is greater than total project cost payback time for 58 of the 63 projects. This indicates that most projects are economic, whether or not they are subsidized by the REF program.
3. Project life is greater than REF grant payback time for 60 of the 63 projects.

Please contact me if I can answer any questions on this analysis.

Sincerely,  
Peter Crimp

\* \* \*

Deputy Director –  
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| Resource    | ID           | Grantee                             | Project Name                                   | Energy and Fuel     |                    |                         |                      | Cost Savings             |                            |                                     |                | In Operation 2011 |                      |             |            |             |
|-------------|--------------|-------------------------------------|--|---------------------|--------------------|-------------------------|----------------------|--------------------------|----------------------------|-------------------------------------|----------------|-------------------|----------------------|-------------|------------|-------------|
|             |              |                                     |  | Energy Production   |                    | Fuel Displaced (x 1000) |                      | Project Cost (\$ x 1000) | Net Savings (\$ x 1000/yr) | Cost / Savings Payback Time (Years) |                |                   | Project Life (Years) |             |            |             |
|             |              |                                     |  | Electrical (MWh/yr) | Thermal (mmBtu/yr) | Diesel (gal/yr)         | Natural Gas (MCF/yr) |                          |                            | Diesel Equivalent (gal/yr)          | Total Cost     |                   |                      | REF Funding | Total Cost | REF Funding |
| OCEAN/RIVER | 660          | Ocean Renewable Power Company       | Cook Inlet TidGen Project                      | 1,840               |                    | 0                       | 23,484               | 174                      |                            | 8,051                               | 2,000          | 43                | 186                  | 46          |            |             |
| SOLAR       | 641          | Alaska Village Electric Cooperative | Kaltag Solar Construction                      | 7,351               |                    | 1                       | 0                    | 1                        |                            | 100                                 | 90             | 3                 | 29                   | 26          |            |             |
|             | 108          | Golden Valley Electric Association  | McKinley Village Solar Thermal Construction    | 32                  |                    | 2                       | 0                    | 2                        |                            | 194                                 | 190            | 11                | 18                   | 17          | X          |             |
|             | 102          | Alaska Environmental Power          | Delta Area Wind Turbines-Construction          | 1,750               |                    | 117                     | 0                    | 117                      |                            | 2,802                               | 2,000          | 468               | 6                    | 4           | X          |             |
|             | 70           | Alaska Village Electric Cooperative | Quinhagak Wind Farm Construction               | 649                 |                    | 50                      | 0                    | 50                       |                            | 4,839                               | 3,882          | 237               | 20                   | 16          | X          |             |
|             | 71           | Alaska Village Electric Cooperative | Toksook Wind Farm Construction                 | 166                 |                    | 13                      | 0                    | 13                       |                            | 1,253                               | 1,038          | 58                | 22                   | 18          | X          |             |
|             | 72           | Alaska Village Electric Cooperative | Mekoryuk Wind Farm Construction                | 478                 |                    | 34                      | 0                    | 34                       |                            | 4,031                               | 3,156          | 165               | 24                   | 19          | X          |             |
|             | 302          | Alaska Village Electric Cooperative | Emmonak/Alakanuk Wind Design and Constr        | 637                 |                    | 45                      | 0                    | 45                       |                            | 10,733                              | 8,000          | 157               | 68                   | 51          | X          |             |
|             | 303          | Alaska Village Electric Cooperative | Shaktolik Wind Construction                    | 360                 |                    | 33                      | 0                    | 33                       |                            | 2,728                               | 2,466          | 153               | 18                   | 16          | X          |             |
|             | 317          | Aleutian Wind Energy                | Sand Point Wind Construction                   | 1,855               | 2,122              | 158                     | 0                    | 158                      |                            | 1,078                               | 640            | 884               | 1                    | 1           | X          |             |
|             | 122, 604     | City of Bethel                      | Bethel Wind Power Project Times Four           | 817                 |                    | 63                      | 0                    | 63                       |                            | 3,198                               | 2,598          | 418               | 8                    | 6           |            |             |
| WIND        | 486          | City of Pilot Point                 | Pilot Point Wind Power & Heat                  | 240                 |                    | 23                      | 0                    | 23                       |                            | 1,571                               | 1,421          | 151               | 10                   | 9           |            |             |
|             | 90           | City of St. George                  | St. George Wind Farm Construction              | 511                 |                    | 39                      | 0                    | 39                       |                            | 2,000                               | 1,500          | 154               | 13                   | 10          |            |             |
|             | 616          | Golden Valley Electric Association  | GWEA Eva Creek Wind Turbine Purchase           | 55,510              |                    | 3,469                   | 0                    | 3,469                    |                            | 93,300                              | 1,463          | 6,890             | 14                   | 0           |            |             |
|             | 103          | Kodiak Electric Association         | Pillar Mountain Wind Project - Construction    | 12,200              |                    | 859                     | 0                    | 859                      |                            | 21,400                              | 4,000          | 3,851             | 6                    | 1           | X          |             |
|             | 85, 518      | Kotzebue Electric Association       | High Penetration Wind-Battery-Diesel Hybrid    | 4,267               |                    | 328                     | 0                    | 328                      |                            | 10,809                              | 8,000          | 1,627             | 7                    | 5           |            |             |
|             | 107          | Kwig Power Company                  | Kwigglingok High Penetration Wind-Diesel       | 743                 |                    | 69                      | 0                    | 69                       |                            | 3,200                               | 1,600          | 348               | 9                    | 5           |            |             |
|             | 89           | Nikolski IRA Council                | Nikolski Wind Integration Construction         | 84                  | 366                | 10                      | 0                    | 10                       |                            | 451                                 | 409            | 63                | 7                    | 7           |            |             |
|             | 52           | Nome Joint Utilities                | Newton Peak Wind Farm                          | 4,267               |                    | 328                     | 0                    | 328                      |                            | 4,444                               | 4,000          | 1,470             | 3                    | 3           |            |             |
|             | 47           | Nome Joint Utility Systems          | Nome Banner Peak Wind Farm Transmission Constr | 1,030               |                    | 69                      | 0                    | 69                       |                            | 890                                 | 801            | 311               | 3                    | 3           | X          |             |
|             | 110          | Puvurnaq Power Company              | Kongiganak High Penetration Wind-Diesel        | 1,167               |                    | 90                      | 0                    | 90                       |                            | 3,300                               | 1,700          | 493               | 7                    | 3           | X          |             |
|             | 503          | TDX Corporation                     | St. Paul Wind Diesel Project                   | 1,600               |                    | 123                     | 0                    | 123                      |                            | 2,100                               | 1,900          | 628               | 3                    | 3           |            |             |
|             | 273          | Tuntutuliak Comm Svcs Assoc         | Tuntutuliak High Penetration Wind-Diesel       | 518                 |                    | 63                      | 0                    | 63                       |                            | 3,360                               | 1,760          | 193               | 17                   | 9           |            |             |
|             | 50           | Unalakleet Valley Electric Co       | Unalakleet Wind Farm Construction              | 1,200               |                    | 80                      | 0                    | 80                       |                            | 4,223                               | 4,000          | 396               | 11                   | 10          | X          |             |
|             | <b>TOTAL</b> |                                     |  |                     | <b>162,447</b>     | <b>156,229</b>          | <b>9,968</b>         | <b>334,862</b>           | <b>12,443</b>              | <b>358,240</b>                      | <b>112,995</b> | <b>35,318</b>     | <b>10</b>            | <b>3</b>    |            |             |

**Notes:**

1. Fuel savings and operation & maintenance (O&M) net cost figures are total present value over 20 years divided by 20. A real discount rate of 3% is assumed.
2. Estimated performance of projects is based on assumptions of round 1-4 economic analyses coordinated by ISER and modified by AEA given updated information.
3. Performance assumptions are subject to adjustment as new performance and actual price information becomes available.
4. Fuel prices are estimated based on updated Energy Information Administration Annual Energy Outlook 2012 Early Release. See [http://www.iser.uaa.alaska.edu/Publications/Fuel\\_price\\_projection\\_2011-2035\\_final.pdf](http://www.iser.uaa.alaska.edu/Publications/Fuel_price_projection_2011-2035_final.pdf)