

HB

445

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March 6, 2008

Chairman and Members
House Labor and Commerce Committee

Re: Support for House Bill No. 445

Honorable Chairman and Committee Members,

My name is Meera Kohler. I am the President and CEO of Alaska Village Electric Cooperative – an electric utility serving 52 villages in rural Alaska, representing more than 40% of Alaska's village population and with some of the highest electric rates (as high as 58 cents per kwh) in the state.

AVEC has been actively engaged in developing alternative energy resources (primarily wind generation) in its communities in an effort to reduce the crippling grip that petroleum fuels currently holds over these cash-strapped economies. We have partnered with Kotzebue Electric Association in a demonstration project in Wales and have a working wind plot (four machines totaling 260 kw) in Selawik. We are also currently building wind generation (300 kw in each community) in Toksook Bay and Kasigluk and expect these projects to benefit three linked communities – Tununak, Nighmute and Nunapitchuk. Additional projects are planned for Gambell, Savoonga, Chevak and Hooper Bay.

As I am sure you are aware, alternative energy sources are extremely expensive to develop – typically four to twenty times (the latter in the case of hydro power) the cost of conventional diesel generation. We have been fortunate to receive Denali Commission funding to assist in our recent wind projects but funding for the Commission in future years is less certain as pressures mount from other domestic needs. Our Congressional delegation is also looking toward the state to develop and fund these critical systems.

HB 445, especially in conjunction with HB 335 and SB 270, are landmark pieces of legislation that will establish state support for alternative energy sources and funding mechanisms for them. AVEC strongly supports the concept of HB 445 and pledges its efforts to help in refining this bill so that it can deliver the highest possible benefits to Alaskans throughout the state.

Sincerely,

Meera Kohler
President & CEO

ALTERNATIVE ENERGY IN ALASKA

Why HB 445 should pass

WHY ALASKA NEEDS ENERGY ALTERNATIVES: Short-Term

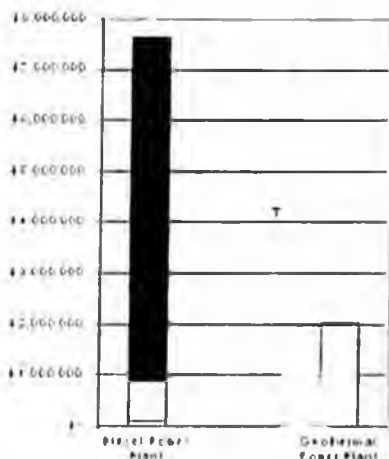
- **COST.** Alaskans are seeing some of the highest fuel costs in the U.S.
- **INDEPENDENCE.** Despite being a crude oil producer, Alaska imports over half of the petroleum products (including fuel) it uses. This puts us in a vulnerable economic and political position.

WHY ALASKA NEEDS ENERGY ALTERNATIVES: Long-Term

- **SUPPLY.** Alaska is nearly totally dependent upon fossil fuels for our energy needs, and fossil fuels are a finite resource.
- **LONG-TERM COSTS.** Extraction and combustion of fossil fuels results in costly public health and environmental problems.

WHY ALTERNATIVE ENERGY NEEDS A GRANT FUND

- The state of Alaska paid over \$15M in FY2005 to rural utilities as part of the Power Cost Equalization program. This number will continue to grow in the coming years.
- Rural Alaskans need alternative energy the most, but can afford startup costs the least.
- Long-term costs are lower for power generation from alternative sources, but startup costs remain prohibitive. For example, Chena Hot Springs:



Left: Comparison of two power schemes at Chena Hot Springs over 20 years.

Beige: Startup Costs
Blue: Fuel Costs
Purple: Transportation/transmission costs
Light blue: Maintenance Costs

SUPPORT HB 445!
Invest in our energy future!



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Sponsor Statement for HB 445 An Act Relating to the Alternative Energy Grant Fund and to Alternative Energy Grants.

The cost of fuel in Alaska has made it increasingly difficult for Alaskan residents to exist. Home heating fuel and gasoline prices have skyrocketed in recent years leaving families, who already struggle to make ends meet, to prioritize between basic necessities of life: heat or food. This has a direct impact on Alaska's economy. When people are sinking such a large chunk of their income into purchasing fuel they have less money available to spend on travel, groceries, and other necessities.

The time has come to seriously explore alternative sources of energy. Many of our communities have already been thinking of other ways to secure energy but need funding to help them harness these new sources of power. HB 445 takes 10 cents of the revenue received from each barrel of oil produced by Alaska and places this money into a fund. This fund will be made available for Alaska's power utilities to use for developing alternative sources of energy. The Alaska Energy Authority will administer grants of up to \$20 million to power utilities who have shown both need and responsibility by securing some matching funds in furtherance of a clear plan.

Based on the Legislative Finance Division's estimate of the production rate for Alaska's oil, it is estimated that the Alternative Energy Fund would receive more than \$30 million over the course of a year creating an excellent source of funding for new and existing projects.

Further, these alternative energy grants will not only move Alaska's communities into the future, but they will also assist those still completely crippled by the rising costs of fuel. By reducing the cost of power in some areas with alternative energy projects, Power Cost Equalization funds will be available to go to other communities who are still experiencing exorbitant power costs.

Our communities have paid enough for Alaska's wealth, they are poised to take control of their future energy needs, and it is up to Alaska's government to give them the tools to do so. I urge your support for this crucial piece of legislation.

FISCAL NOTE

STATE OF ALASKA
2006 LEGISLATIVE SESSION

Fiscal Note Number: _____
Bill Version: CSHB 445 (L&C)
() Publish Date: _____

Revision Date/Time (Note if correction): 3/8/06 6:58 pm Dept. Affected: Commerce
Title: Alternative Energy Grant Fund RDU: Alaska Energy Authority (453)
Component: AEA Rural Energy Operations
Sponsor: Thomas
Requester: House Labor and Commerce Component No.: 2600

Expenditures/Revenues (Thousands of Dollars)

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

OPERATING EXPENDITURES	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES	*	*	*	*	*	*
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CHANGE IN REVENUES ()						
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2006) cost: 0.0

Mark this box (X) if funding for this bill is included in the Governor's FY 2007 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

This bill establishes an Alternative Energy Grant Fund and directs Alaska Energy Authority to award alternative energy grants from the fund. The Department of Revenue provided estimates of the amount of funds that would be available for appropriation to the newly established Alternative Energy Grant Fund in their fiscal note. If funds are appropriated to the fund established in HB 445, AEA would issue grants as required for alternative energy projects. A single grant may not exceed more than \$20 million, but more than one grant may be awarded to a particular energy project.

AEA currently awards and manages grants and anticipates no fiscal impact to awarding additional grants from this fund; however, depending on the level of appropriation and complexity of proposed projects, AEA may need a private contractor to assist in the required economic viability determinations.

Prepared by: Sara Fisher-Goad, Financial Analyst Phone 907-269-1623
Division: Alaska Energy Authority Date/Time: 3/8/06 6:58 PM
Approved by: William C Noll, Commissioner Date: 3/8/2006
Agency: Commerce, Community, and Economic Development



Exploring Alaska's Alternative Energy

The state possesses vast sources of alternative energy in the forms of wind, geothermal, tidal, hydro and biofuels.

BY VANESSA ORR

The Klondike wind-power facility in Wasco, Ore. Oregon is one of about 30 states in the Lower 48 to use wind turbines. The primary requirement for identifying locations for constructing a wind farm is the annual amount of wind that area receives. To make a project worthwhile, the site must receive a year-round average wind speed of 14.2 mph.

In a state best known for its oil reserves, it might be considered surprising that a number of different Alaska entities, including rural and urban utilities, consumer and conservation groups, Native corporations and both large and small businesses, are working together to explore renewable energy sources. Though the 49th state has always been known for its fossil fuels, the fact is, the state possesses vast sources of alternative energy in the forms of wind, geothermal, tidal, hydro and biofuels.

"There are a number of reasons why it is important for Alaska to explore renewable energy resources," explained Chris Rose, director of the Renewable Energy Alaska Project (REAP). "Some areas, like Southcentral, are showing a shortage of natural gas, which the communities there really depend upon. It would also be wiser from a national security standpoint for the country not to be so dependent upon foreign fuels."

An investment in renewable energy development also could pay off handsomely for the state, according to Rose.

"This is a huge economic opportunity," he said. "Promoting this form of development could result in the creation of hundreds of jobs, increase the tax base and attract other industries to our state. If Alaska gets in on the ground floor, the state could reap the benefits of what is definitely the industry of the future."

There are already a number of projects under way throughout the state that take advantage of Alaska's renewable resources. The majority of these have been spearheaded by businesses and corporations that have made a commitment to

providing power in a new way. "There are still very few federal policies that support the exploration of renewable resources," explained Rose, "though some states have begun to provide incentives to companies that do so."

One of REAP's goals is to encourage Alaska to develop statewide incentives and policies that would make renewable energy exploration viable. Their other goals include advocating and supporting proposed renewable energy projects; building a market for renewable energy through public education; creating stakeholder unity and support among their members; and promoting energy efficiency and conservation throughout the state.

To this end, REAP recently held its first Renewable Energy Fair in Anchorage, during which workshops were held on subjects including wind in Alaska's villages, green building, landfill gas for Anchorage, Fire Island wind power, climate change and energy, and more. The group also hosted a group of renewable resource experts from Iceland, who have visited Alaska several times to share their knowledge on how Alaska can develop its geothermal resources. Iceland currently gets all of its electricity from a renewable energy grid, which includes 80 percent hydro energy and 20 percent geothermal energy.

"Once Alaska develops these resources, we can sell our expertise to other areas, just as Iceland is doing," said Rose.

WIND POWER

Once considered an alternative energy source, the use of wind to provide electricity is now considered part of the mainstream, and is in fact already competing against fossil fuels in other parts of the country to provide power. In Alaska, some areas have been using wind power for more than eight years with successful results.

"Kotzebue has been using wind turbines since 1998, and they have remained 98 percent available—they don't break down much," said Rose. "Using this power, the village displaced more than 100,000 gallons of diesel last year."

Alaska is in the perfect position to harvest the power of wind, which needs to be considered Class 4 or above to

be commercial grade. "Most wind in Alaska is in the Class 5 to 7 range," said Rose. "And if you look at a wind map of the United States, you'll see that we have most of the Class 7 winds in the whole country."

Some companies are taking advantage of this, including TDX Power, which has a 225-kilowatt wind turbine on St. Paul Island, and Alaska Village Electric Cooperative, which is planning to put three 100-kilowatt turbines into the villages of Selawik, Kasigluk and Toksook Bay this fall.

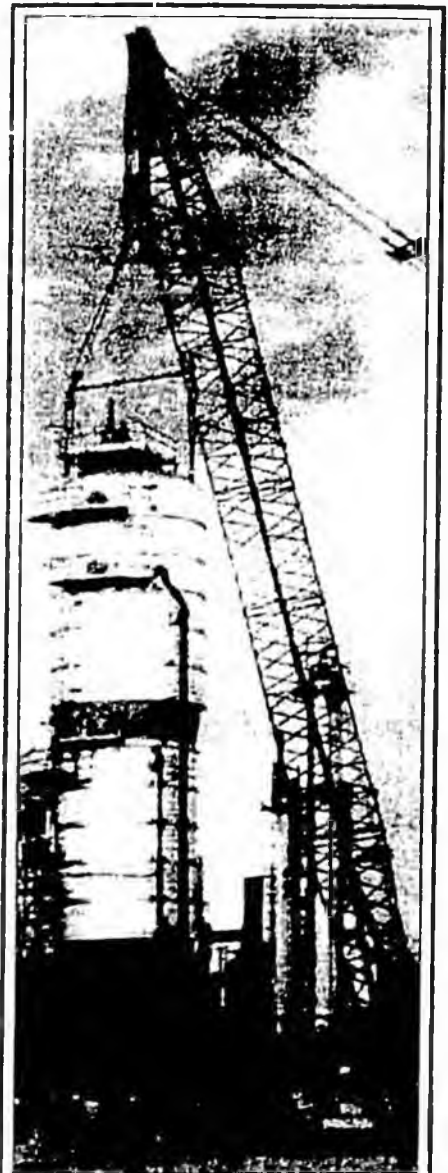
One of the biggest projects proposed is a 100-megawatt wind farm that will be built on Fire Island, west of Anchorage. The project, which would require an approximately \$175 million investment, is seriously being considered by Chugach Electric Association, and its two partners, Municipal Light & Power (ML&P) and Golden Valley Electric Association.

"We've gone beyond thinking 'this would be nice to have,' to seeing it more realistically as the levels of interest have increased," said Steve Gilbert, manager, Energy Projects Development, Chugach Electric Association. "We do have a Joint Action Agency Agreement (JAA) in place between Chugach, ML&P and Golden Valley to look at developing power generation resources together."

Gilbert credits some of this interest to the fact that equipment in the Railbelt is getting old and the utilities are looking at making significant investments in their infrastructure. "We're trying to strike a balance between replacing or adding machines to meet the demand, and our need to diversify," he explained. "There hasn't been a final decision made, though I believe that will happen by year's end."

One of the obstacles facing the utilities is the cost of the project itself. According to Gilbert, roughly \$41 million will be needed to build infrastructure, including sub-marine and overhead transmission lines to the island, a barge landing, roads and a substation. About \$134 million would be used to build the wind project itself.


"All renewables have a higher up front cost than fossil based power sources," he explained, "though fossil based costs are going up quickly. Of



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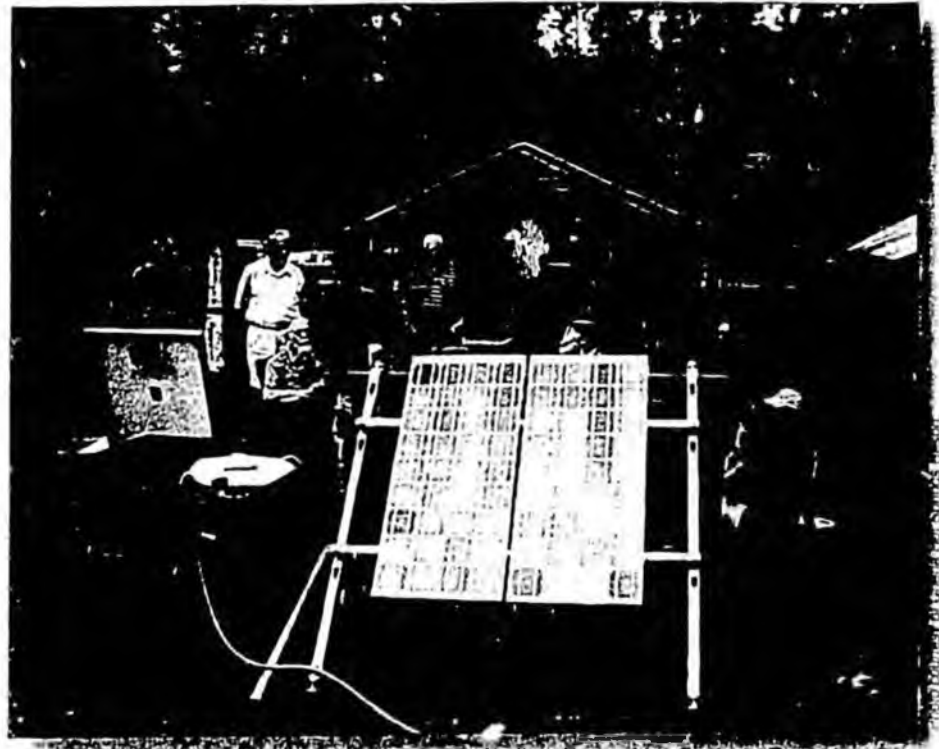
the \$41 million we need, we're looking for someone to help us with about \$20 million, from the Railbelt Energy Fund, for instance."

Another thought is to put the project out for bid to private developers who have experience in wind power development. "Developers are able to take advantage of tax incentives and other programs that utilities like Chugach can't," said Gilbert. "Having a developer install the system and sell power into the grid for the first 10 years of the project's life would help bring down the cost substantially. The new generating costs could go head-to-head with the cost of old generation."

GEOTHERMAL RESOURCES

Just as wind has already become competitive with fossil fuels in other states, so has the use of geothermal energy. Though there is huge potential to use this resource in Alaska, one of the drawbacks to its development is that much of the source of the energy is located far from the demand.

"Mount Makushin in Unalaska has great potential," explained Rose, who



A solar workshop put on by ABS Alaska for Chena Hot Springs Resort.

says that the Aleutian Islands' volcanic makeup could provide a quality source of geothermal energy. "But the most exciting prospect that I see is Mount Spur, the volcano across Cook Inlet.

It is only 40 miles from the Anchorage power grid, which isn't that long a transmission line to build."

Chugach Electric Association also sees the potential in Mount Spur, and is

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in the "very preliminary" stages of exploration, according to Gilbert. "While there is a fairly significant geothermal resource near Mount Spur, it is a tough, rugged location," he explained. "We are taking a look at early reports, and will explore it as a potential resource from there."

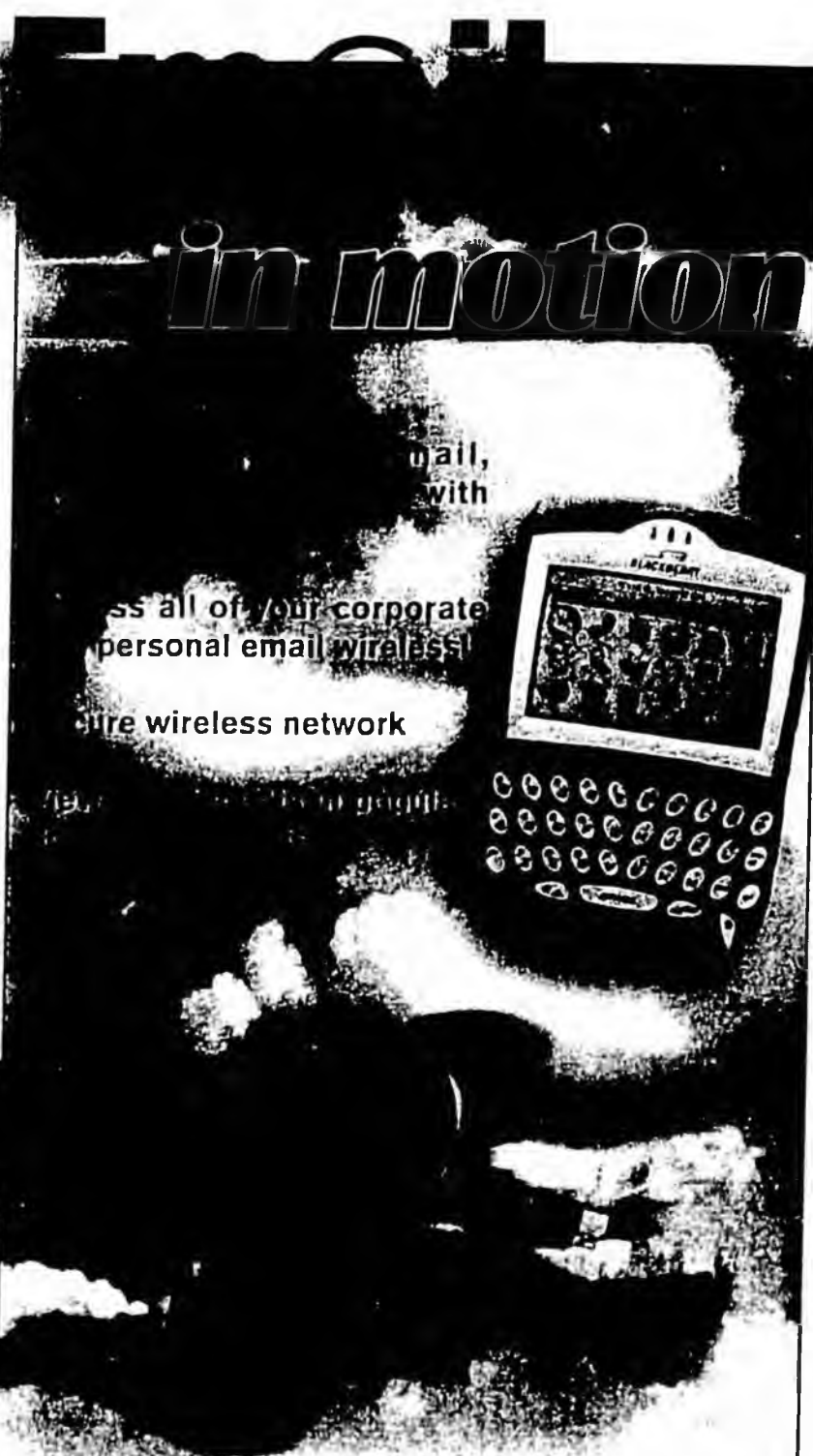
As the cost of importing diesel and developing fossil fuels goes up, Rose believes that the state will begin to look more seriously at using geothermal energy to provide for the Railbelt. Because geothermal power is a baseload resource, as compared to wind which is intermittent, the resource is considered to be a more consistent, reliable option. Some cities, like San Francisco, already get their energy from geothermal sources, and have been doing so for more than 30 years.

Chena Hot Springs Resort is one Alaska business that already takes advantage of this option. "Much of the heating provided at the resort is geothermal," explained Gwen Holdmann, vice president of new development. "Geothermal resources provide extensive direct-use heating to 46 buildings on the property, and we have also installed a custom-built absorption chiller in our ice museum that is powered by geothermal energy."

The prototype unit, which Holdmann says is the first of its type in the world, keeps the museum "on ice"



A water ram used to water the gardens at Chena Hot Springs Resort.



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year-round, without the high cost of generated electricity. The machine uses both the hot spring water abundant at Chena and the cold river water at the site to generate power. "We're saving \$400 to \$500 a day by using these on-site resources," she explained.

The resort is also in the process of installing a power plant containing two 200-kilowatt units that will be powered by the geothermal resources to displace even more diesel fuel. "The initial 200-kilowatt unit will be used to help power the resort, and the second unit will enable us to expand, and possibly supply power to other homes in the area," explained Holdmann. The \$2.5 million project, which the resort is doing in partnership with United Technology Corp., will be completed by next summer.

An even bigger project on the horizon is the digging of a 4,000-foot well to quantify the resource and determine what the true production potential is. The resort is working with the Department of Energy on this \$1.8 million project, which could conceivably allow them to build a larger-scale power plant to provide power for Golden Valley in the future.

BIOFUELS

There are a number of different types of biofuels available for Alaska's use, ranging from fish oil, which can be burned in boilers and diesel generators, to trash and wood waste, and even landfill gas. These fuels, which are normally considered waste products from other industries, could actually help to displace the use of fossil fuels, while disposing of unused byproducts.

At Denali National Park this past summer, fish oil, made from pollock and other fish byproducts from the Dutch Harbor area, was converted into 100 percent diesel fuel to run the Toklat maintenance yard and housing facility. While biodiesel had previously been used in national parks in the Lower 48, their fuel was provided by oil seeds, ethanol and animal fat rather than fish.

"Biodiesel has been proven to work in a variety of situations," said Tim Hudson, the project leader for the National Park Service and the agency's regional engineering, planning and design chief.

"The National Park Service is interested in this fuel as a way to reduce emissions and reduce petroleum consumption, especially in sensitive environments."

The test this summer also included using a blend of fish oil and traditional petroleum-based diesel in a few park vehicles, and NPS is also considering testing the fuel at Brooks Camp in Katmai National Park.

In other parts of Alaska, biofuels are being considered for use as well. Nova Fuels in California has proposed building an ethanol plant in Ketchikan,

which would use trash and wood waste to create transportation fuel. In 2004, UniSea Inc. in Dutch Harbor displaced more than 1 million gallons of diesel fuel by using fish oil.

"What's even more exciting is that municipalities, including Anchorage, are looking into ways to capture the methane produced at their landfills to create power," added Rose. "There are plants all over the world already using landfill gas, and since landfills have a life of 30 to 40 years, this could become a tremendous resource."

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TIDAL POWER AND HYDROFUELS

With so much of the state surrounded by water, it would seem a natural fit for Alaska to use this resource as a source of energy. Already in the Railbelt there are three hydropower projects, including the state-owned Bradley Lake resource, which is operated by Homer Electric; the Eklutna project, which is jointly owned by ML&P, Matanuska Electric Association and Chugach Electric; and the Cooper Lake Power Plant, owned by Chugach Electric.

While Chugach Electric and REAP

both say that they support the exploration of small-scale, low-impact hydropower projects, there are some drawbacks to the use of this source of energy, including the amount of time it takes to get a hydropower plant up and running.

"As far as I know, there are currently no study initiatives to look at the use of more hydro power in the Railbelt," said Gilbert.

There are also no current plans to explore the use of tidal power in Alaska, though it might very well become

"Promoting this form of development (renewable energy) could result in the creation of hundreds of jobs, increase the tax base and attract other industries to our state. If Alaska gets in on the ground floor, the state could reap the benefits of what is definitely the industry of the future."

—Chris Rose, Director
Renewable Energy Alaska Project

an option in the future. Tidal power requires a large tidal differentiation, which in the United States, occurs only in Maine and Alaska.

"The technology needs to mature—we are not there yet," said Rose. "We do know that tidal power works to provide energy, but it is not necessarily economical to do so right now. As more information is developed on how to build such a project, we might find a way to make tidal power economically competitive, but for now, there is not even a pilot project in the works."

SOLAR POWER

Though solar power is used extensively in Alaska by people off the grid, it has not been determined that there is any commercial application for its use, according to Rose. "Like tidal power, it is just not as competitive economically," he explained. "We'd have to find ways to deal with the fact that solar power provides a lot of electricity for part of the year and not enough during the rest of the year. It would require a large investment, and even so, solar power would still be much more expensive than wind."

THE FUTURE OF ENERGY

As interest in renewable energy grows and the cost of fossil fuels continues to rise, some of the power sources once thought "alternative" are gaining new acceptance. "Here in the Railbelt, I can see a change happening in the paradigm," said Gilbert. "Between all of the utilities, there is definitely an interest in exploring non-fuel generation."

"Alaska could become a model for the whole world in how to use renewable resources," added Rose. "There is a huge market out there for clean, inexhaustible power sources that also provide economic opportunities."



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State of Alaska Fiscal Summary

(\$ millions)

	FY06 Authorized				FY07 Governor's Budget				GF Change
	GF	Federal	Other	Total	GF	Federal	Other	Total	
1 REVENUE (Excludes Permanent Fund Earnings)									
2 Unrestricted General Fund Revenue (1)	2,664.0			2,664.0	3,139.3			3,139.3	
4 Bond Proceeds and Other Borrowing (2)			330.2	330.2			89.3	89.3	
5 Corporate Dividends (3)			114.9	114.9			105.2	105.2	
6 Retained Corporate Dividends (3)			(59.9)	(59.9)			(31.9)	(31.9)	
7 Federal and Other Funds		2,787.8	880.3	7,894.0		2,893.8	1,058.9	3,952.7	
8 Total Revenue	2,664.0	2,787.8	1,265.5	6,717.3	3,139.3	2,893.8	1,221.3	7,254.4	
9 APPROPRIATIONS									
10 Operating	2,225.5	1,683.2	1,022.4	4,931.0	3,131.4	1,800.7	1,039.1	5,971.1	
11 Agency Operations (Non-Formula) & RPLs	1,310.8	825.2	1,362.1	3,498.1	1,509.7	845.8	1,448.8	3,804.3	
12 Formula Programs (4)	1,257.5	816.0	148.6	2,222.1	1,445.9	915.0	109.8	2,470.7	
13 Debt Service	53.1	8.0	241.2	302.4	74.7	9.7	243.3	327.7	
14 Fund Capitalization	(396.0)	33.9	15.3	(346.8)	73.3	30.1	40.1	143.5	
15 New Legislation				0.0	27.8			27.8	
16 Duplicated Authorization (5)			(744.8)	(744.8)	0.0	0.0	(802.9)	(802.9)	
17 Capital	338.7	1,102.0	238.7	1,679.4	432.1	1,093.1	182.3	1,707.5	93.4
18 Project Appropriations & RPLs (Revised Programs)	332.2	1,102.0	198.1	1,632.3	429.1	1,093.1	109.5	1,631.8	
19 Mental Health Projects	6.5	0.0	5.6	12.1	3.0	0.0	3.9	6.9	
20 Projects Funded with Debt Proceeds			308.2	308.2	0.0	0.0	212.4	212.4	
21 Duplicated Authorization (5)			(273.2)	(273.2)			(143.5)	(143.5)	
22 Total Authorization (unduplicated)	2,564.2	2,785.1	1,261.0	6,610.4	3,563.5	2,893.8	1,221.3	7,678.7	
23 Surplus (Draw From CBR) at Session End	99.8				(424.2)				
24 ADJUSTMENTS TO REVENUE									
25 Fall Revenue Forecast (increase of \$15.84/bbl) (1)	1,145.7			1,145.7					
26 Public Education Fund used in Subsequent Fiscal Year (6)	416.8			416.8	3.4			3.4	
27 Other Carryforward from FY05 (6)	41.5	0.9	4.5	47.0					
28 Total Revenue	4,268.1	0.9	4.5	4,273.5	3,142.7	0.0	0.0	3,142.7	(1,125.4)
29 ADJUSTMENTS TO AUTHORIZATION									
30 Public Education Fund used in Subsequent Fiscal Year (6)	416.8			416.8					
31 Other Carryforward from FY05 (6)	41.5	0.9	4.5	47.0					
32 Supplemental Placeholder	60.0			60.0	60.0	0.0	0.0	60.0	
33 Total Authorization (unduplicated)	3,082.6	2,786.0	1,265.5	7,134.2	3,623.5	2,893.8	1,221.3	7,738.7	540.9
34 Revised Surplus (Draw From CBR)	1,185.5				(480.9)				
35 Governor's Proposed Uses of the Surplus									
36 Supplemental Appropriations (7)	180.0			180.0					
37 Public Education Fund to be used in FY07	565.0			565.0	(565.0)			(565.0)	
38 Gas Pipeline Ownership (7)	400.0			400.0					
39 Total Authorization (unduplicated)	4,227.6	2,786.0	1,265.5	8,279.2	3,058.5	2,893.8	1,221.3	7,173.7	
40 Revised Surplus (Draw From CBR)	40.5				84.1				
41 Permanent Fund Dividends			610.0	610.0			795.0	795.0	
42 Deposits to Permanent Fund Principal		1.7	901.0	902.7		0.0	691.0	691.0	
43 Capital Income Fund			30.0	30.0			28.0	28.0	
44 TOTAL WITH PERMANENT FUND	4,227.6	2,787.8	2,806.5	9,821.9	3,058.5	2,893.8	2,735.3	8,687.7	

Notes:

- (1) Revenue assumptions are from the Fall 2005 Revenue Sources Book. The oil forecast is .865 million barrels per day at \$57.30 per barrel in FY06 and .843 mbd at \$49.20 per barrel in FY07.
- (2) Money borrowed for FY06 projects and debt service includes \$62.1 million in revenue bonds, \$138 million in Airport bonds, \$20.4 million in COPs, \$85 million in ASLC bonds and \$20 million in line of credit. The FY07 budget includes \$89.3 million in funding from securitization of the tobacco settlement revenue stream, which reduces future revenue.
- (3) Corporate dividends include funds made available to the State by the boards of AMFC, AIOEA, and ASLC. Dividends retained by AMFC for debt service on state capital project bonds are subtracted.
- (4) FY06 appropriations for formula programs exclude \$410 million FY05 capitalization of the Public Education Fund (line 26) that was used for K-12 education in FY06. That amount reduces fund capitalization (on line 14) by \$416 million. FY07 appropriations for formula programs exclude \$565 million of FY06 capitalization of the Public Education Fund. That amount is shown on line 37.
- (5) Duplicated authorizations are in the budget twice, such as when funds flow in and out of a holding account or one agency pays another for services provided.
- (6) Money appropriated in one fiscal year for use in later fiscal years shows as offsetting adjustments to revenue and authorization.
- (7) The Governor has not yet provided details on the how this money is to be used.

Representative Bill Thomas, Jr.
and Representative Jim Elkins
Alaska State Legislature
State Capitol
Juneau, AK 99801-1182
February 16, 2006



Dear Representatives Thomas and Elkins,

This letter is in response to your recently-introduced "Alternative Energy" legislation (HB-445). I would like to offer resounding applause to you and Representative Elkins for your initiative to address a long-overdue Alaskan need. If I or my company can be of assistance, I would be glad to do so.

My company (Juneau Biofuels Research) has undertaken a joint venture with a local not-for-profit to produce renewable fuel right here in southeast Alaska. The enterprise will recycle waste cooking oil and refine it on a regional scale into fatty acid alkylate esters, commonly called biodiesel. This undertaking solves a chronic solid-waste-disposal problem for Alaska restaurants, while at the same time producing a clean, non-toxic, locally-consumed energy source. These two organizations have been working directly with Waste Management/Capital Disposal, Arrow Refuse, Juneau Wastewater, Southeast Conference, and Alaska Department of Environmental Conservation to address the complex issues of waste cooking oil disposal and diesel emissions reductions. Our combined effort has also garnered support from the Alaska Energy Authority, the National Park Service, Juneau's Friends of Recycling, and numerous local business establishments.

Our plan is to build a refinery and make fuel here in Juneau that will serve the whole region. It will divert nearly 800 tons (1.6 million pounds) of locally generated waste from Juneau's landfill and sewer system annually (another 2 million pounds in the rest of southeast Alaska). It will solve a costly disposal problem for regional businesses. It will create a value-added product for Juneau and other southeast communities. It will create jobs for the regional economy. Incentives through Arrow Refuse and Waste Management for businesses will encourage participation, avoiding much of the need to impose regulatory intervention on businesses with existing Alaska statutes. It is a WIN-WIN-WIN enterprise and your proposed grant fund can make similar efforts a success throughout the state.

Thank you very much for your time and efforts. I hope that all of your colleagues in the State House as well as those in the Senate see the wisdom of your hard work and rally their support behind you. Again do not hesitate to call on me or my company for support.

Sincerely,

Amy Darcie Neff

Cc:
Senator Kim Elton, Juneau
Representative Beth Kerttula, Juneau
Representative Bruce Weyhrauch, Juneau
Representative Carl Moses, Unalaska
Senator Thomas Wagoner, Resources Committee
Senator Con Bunde, Labor and Commerce Committee

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Web posted August 17, 2005

Gas, diesel prices bust all records

Spike worries businesses that will have to pass on costs to customers

NEWS

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- » Juneau-Skagway Road Series
- » Looking Forward

By **ANDREW PETTY**
JUNEAU EMPIRE

Gasoline prices continue to hit all-time highs in Juneau and diesel prices have surpassed unleaded costs in some places.

Unleaded gas and diesel have climbed about 20 cents in the last three months. Gas started at \$2.71 a gallon at the Douglas Depot on Tuesday, while the Taku Fleet Fuel station in Lemon Creek priced diesel at \$2.68 a gallon.

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- Send Editor Comment



Brian Wallace / Juneau Empire

► Fuel prices spiral up: Jerry Godkin, an independent excavator, fills a Cat excavator with diesel fuel Tuesday at Taku Fleet Fuel. Fuel prices have continued to hit all-time highs in Juneau, with diesel prices now on a par with gasoline.

SPORTS

- » Local Sports
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- » Gold Medal 2005
- » Golf News & Scores

"That's higher than I can remember," said Jeff Hansen, manager of Taku Oil Sales.

The spike continues to affect businesses that must decide whether to pass the cost on to the consumer.

Independent excavator Jerry Godkin's dump truck guzzles about five gallons per hour and he spends about \$1,100 to \$1,200 a month on diesel. In early April, diesel was at \$2.49, he said.

"The prices have flip-flopped," Godkin said. "Diesel is higher than gasoline."

Seven years ago when he began his business, the only increase he said he worried about was for insurance.

Instead of charging a fuel surcharge like others in his line of work, he adjusts his rates along with the price of diesel. It's a good thing his customers aren't complaining, he said.

"They know as well as anybody that when they get fuel at the gas pump that it's been higher than before," Godkin said.

In the last two weeks, trucking and shipping company Alaska Marine Lines bumped up its fuel surcharge from 11 percent to 14 percent.

Kevin Anderson, vice president of sales in Seattle, said diesel is traditionally cheaper than unleaded gasoline; it was only 50 cents in January 2002.

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26	27	28				

"Who knows what's creating this?" Anderson said.

Alaska North Slope crude oil closed Monday at \$63.52 per barrel. It broke the \$60 crest for the first time Aug. 5 by jumping 93 cents from the day before.

In the global market, the price of crude oil Tuesday hovered beyond \$66 per barrel, a slight dip from its peak at \$67 on Friday.

Californians are paying the most in the Lower 48 at the pump with prices more than \$3 a gallon in some places.

About a dozen refineries nationwide reported problems or unplanned shutdowns last week. Also, the U.S. Department of Energy reported declines in gasoline inventories. Industry experts say fears of Iran cutting back on production continues to fuel the bullish behavior of the market as well.

Hansen of Taku Oil Sales said in years past prices were expected to go up every summer and then taper off after Labor Day. But now Hansen says he can't predict when they will go down again.

Market diesel prices have fluctuated as much as 13 cents a day, he said. Hansen adjusts his prices with the markets in Seattle, where he buys the fuel every four weeks.

James Harris, owner of Juneau Taxi and Tours, said the increase is something he doesn't like to see, but his company will not have to increase rates until the price hits \$3 a gallon.

Another taxicab company owner says when pump prices hit \$2.75 a gallon, he may consider adjusting fares.

"We would have to do something," said Andrew Beattie, owner of Capital Cab.

The city allowed Juneau taxis to raise their rates by 90 cents in May due to rising gas prices. At the time, gasoline was around \$2.50 a gallon.

Beattie said the increase hurts locals who take short, frequent trips the most.

Harris said if gas prices drop, he wants to reduce the fares.

"Hopefully gas prices will go down after Labor Day," he said.

• Andrew Petty can be reached at andrew.petty@juneauempire.com

High gas prices mean tough winter in the Bush

Friday, November 4, 2005 - by Rhonda McBride



Anchorage, Alaska - Shakespeare wrote "Now is the winter of our discontent." But it seems fitting to describe the winter ahead for villages in Alaska that are off the road system.

In Anchorage, gas is running around \$2.50 a gallon. While that's still higher than it was this spring, it's a price that people in the Bush would be happy to pay.

Just the sounds on the radio tell you that things are different out here as you are woken up to the weather in being told in Yup'ik. Lillian Michael's Yup'ik name is Atmak, which means backpack, and she carries a heavy load these days. She's the bearer of mostly bad news about the high cost of fuel. Her home village in Kwethluk recently made the news.



"On October 7, they jacked up their prices on their gas and stove oil. They're both now over \$4 a gallon," said Michael, Yup'ik news director (right).

Atmak joined us on a trip up the Kuskowkim River by hovercraft. Kwethluk is one of the stops along the way.



It's a race against time for villagers to stock up for winter. The river is icing over, and until it freezes solid enough to make an ice road, the only place to buy food, unless you can afford fly out, is in the village. Kids still buy treats, but it's getting harder for parents to come up with the cash. Most buy on credit and many are overextended. As the high cost of fuel drives the prices up, the problem will only get worse.

"When people feel a little richer, they buy these (Lucky Charms). I used to buy these for my grandchildren. This one is \$8.19," said Michael.

It's a tough tradeoff: food or fuel. It's a choice villagers must weigh every day.



"If I get a five-gallon stove oil, how am I gonna get a pamper?" said James Nick, Kwethluk Native store manager.

Those with wood stoves might fare better. But if you live out on the tundra, it takes a lot of gas to go upriver and get wood, and most homes in this region don't have wood stoves anymore. So on average, it takes about 300 gallons of stove oil to get through the winter. That's more than \$1,200 here in Kwethluk.



Samuel Snyder grew up in Akiak, our next stop. Snyder says he's lucky to have a job on the hovercraft because he can afford to pay for fuel. But his relatives in Akiak don't fare as well.

"It's a scary thought to have to go up anymore because a lot of people in the villages are not employed," said Snyder (left).

Akiak is already on thin ice. The village government fell behind on its payroll taxes and the Internal Revenue Service seized money that was earmarked for fuel to run this power plant. It was a high voltage drama. With no fuel to run these boilers, the village was about to go dark.

"We start scrounging around. We start borrowing some fuel from the school district and the corporation," said Adam Kashetok, Akiak city administrator (right).



An emergency loan saved the day, but the circumstances that led to this crisis remains. Most people in the village had fallen way behind in their power bills and the price of fuel hovers at around \$4.20.

"It is ridiculous. It's too high," said Kashetok.



The hope is by the time barges come in next spring, the price of fuel will go down. But until the ice goes out, the price is frozen. When people get tired of crying about the cost of fuel, they joke about going back to the old days, when people traveled by dog teams to hunt and fish. But that's easier said than done. Today they fly to travel outside the village, but they're flying a lot less with the cost of fuel so high.

"It's not like people are living high on the hog in the villages in the first place," said Scott Bailey, Hageland Aviation (left).

Normally, this is a busy time of the year for Hageland Aviation, but traffic is slower this season.

"The less demand, the less we fly. The less we fly, the less employees I can employ," said Bailey.

As the economy heads downward, it won't be a soft landing. The more remote the village, the higher the cost of fuel.



"One gallon of gas is \$4.40 without tax," said Raphael Jimmy, Mountain Village.



"I'm from Hooper Bay and gas is probably like almost \$5," Effram Smith.

"I bought 11 gallons of gas yesterday for \$51," said Minnie Nook, Lower Kalskag (left).

And the question hangs heavy in the air: What will people do in the darkest days of winter?

"I don't know. I don't even know," said Patrick Edwards of Pilot Station.

Out in the Bush, gasoline is needed to fuel more than just cars.

"A lot of people out here, they depend on their snowmobiles, like a guy in the city would depend on a car," said Mike Riley, Northstar Gas, station manager (right).



At these prices, villagers may not be able to afford the gas to go out and hunt for food, which they can't afford to pay for.

"We have these Eagle brand milk, a lot of people hardly ever buy these. But they're for \$3.49 for this size," said Michael.

As Atmak works on a story about high fuel prices, she wonders how villagers, especially those with small children, can afford to survive.

"If they don't move into relatives or the relatives don't take care of them, they'll just have to live in the cold like they did a long, long time ago," said Michael.



On the Kuskokwim, the ice floes will soon come to a standstill, but many along this river already feel trapped. It will be a long winter of discontent, one many will feel grateful to survive.

In case you're curious, we went out and bought some of the goods that Lillian Michael was checking out in Kwethluk. Our purchase included Cheerios, Lucky Charms, Gold Medal Flour and Eagle brand milk. In Kwethluk, that would cost you about \$27. In Anchorage, we paid about \$13 for the same goods, using a Carr's card, which gave a \$4 discount. So the regular price of those goods in Anchorage was about \$17.



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Chilkat Valley News

Volume XXXVI Number 6 Feb. 16, 2006

Front Page

High fuel prices drive new habits

Duly Noted

By Matt Hawthorne

Letters

With gasoline and stove oil prices at an all time high, residents of the Chilkat Valley increasingly are turning to conservation and fuel alternatives.

Unclassifieds

"We've been selling tons of woodstoves," said hardware store sales clerk Dave Parks. "We've sold three this week, which is more than normal, and we've been selling them at that rate for some time now."

Yukon Quest

News Archive

Home heating oil, number 1 grade, was selling in Haines for \$2.98 per gallon this week, up more than 40 percent from last October, when the price was only \$2.11, according to fuel distributor Fred Gray. Locals pay about 30 cents per gallon more than the national average of \$2.69, according to the Energy Information Administration.

About CVN

Nick Degtoff said escalating fuel prices helped clinch his decision to open a firewood business this year. "I decided to start this business because of unregulated oil prices and the price hikes going on," said Degtoff.

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Sales are booming, he said, "between 15 and 20 cords a week."

Advertise

But even his prices have climbed as the cost of cutting and delivering wood has increased, Degtoff said. "We depend upon oil too."

High prices are not only driving some consumers away from petroleum products, it's also prompting others to trim what they do consume.

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Parks said he's seen increased demand for efficient oil-burning stoves and insulation this fall. "We've also been selling more Toyos (oil-burning stoves) because they are efficient. And we've had several requests for bids on insulation and more demand for rigid foam and other insulating materials."

To help ease the pinch of high prices, the borough assembly has proposed exempting home heating fuel from sales tax this winter. The four-month exemption period, which is set to begin Nov. 1, is expected to cost the borough about \$60,000 in revenue, but is a goodwill effort to recognize that many families will be struggling this winter, assembly members said in endorsing a resolution for the tax break at their meeting last month.

Commuters have also begun to look to alternative practices to lower personal gasoline consumption and expenses. Kim King, who lives at 26 Mile Haines Highway, has begun carpooling to town twice a week since gas prices went up in September. "We've been doing it about a month now, and it's been working great. We work out, shop, and come home."

King said the three members alternate cars, while each individual is responsible for paying for the gas in their own car. "I'm pretty frugal, and wouldn't be going to town twice a week without this," said King.

SEARHC clinic administrator Marcia Scott had considered joining a carpool for her 64-mile daily commute, but said her schedule usually prevents such collaboration.

Instead, she's found another solution. "I got a Honda CRV in December to replace our Ford Explorer. Getting a smaller, fuel efficient car was the top priority on the list."

Gasoline prices in the valley range from \$3.32 to 3.45 for regular and \$3.38 to 3.51 for diesel. A year ago Delta Western sold regular for \$2.54 and diesel for \$2.78. The Energy Information Administration's national average, tax excluded, for regular gasoline is \$2.92, up from \$1.98 a year ago.

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AEA Update: ALTERNATIVE ENERGY



Alaska Energy Authority (AEA) update

February 2006

Displacing diesel with alternatives

AEA's Alternative Energy and Energy Efficiency programs promote:

- Use of renewable energy resources and local sources of coal and natural gas as alternatives to diesel-based power, heat, and fuel production.
- Measures to improve the efficiency of energy production and end use.

Currently, AEA manages or funds 47 projects with state and federal funding totaling \$21.9 million in the areas of hydroelectric, wind, biomass, transmission and distribution, geothermal, diesel generation efficiency, and energy conservation. By displacing diesel fuel, projects also seek to lower the cost of power and heat to Alas-

kan communities while maintaining system safety and reliability.

AEA publishes the biennial Alternative Energy and Energy Efficiency Assistance Plan describing available funding, funding AEA plans to request, types of assistance that AEA provides or plans to provide, and criteria for allocating funds.

Project highlight: HYDROELECTRIC

Prince of Wales Island - Alaska Power and Telephone Co. recently completed the 2 MW South Fork Hydroelectric Project with grant and loan funding under AEA's Energy Cost Reduction RFP. The \$3.97 million project is expected to displace 536,000 gallons of diesel fuel annually, used to provide power to Craig, Klawock, Viking Lumber sawmill, Thorne Bay, Kasaan, Hollis and Hydaburg.



South Fork Hydro - water diversion construction in late 2005.

Project highlight: RETROFITS

Ruby - The Merrelina A. Kangas school, home of the Ruby Ravens, was retrofitted with more efficient compact fluorescent (T8) lighting by AEA in the summer of 2003.

saved over \$6,000 on electricity in the current year.



that the school was able to send two honor roll students on an otherwise unaffordable field trip. The school was also able to bring in a career counselor for the students. Besides the savings and direct student benefits,

The Principal, Tim Stathis, estimated that the school

Asked what the savings were used for, he replied

(Continued on page 3)

Special points of interest

- Does your office or home have an Energy Star rating?



- Energy awareness campaign in the North Star

Time to go green!

- NEW AEA website new web address

akenergyauthority.org

Inside this issue:

Project highlights: 1
HYDROELECTRIC

Project highlights: 1
RETROFITS

FUNDING: Energy cost reduction loans and grants: 2

Project highlights: 2
BIOMASS

WIND Mapping: 8

Project highlights: 3
HEAT RECOVERY

Project highlights: 4
GEOTHERMAL

AEA's Energy Group Staff Listing: 4

Hydroelectric power is one of



Alaska's most attractive alternative energy options. AEA owns **Bradley Lake** and **Larsen Bay** hydro projects, and is developing or upgrading hydro projects in **Atka**, **Akutan**, **King Cove**, and **Pelican**. AEA is investigating hydro potential in **Elfin Cove**, **Chitina** and assisting in **Gustavus**.

"Phantom" energy costs real money

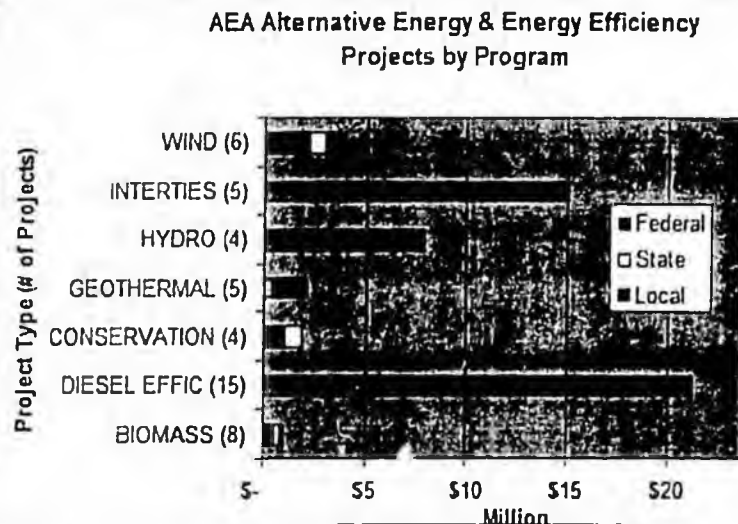
Many idle electronics, TVs, VCRs, DVD and CD players, cordless phones and microwaves, use energy even when switched off -- to keep display clocks lit and memory chips and remote controls working.

Nationally, these energy "vampires" use 5% of our domestic energy and cost consumers more than \$3 billion annually.

"Sleep" features that power down equipment and electronic devices that are turned on but not in use can save households up to \$70 annually.

Energy cost reduction loans and grants

AEA's **Energy Cost Reduction (ECR)** program offers opportunity for entities to apply for low interest loan and grant financing. A new ECR solicitation is expected in early 2006.



End use efficiency activities

The **Alaska Rural Energy Plan** identifies end use efficiency and widespread opportunities for reducing costs of power and heat.

AEA focuses its end use efficiency activities on larger facilities such as schools, community clinics, buildings and water treatment plants.

AEA has conducted state and federally-funded energy audits in **490 schools** and other facilities in **143 rural communities** over the last five years under the **Re-**

build America Program. Audits identify measures that can save an estimated \$2.3 million per year over the next decade at a one-time cost of \$4.1 million.

AEA is currently supporting lighting and other cost-effective upgrades in **55 schools** and other facilities in **17 communities**. Funding for **10 additional communities** to be completed in FY07 is requested.

AEA also supports the Alaska DOT/PF's **Facilities**

Energy Efficiency Program, projected to save the state \$3.4 million in utility costs over ten years in **eight facilities**. In 2006, **16 more facilities** may be added.

In 2005, AEA solicited proposals offering utilities and communities engineering assistance for power generation and end use efficiency upgrades.

All **14 communities** that applied were awarded funding!

Project highlight: BIOMASS

City of Craig – Funded by AEA, the **USDOE Regional Biomass Energy** partnership, and the **US Forest Service**, the **City of Craig** is in the design stage for a planned wood-fired district heating system supplying two schools and the City pool facility. The clean-burning automated chip-fired system is expected to annually displace **39,000 gallons of propane** and **16,000 gallons of fuel oil** using local sawmill residues.

AEA and its partners are soliciting requests to assess feasibility of other wood-fired facilities in Alaska. See www.akenergyauthority.org for more details and an application.

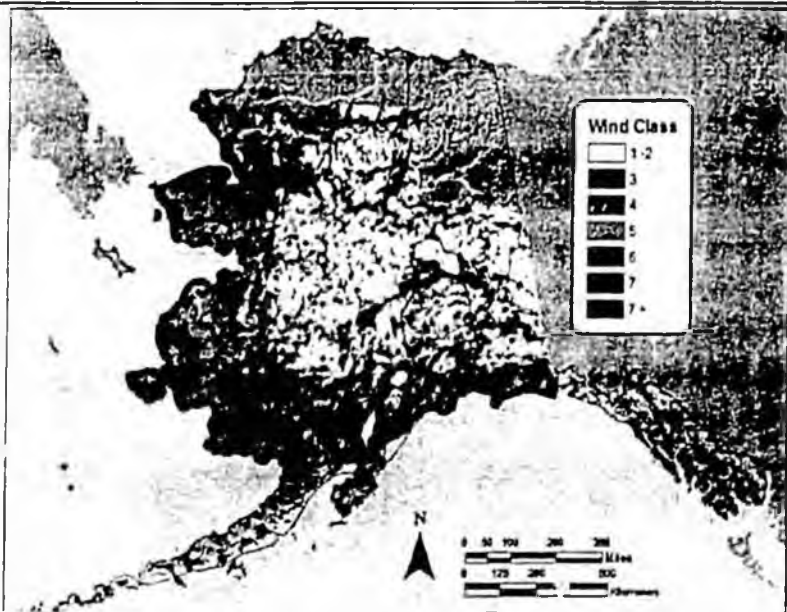
Opportunity might be in the WIND

Wind Energy Construction RFP

NEW! AEA's wind energy development initiative will provide approximately \$3,000,000 for construction of wind generation systems in rural Alaska through a competitive solicitation. Federal funds will be matched with state capital funds and local contributions. The first Request for Proposals (RFP) is expected to be issued this February.

Anemometer Loan Program

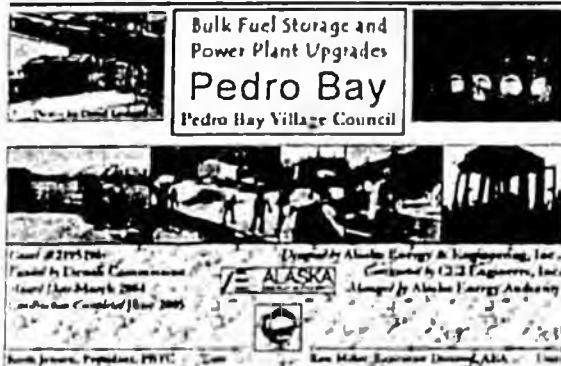
NOW! Over 35 communities are participating in AEA's wind resource monitoring program to assess the viability of wind energy in their power systems.



Go online to see AEA's high resolution wind map, Anemometer Loan Program details, wind resource reports and more! For wind in Alaska go to: www.akenergyauthority.org

Project highlight: HEAT RECOVERY

Certificate of Construction Completion



Pedro Bay - Lake and Peninsula Borough School District is enjoying the heat recovery rewards from the recently completed bulk fuel storage and power plant upgrades in **Pedro Bay**. Commissioned last summer, the AEA project included an expansion of the school powerhouse to meet the entire community's needs and an agreement between the District and the Pedro Bay Village Council to provide heat from the new powerhouse to the school. The District previously had a heat recovery system, but it was only from the school's powerhouse, so there was not enough heat to minimize fuel consumption at the school. Based on fuel data from the District, heating fuel consumption at the school has decreased by approximately 80% since the new systems were installed. At the 2005 price of \$2.72/gallon, the District will save over \$10,000 in fuel costs annually.

(Continued from page 1)

Project highlight: RETROFITS light the Ruby gym

"the gym lighting is phenomenal" according to principal Stathis. "We have been able to use it with the minimal lighting levels for lunch and other activities. Full lighting during activities such as games, assemblies and school photographs is easy to achieve, as there is no 'warm up' time in turning lights on. This also allows us to turn lights off completely when the gym is not in use."

Don Honea, the maintenance man for the school, said he felt the lighting upgrade had been a major improvement. The cages for the gym fixtures seemed to be quite substantial and had already been 'well tested' by the students. He thought the new lamps were better and he had not needed to replace any yet. Teachers and staff both commented on the improvements in lighting levels. Ronda McCarty, the administrative assistant, said the lights were better and brighter and Holly, the Kindergarten teacher, said she often uses a quarter of the lights she did before.



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Alternative Energy
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Reuben Leavenworth 269-4632
Rebecca Garcia 269-4632
Mia Devine 269-4682

Community Outreach
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Manager - BF & RPSU
Chris Mello 269-4649

Bulk Fuel (BF)
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Alaska Energy Authority (AEA) update - Alternative Energy 2006

- Biomass Energy
- Diesel Efficiency
- End-use Efficiency
- Geothermal Energy
- Hydroelectric Power
- Tidal & Wave Power
- Transmission/Distribution
- Wind Energy
- Combined Heat / Power
- Solar

Alternative Energy Options



Dillingham - AEA sets up a "met tower" for monitoring the wind resource with help from the locals.



Don't be an Energy Hog!

AEA supports the national energy awareness campaign

Turn down the heat. Lower the temperature just 10 degrees in a building or home during unoccupied times to save 10% or more on heating fuel - - try a programmable thermostat.

Turn off the power. Purchase a quality power strip to plug in the T.V., stereo, microwave or coffee maker - flip the switch off when not in use.



Project highlight: GEOTHERMAL

Chena Hot Springs - This geothermal project is an AEA Energy Cost Reduction Project. The plan is to install a 400kW geothermal power plant at Chena Hot Springs in Interior Alaska. As a technology demonstration, this will be the first power plant operated by a geothermal resource in Alaska. The geothermal power plant will replace a 200kW diesel Caterpillar genset. The first unit will start qualifications testing February with actual installation in June and November for units one and two.

Projected savings: Based on October 2005 fuel costs of \$2.50/gallon, the Chena project is expected to displace 96,725 gallons of diesel fuel and save \$241,812 of diesel costs annually.