

Haines Borough Energy & Sustainability Commission

Stephanie Scott, Coordinator
Coordinator Monthly Report
November 2008

I. Local Retail Energy Price Declines in all Sectors Save Commercial IPEC Power Rates

A. Heating and Vehicle Fuel. Stove Oil (#1), furnace Oil (#2), propane, diesel, and electricity have gone down several percentage points since the end of September. The only rates increasing are IPEC's Commercial rates. Currently, stove oil is \$4.15 a gallon, down \$.86 since September 22; furnace oil is \$4.13/gallon, also down \$.86.

The average price for unleaded gasoline in the Borough (5 separate locations) is \$3.961, with a high of \$3.999, a low of \$3.929, and an average savings of \$.65 per gallon over September prices.

The average price for diesel in the Borough (5 locations) is \$4.779/gallon, with a high of \$4.890, a low of \$4.719, and an average savings of \$.42 over September prices.

The cost of unleaded gasoline and diesel in the Haines Borough compared to regional and national averages as of 11/18/08 posted at <http://www.fuelgaugereport.com/Akmetro.asp>

	National	State	Juneau	Anchorage	Fairbanks	HAINES
Unleaded	\$2.068	\$3.150	\$3.299	\$2.917	\$3.023	\$3.961
Diesel	\$2.961	\$4.141	\$4.649	\$3.895	\$4.053	\$4.779

The State House Judiciary Committee held its third hearing into the high prices of gasoline in Alaska on Friday, November 21st from 2:00 p.m. till 4:00 p.m., at the Anchorage Legislative Information Office.

Rep. Jay Ramras, R-Fairbanks, the committee's chairman said, " Although the price per gallon has fallen \$.908 since last month, the price of gasoline has yet to equalize with prices in the rest of the U.S. The House Judiciary Committee will address this price disparity and what legislative action may be taken in the 26th Legislative Session."

B. Electric Rates. AP&T residential rates dropped a fraction of a cent. Commercial rates dropped \$.03 per KWH. IPEC residential rates dropped \$.035/KWH but commercial rates increased by \$.033 per KWH. The change in electric rates is attributed to a decrease in the Energy Charge at AP&T and an increase in the Fuel Surcharge at IPEC. Jodi Mitchell, IPEC CEO writes (email, November 6, 2008),

...we had a COPA (aka fuel surcharge) adjustment which became effective in October, but all other rates remain the same and have since our last RCA rate case which used 2004 as the test year. The new COPA is \$.228 per kWh, up from \$.1945 the previous quarter.

Now that fuel prices have fallen dramatically, the COPA which will become effective in January should be lower as long as fuel prices stay down. We update the COPA after each quarter using actual fuel bills paid for the quarter.

IPEC residential customers benefited from a corresponding increase in the Power Cost Equalization Credit from \$.4138 to \$.4456 per kWh for the first 500 kWh on residential bills effective in October.

Ms. Mitchell goes on to say,

I am hopeful that our industry and member-owners can obtain legislation next year that will fund PCE for more customer classes. Rep. Bill Thomas did try to insert language for this, but it was cut in committee during the special energy session. This would help all members at least until we can obtain funding for infrastructure projects that will cut our diesel dependence.

Recommendation: Contact Representative Thomas to ascertain status of legislation adding currently excluded groups from PCE credit. Groups excluded include commercial customers and schools.
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C. AP&T Rates May Rise: Goat Lake Hydro, Inc. (GLH) Tariff Revision

In July 2007, Goat Lake Hydro, Inc., a subsidiary of Alaska Power Company, entered into tariff revision discussions with the Regulatory Commission of Alaska (Matter of Tariff Revision, designated as TA5-521, U-07-78). Goat Lake Hydro, Inc. proposes to increase the annual rate of its Power Sales Agreement with Alaska Power Company by \$.01 (from its from \$.07666/KWH to \$.08666/KWH). Goat Lake's current tariff was instituted April 1999.

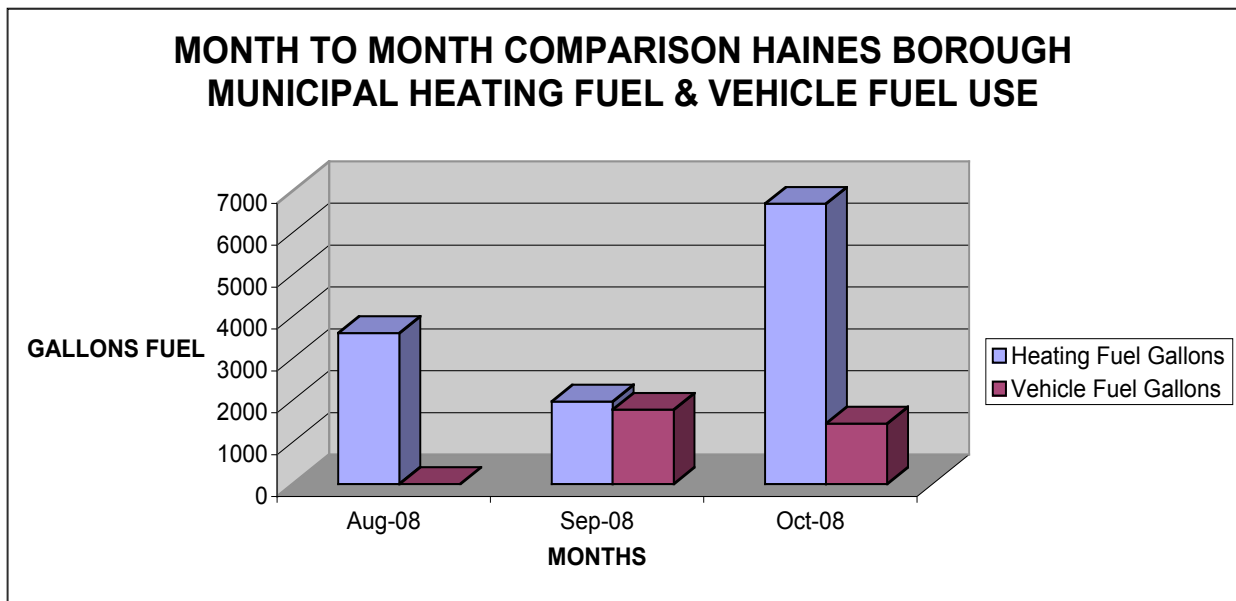
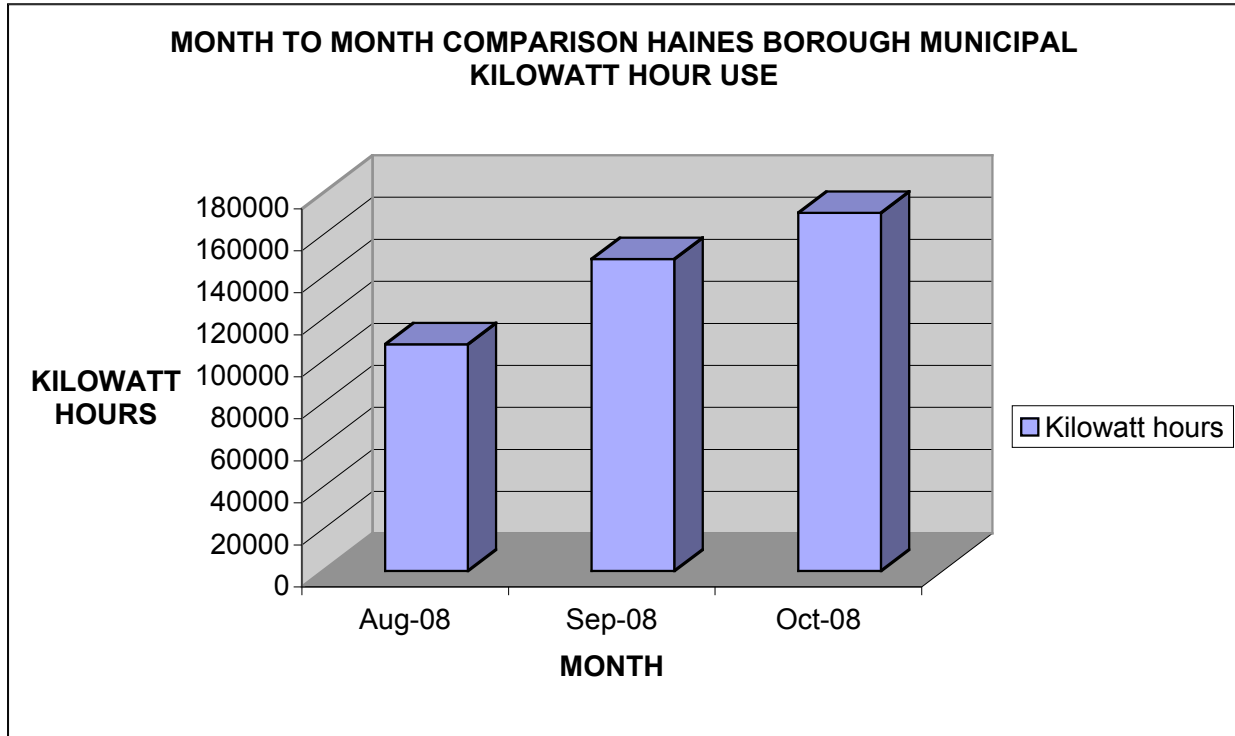
Goat Lake's argument in favor of an increase was rebutted May 2008 in testimony filed with the Commission by Janet Fairchild, Public Advocate Utility Analyst in the Regulatory Affairs and Public Advocacy (RAPA) section of the state's Attorney General's office. Based on her analysis, Ms. Fairchild recommends that the request for a rate increase not be approved. A hearing took place November 13, 2008 before an Administrative Law judge. Please contact me if you would like a copy of the 125-page hearing transcript. The final order is due January 30, 2009.

II. Haines Borough October Municipal Energy Bill

October 2008, Haines Borough and School District combined expended a total of \$57,997.17 for fuel and electricity. This compares to \$51,954.97 in September and \$43,265.06 in August. Costs are creeping up, as you would expect since use is also creeping up as days decrease in length and become increasingly colder. Cost is not

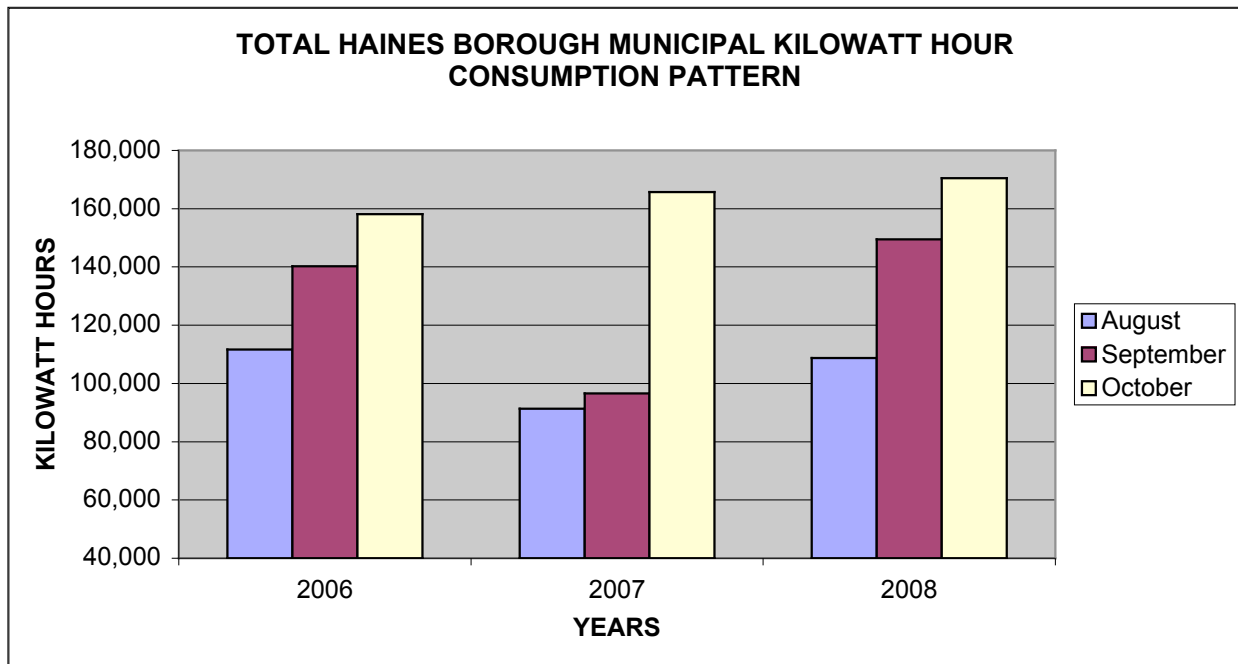
always the best indicator since prices vary. The Haines Borough also received a \$2,226.06 credit from Alaska Power Company for the PCE for which it recently qualified.

Looking at actual use of energy in its respective units (kilowatt-hours and gallons), the charts below show a steady increase in kilowatt-hours, an increase in heating fuel gallons delivered over the past two months, but a slight decline in vehicle fuel.

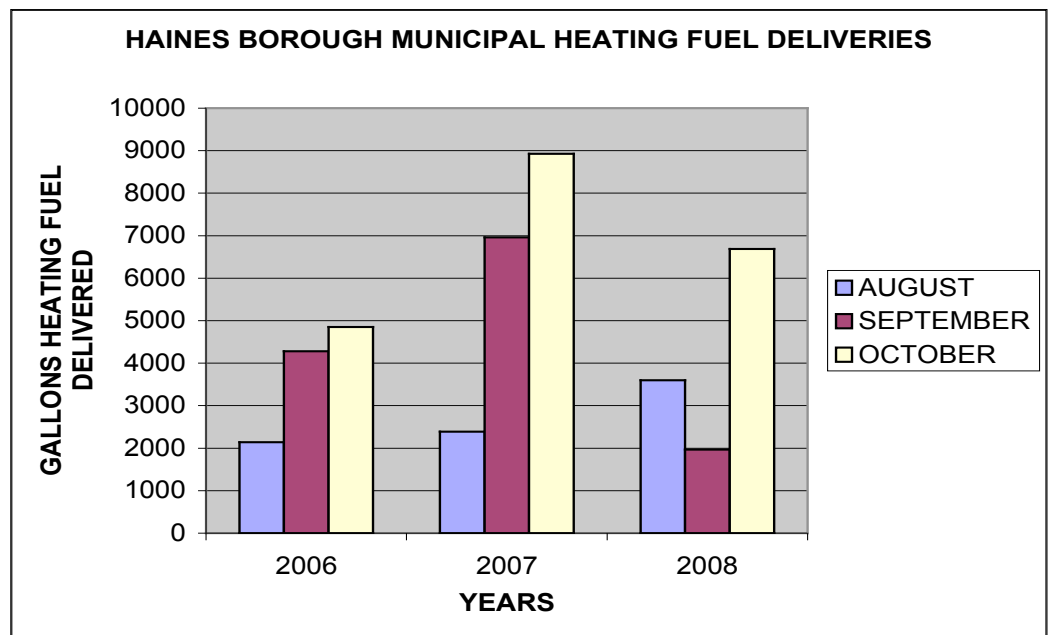


There appears to be a spike in heating fuel but the lesson learned by analyzing the data over a three-year period is that deliveries are uneven and often depend on the size of the facility's tank, and the program of filling practiced by the distributor, as well as on gallons consumed. The quarterly or annual gallons delivered may be a more accurate indicator of rate of consumption.

Comparing consumption across the three-year period (2006,2007,2008) designated by the Commission also indicates the same pattern of increasing consumption.



The comparison of heating fuel deliveries is complicated by the construction of the new school. From September 2007 to May 2008, heat plants were operating in the new school, the high school, and the elementary school. I believe, however, it is safe to say that the municipality is experiencing a



savings in heating fuel expenditures due to the retirement of the old heating systems for the high school, elementary school, and primary school.

III. Sector Level Energy Efficiency & Conservation Work

A. Sector Energy Consumption Analyses Completed

There are now excel workbooks detailing gallons of heating fuel delivered and kilowatt hours consumed for of the following units:

- Administration building
- Public Safety Building
- Public Works Shops (old and new)
- Outdoor Lights
- Water Plant and Pumps
- Sewer Plant and Lift Stations
- School Buildings
- Visitor Center
- Chilkat Center
- Sheldon Museum
- Public Library
- Ports & Harbor
- Vehicle Fuel Use

The workbooks and charts displaying the data have been transmitted to the heads of each facility.

B. School Buildings. I will make a presentation on the school building data to the Haines Borough School Board December 2. Melissa Aronson, Frank Holmes, and I met with High School science teacher Mark Fontenot, Thursday, November 13. We tentatively planned to draft Commissioner Moody to present an overview of the Conservation/Efficiency project to students (using the slides developed for the Assembly presentation). The students will target areas of the school for in-depth analysis of energy consumption. The pool, the gym, and one of the classrooms were suggested. Areas will be assigned to student teams, guided in their work by volunteers, first to map, then to calculate loads and leaks; and finally to present data to the school administration and school board along with recommendations to reduce consumption through conservation and efficiency.

C. Borough Administration Building. I quickly inventoried electronics in the Administration building to get a sense of how to organize the effort. I took advantage of a time when the building was largely empty. I learned that it is a) time consuming; b) easy to overlook items; and c) requires a lot of poking around which can be disruptive, if not down right annoying. A thorough job requires lots of cooperation from staff or after-hours time.

D. Public Safety Building

Chief Gary Lowe has prepared a plug load analysis for his section of the Public Safety Building occupied by the Police Department. We met Friday, November 21 to talk about

energy consumption reduction strategies including replacement of T12 lights with more efficient T8s.

E. Library. I noticed that during the period June-October over the past 3 years the library steadily reduced fuel oil deliveries. Deliveries declined from 251.40 gallons, to 190 gallons, to 15.7 gallons! Although over all, annual consumption increased for 2008 for the Jan - Oct. period (2006: 2023.80 gallons; 2007: 1818.20 gallons; 2008: 2486.50 gallons) the radical decline during seems like during the recent period (June to October) merited inquiry.

In a November 4 email, Library Director Nannette Miller, wrote:

We completely turned off the boiler for the summer. I did have to turn it on for a couple of days when it was 55 in the library and the staff was wearing mittens at the circulation desk. The thermostats are set at 65 all of the time – they are not programmable. (Emphasis added). I guess we will see what our usage looks like over the winter to see what difference that makes. I think it is interesting that usage went down in 2007, and has now jumped higher than 2006. I wonder what they did that year. I will try to find out.

It is well known that turning down a thermostat in a building reduces fuel consumption. According to the US Department of Energy,

By turning the thermostat back 10°–15° for 8 hours, you can save about 5%–15% a year on your heating bill—a savings of as much as 1% for each degree if the setback period is eight hours long. The percentage of savings from setback is greater for buildings in milder climates than for those in more severe climates. http://apps1.eere.energy.gov/consumer/your_home/space_heating_cooling/index.cfm/mytopic=12720.

Programmable thermostats are recommended, but not for in floor heating systems. The Library is an in floor system. See the above referenced link for a discussion of the limitations presented to programmable thermostats from radiant floor heating, heat pumps, and electric resistance heating.

IV. Energy Talk. We have had three programs to date:

- November 3, Deciphering an Electric Bill (Danny Gonce, AP&T Power Manager, ESC Commissioner)
- November 10, Phantom Power (Aaron Johnson, Library Technology Coordinator)
- November 17, Savings with a Switch to T8 Energy Efficient Fluorescent Lights (Doug Olerud, local business owner, Member of HB Assembly)

Upcoming programs include:

- November 24, Holiday Lights, LEDs v. traditional Incandescent (Stephanie Scott, Energy & Sustainability Coordinator)
- December 1, A Home Energy Audit (Johnny White, AK Energy Auditor)

V. Borough Facilities Maintenance Technician Initiates Gradual Program to Replace T12 Fluorescent Lights with Energy Efficient T8s

Eddie Bryant, Borough Facilities Maintenance Technician, has been quietly removing T12 fluorescent lights and their magnetic ballasts, and replacing them with the more efficient T8s. Last spring he retrofitted all the lights in the Senior Center. Now he has replaced one-third of the lights in the Administration Building. There are about 50 two-lamp fluorescent lights in the Administration Building. A standard two-lamp magnetically ballasted T12 fixture averages 98 watts per hour (.098/KWH) compared to the 64 watts per hour (.064/KWH) for a two-lamp T8 electronically ballasted fixture. Although the per hour cost to operate each lamp is pennies, the savings is clear when multiplied by the number of fixtures and the number of hours and days on.

Two-lamp T12: $.098 \times .1444$ (cost per KWH) $\times 10$ (hours on) $\times 250$ (days open per year) = $\$35.378 \times 50 = \1768.90

Two lamp T8: $.064 \times .1444 \times 10 \times 250 = \$23.104 \times 50 = \$1155.20$

Using the Administration building as an example, and making some high use assumptions for illustrative purposes, you can see that lighting accounts for approximately 40% of the monthly kilowatt-hour consumption. $(.098 \times 10$ (lights on) $\times 20$ (days open) $\times 50$ (number of fixtures) = 980 KWH/2579 (October Admin. KWH). When the building is completely converted to T8s, the kilowatt-hour consumption may be reduced by 15% $(.064 \times 10 \times 20 \times 50 = 680/2579 = 25\%)$. Retrofitting the lamps will clearly move the Administration building in the direction of a 5-7% reduction in kilowatt-hour consumption.

Recommendation: Commend Borough Facilities Maintenance Technician Eddie Bryant for his investigation into and implementation of energy efficient lighting technology. Manager Bolen suggests that recognition be offered at the Borough December 12th Holiday Banquet.

VI. Commission Finances

Travel expenses for our representative at the Sitka Wood Energy Workshop (Oct. 29-30) were reimbursed \$132.00 for ferry transportation instead of the anticipated \$250.00. The total cost incurred by the Commission for the Sitka Wood Energy Workshop was \$382.58. We initially budgeted \$307.58 based on the assumption that Tongass Futures Roundtable would pay a maximum of \$250.00. In the end, Tongass Futures paid only the transportation costs. That total is calculated as follows: \$242.58 (lodging) + \$140 per diem + \$132.00 AK Marine Highway - \$132.00 transportation grant from Tongass Futures Roundtable = \$382.58.

VII. Support for Small Businesses Seeking to Install Renewable Energy Infrastructure or Retrofit Property to Achieve Conservation and Efficiency

Shane Horton has given the Commission a document outlining the case for opening the Haines Borough Permanent Fund to investors willing to install Outdoor Wood-Fired Boilers (OWB). Mr. Horton's document is included with the materials transmitted to you for the November 25 meeting.

A. Haines Borough Permanent Fund. The disposition of the Permanent Fund is outlined in Title 3.24 of the Haines Borough Code. According to the Borough Chief Financial Officer, Jila Stuart, Haines Borough voters must approve investments other than those stipulated by the Code.

According to Code, the Permanent Fund can only be invested in the following:

1. U.S. government obligations, U.S. government agency obligations, and U.S. government instrumentality obligations that have a liquid market with a readily determinable market value;
2. Obligations of the state of Alaska or municipalities of the state of Alaska, grade A or better;
3. Bank certificates of deposit that are secured as to the payment of principal and interest in accordance with Alaska law;
4. Corporate obligations of investment grade or equivalent quality as determined by a nationally recognized rating organization;
5. Domestic and foreign common stocks and preferred stocks of publicly traded companies including public real estate investment trusts; provided, that the total exposure to stocks shall be diversified among issuers and sectors and will not exceed 25 percent of the market value of the permanent fund;
6. Fixed income (bond) money market funds, mutual funds and index funds with a minimum four-year track record;
7. Equity mutual funds and index funds with a minimum four-year track record and subject to the percentage limitation in subsection (C)(5) of this section.

On the other hand, Permanent Fund "net income" can be allocated through a budget process. Net income is limited to a maximum of 3.5 of the average total market value of the fund for three of the four fiscal years immediately preceding the budget year. According to the current Borough budget, the projected fund balance 6/30/2009 is \$6, 211,972. Estimated income for FY09 is \$87,800. The Assembly transferred \$112,000 from the Permanent Fund to the General Fund in this current budget cycle.

B. Haines Borough Economic Development Fund. The Haines Borough also has an Economic Development Fund (HBC Title 3, Chapter 3.23) financed by 1% of the sales

tax collected within the Haines Borough. The Economic Development Fund is specifically established for purposes relating to economic development. The Economic Development Fund has a projected fund balance of \$334,098. Estimated revenue for FY09 is \$5,543.

Recommendation: Seek advice from Borough Chief Financial Officer on the pros and cons of drawing from either fund to create a low-interest, no-interest loan program for local investment in renewable energy infrastructure.

C. Property Tax Exemptions for Renewable Energy Infrastructure.

DSIRE tracks renewable energy related statutes nationally. Thirty-three states and Puerto Rico provide for exemption from property taxes for at least one type of renewable energy installation. The list and the policies themselves are available at <http://www.dsireusa.org/library/includes/type.cfm?EE=1&RE=1>.

According to Local Government Specialist, Lawrence Blood (Department of Community and Regional Affairs), the Haines Borough does not have the authority to exempt classes of property from exemption unless authorized to do so by the state. See the emailed opinion from Mr. Blood included with your November 25 meeting agenda materials (Agenda Item 8 (New Business) e). Mr. Blood recommends carrying a proposal for property tax exemption to our state legislators.

I have a follow-up question to him about the possibility of a Property Tax credit or rebate. He is out of the office until November 24.

What about a property tax credit? Property is assessed, valued, taxed. Then the owner may apply for a credit for renewable energy infrastructure. Here is an example from Howard County, Maryland:

Real property owners may receive a property tax credit against the county property tax imposed on a resident structure that uses a solar or geothermal energy device. The amount of the tax credit allowed is equal to the less of 50% of the eligible costs; or \$5000 for a photovoltaic (PV) or geothermal heating system, or \$1,500 for a hot water supply system.

D. Sales Tax Exemption for Renewable Energy Systems and Energy Efficient

Devices. Another avenue the Borough might consider to provide incentive as well as relief to business people and residents trying to acquire renewable energy systems and energy efficient devices is to exempt qualifying items from local sales tax. Please see the Memorandum and recommendation regarding this matter I prepared for you (Agenda Item 8(d)).

E. State and Federal Programs Available to Assist with Renewable Energy Capitalization and Energy Efficiency Retrofits.

I have prepared a summary of State and Federal programs that can offer loans (state) and grants (file title: Funding for Small Business). There are also Tax Credits available. I find that the best place to start to develop an understanding of the Federal Tax Credits available is the Data Base of State

Incentives for Renewables & Efficiency (DSIRE) (<http://www.dsireusa.org/>). It also reviews Federal Incentives.

VIII. Inquiries Regarding the Creation of a Municipal Electric Utility. Several residents have contacted me asking about the feasibility of a municipal electric utility. Consultation with the Department of Community and Regional Affairs, other municipal utilities, and the Regulatory Commission of Alaska is required to sort out the required procedures. I await Commission direction before digging into this matter.

IX. State Programs

A. AHFC Home Energy Rebate Program

Bryan Butcher, Director of Governmental Relations and Public Affairs, with AHFC, provides the following status report on the Home Energy Rebate Program, November 17, 2008

The AHFC Home Energy Rebate Centralized Waitlist has been completely updated and is available for Alaskans to not only sign up for an energy rater but also to check on where on the list they are located. The lists from all of the energy raters have been added to the list since the website went active and have been put in order by date of sign-up.

The home energy rebate program website is **www.akrebate.com** and the toll-free number is **1-877-AKREBATE (1-877-257-3228)**. Anyone that has signed up on a rater list can get on the website and check to see what number they are on the list for their community.

According to the wait list transmitted with Mr. Butcher's email, Haines has 36 people waitlisted. Mr. Butcher's email was forwarded to me through Representative Thomas.

B. Net Metering/Interconnection: Watch for Workshop Dates

October 22, 2008, the Regulatory Commission of Alaska (RCA) opened two new dockets to pursue net metering and interconnection standards for Alaskan consumers and utilities. The RCA rejected the Federal standards for net metering and interconnection this past summer, finding that the federal standards did not suit unique Alaskan conditions. A presentation of the issues is posted at <https://rca.alaska.gov/RCAWeb/NewsItems/NewsItemDetails.aspx?id=cea22895-7e64-46dc-bb87-497951ca8fdd>. If this link does not work for you, I can send you the presentation.

The Staff presentation lays out a course for going forward with net metering and interconnection regulations. The Orders will go out in the near future opening dockets for both net metering and interconnection regulations, establishing commission goals for the proceedings, setting forth a straw man proposal to initiate discussion, and establishing dates for workshops.

Recommendation: Track both topics through the RCA website and with phone calls. Designate a Commissioner to participate in teleconferences.

X. Communications

Shane Horton, sdhorton@aptlaska.net, discussing his interest in developing local government financial support for local businesses seeking to install renewable energy infrastructure.

Shane Horton, Doug Olerud, Glenda Gilbert, Chamber of Commerce, 10/26/08, conveyed Federal Income Tax deduction information for commercial owners who install energy efficient improvements.

Fred Gray, fredg@deltawestern.com, 10/25/08, 10/27/08, regarding his complaint about the Energy & Sustainability Commission news item in the Lynn Canal Conservation Fall Newsletter.

Laurel Hoyt, Post Carbon Cities, laurel@postcarbon.org, 10/28/08 outlining the plan developed by the Commission 10/21/08 to develop a set of recommendations for saving energy in a hurry should there be a crisis that entails energy shortages.

Jason Spence, Hardy Heating, Wasilla, AK, jspence@hardyheating.com, cell 354-1003, 10/30/08, contact regarding ground source heat pumps. Conveyed information re K-12 school, library, administration building to acquire rough estimate for cost and subsequent savings on heating fuel for a geothermal heat system. Networked Hardy Heating, Dan Austin, Project Manager for Haines Assisted Living Project (HAL), and Jim Studley re the HAL geothermal heat system proposed for the project.

USDA Rural Development, Dean Stuart, Palmer, AK, 907-761-7722. dean.stewart@ak.usda.gov. 11/4/08. Stewart explained the USDA-RD "Rural Energy for America Program," and the funding opportunities for small businesses interested in financing renewable energy or energy efficiency projects. Applications will be available November/December. There are two funding cycles: march/April and June/July. Stewart will email notification of applications. This program receives funding through the 2008 Farm Bill. Funding has been increased from \$23 million to \$50-55 million nationwide.

Cristal Fosbrook, cristal.fosbrook@us.army.mil; Cynthia Tomlinson, cynthia.tomlinson@us.army.mil, Army Project Managers, 907-384-3010, 11/5/08, requested proper contact for the Tank Farm in order to pursue assessment of wind potential in the area. Fosbrook and others were meeting in Haines.

Margaret O'Neal, JEDC, 907-523-2326, moneal@jedc.org, www.jedc.org, 11/6/08. JEDC can finance renewable energy projects (most business purposes are eligible) but the loan program is meant for job creation and to help small businesses with good prospects that cannot attract conventional financing. JEDC favors projects that create or retain one year-round full-time equivalent job for every \$30,000 in loan funds. JEDC makes only secured loans that are to be repaid in less than 5 years. Jeff Stout is the local representative on the Revolving Loan Fund.

Matt Davis, Haines resident, 766- 3756. 11/07/08. Mr. Davis phoned to discuss

calculating energy consumption of municipal buildings on a per-person basis.

Greg Palmieri, DNR, 11/17/08, email advice regarding biomass-heating system.

After speaking with Steve Haagenson and Chris Mello from AEA I felt like Haines was in a good position to get support from the State on our potential biomass heating project. I sat next to Rep. Bill Thomas and also had an opportunity to educate him on the project, and I believe he will be a strong supporter even though he would ultimately like to provide hydroelectric production facilities to all of his district and will be supporting that development as well.

I think the most important thing was the convincing discussion all the presenters made on the development of biomass fuel on some level as a sustainable long term contributor to the reduction in fossil fuel consumption. As a result, I would say that timing is important, and that if Haines is committed to resource independence at least on a governmental level, we need to continue to move forward to receive all the benefit possible from the agencies/organizations which are currently prepared to assist us.

Steve Haagenson explained that the AEA response to the recent RFP will be made to the communities by the end of December with possible meetings scheduled in January. I think the community should be prepared to either commit to this path or diverge from it, by that time. I have talked with one local operator about the possibility of supplying chips to a borough facility using a chipper leased from the borough for a period of years, if a contract to do so was requested. The operator was very interested and agreed to come speak to the commission at some point, if you felt that would be beneficial. My thought was, if questions about supply development came up, the commission could have a first hand discussion with a possible supplier to get a sense of interest and enthusiasm for this type of project from the local industry.