



Haines Borough Energy & Sustainability Commission  
Stephanie Scott, Coordinator  
Coordinator Bi-Monthly Report  
April 7, 2009

**Six Month Summary of Coordinator's Activity**

Please see the memo to the Manager from the Coordinator, dated March 20, 2009, and posted on the Haines Energy & Sustainability Commission web page for the April 7, 2009 meeting (<http://www.hnsboroesc.outlierproductions.com/april72009.html>).

**Finances**

There is a balance of \$3439.41 in the \$5000 expense account.

**Energy Efficiency and Conservation Block Grant Program (EECBG).**

Fifty thousand dollars (\$50,000) has been allocated to the Haines Borough through the EECBG Program. The Chilkat Indian Village (Klukwan) has been allocated \$39,300 and the Chilkoot Indian Association (Haines) has been allocated \$43,000. A total of \$9.7 million has been allocated to the State of Alaska and more than \$12 million has been allocated to tribal governments in Alaska. Entities must apply for the funds. Applications from local and tribal governments are due June 25. See the attached press releases from Senator Begich and from the US Department of Energy. For a more detailed description of the application process and activities eligible for funding, see Agenda for Meeting #13, New Business (e).

**Haines Borough Energy Plan: Chris Rose Presentation**

Foundational activities for adding an Energy section to the Haines Borough Comprehensive Plan include a presentation on energy planning from Chris Rose, Executive Director of the Renewable Energy Alaska Project. REAP "is a coalition of urban and rural and Alaska utilities, businesses, conservation and consumer groups, and Alaska Natives with an interest in developing Alaska's vast renewable energy resources" (for more information, see <http://www.alaskarenewableenergy.org/about/>).

Mr. Rose will speak in Haines April 18. See the attached memo to the Haines Borough Planning Commission Chair. In a telephone conversation with Planning Commission Chair Lee Heinmiller April 2, 2009, Heinmiller indicated support for the development of an Energy chapter for the Haines Borough Comprehensive Plan.

The Energy & Sustainability Coordinator is compiling documents that can inform the drafting of an Energy section for the Haines Borough Comprehensive Plan including:

- City and Borough of Juneau 2008 Comprehensive Plan, Chapter 6, *Energy*
- City of Homer Comprehensive Plan, draft, *Chapters 4 and 8*
- City of Homer *Climate Action Plan*
- *Alaska Energy Efficiency Program and Policy Recommendations and Appendices*, Interim Report to Cold Climate Housing Research Center, March 5, 2008
- *Long Term Energy Supply: Will we be Prepared?* Local energy supply analysis based on projected future needs for an all-electric Haines, prepared by John Norton, April 7, 2009.

Download copies of these papers the Haines Energy & Sustainability website at <http://www.hnsboroesc.outlierproductions.com/hbenergyplan.html>.

### **State Energy Legislation**

**House Joint Resolution No. 25 and its Committee Substitutes:** House Special Committee on Energy Committee Substitute; House Resources Committee. When the representatives sponsoring HJR 25 met as the House Special committee on Energy, they authored the following changes to the original Resolution:

**Urging the United States Congress to Classify hydroelectric power as a renewable and alternative energy resource.**

WHEREAS hydroelectric power is a viable source of clean, renewable, and long lasting electric energy in many areas of the state, ~~including the southeast, western, southwestern, and southcentral areas of the state;~~

WHEREAS hydroelectric energy can be developed in Alaska largely using high-elevation lakes and run-of-the-river systems that ~~require little or no dam construction and have little~~ have few or no negative environmental effects;

The Energy Committee referred the resolution to the Resources Committee March 25. The House Resources Committee includes 4 of the initial sponsors of the Resolution (Edgmon, Wilson, Johnson, Tuck) plus Representatives Newman, Kawasaki, Olson, Seaton, and Guttenberg. As of April 1, this resolution has not passed out of Resources.

**House Bill 196: Alternative Energy Revolving Loan Fund.** This bill has been referred to Finance. This bill begins the effort to resurrect funding accessible to Alaskan's desiring to add renewable energy infrastructure to their property. The fund was originally established in 1978 and designed to make loans up to \$30,000 available to Alaskans. It amends the original language to include high efficiency pellet stoves but retains the exclusion for stoves that use only coal, oil, or unprocessed wood for fuel. See the Sponsor's Statement posted on April 7 ESC meeting webpage, New Business (c).

### **Facility Energy Issues**

#### **Checklists for Tracking Conservation Strategies Implemented**

The Haines Borough Energy Conservation plan, now adopted by the Assembly, calls for feedback between occupants of borough facilities and the ES Coordinator. I have drafted a checklist that could serve as a reminder of no-cost, low-cost conservation strategies, as well as a

method for logging in conservation and efficiency actions taken in each facility. It will have to be approved by the Manager before it goes into circulation. I would like to know what you think. It will be available on the April 7 Meeting webpage.

### **Chilkat Center.**

**Heating and Ventilation.** Brad Maynard, Public Facilities Director ([bmaynard@haines.ak.us](mailto:bmaynard@haines.ak.us)) has prioritized investigation of the heating system at the Chilkat Center due to the high energy costs associated with that facility. Mr. Maynard focused on the heating and ventilation system. He reports the following:

*I did take a good look through the Chilkat Center with Ed as the heating costs are so alarming. After looking through the building, I noticed that in both the Mechanical Room and the Boiler Room all of the dampeners and louvers on these systems are either disabled or blocked from operating properly. Also many of the control circuit components have been opened up and wires exposed, so I am not sure if these have been modified from original design. In addition to these two locations, I would assume there are several other places where the system is adjustable and can be balanced by zone to get optimum efficiency. I did not look into this further because without drawings it would take a lot of time to find all these but if they also have been “adjusted” this could add to the problem.*

***Probably the best direction to take would be to first get the systems re-worked by a mechanical/electrical group so everything works per the design, rebalance the system and once this is complete, look at other improvements to reduce heating costs (emphasis added).** I am not surprised the system is in the condition it is, pretty common for people to “adjust” their zone, but it really affects the system as a whole.*

*In the past where I have had this problem I would keep detailed and accurate records of the settings so when issues came up again, I only had to move controls and louvers back to their balanced positions.*

The Chilkat Center was surveyed by PND Engineers in May 2008. Page 25 of the survey states:

“The fan outside and return air damper controls were not functioning and all the fan inlet doors were also observed open, effectively negating outside air intake and drawing return air into the fan through the mechanical room space.

The outside and return air damper controls were not functioning: actuator linkage removed, dampers non-operational, and the linkage was fixed in place with wood.”

PND recommended the following corrective measures for an estimated cost of \$80,000.00. The cost is not analyzed in terms of potential savings.

Recommend Renovation of the building heating and ventilation controls with modern Direct Digital Controls. Modern DDC type controls will be able to more efficiently

operate the heating and ventilation systems and allow the user (to) schedule, monitor operation, and trend the building heating and ventilation systems. Therefore, even though the systems when operating correctly will be heating more outside air (as required by code) these systems should be more efficient due to the DDC systems. The DDC controls should be tied into the heating circulation pump controls and possibly the boiler operating controls. The heating units should also be connected to the DDC system for monitoring and scheduling purposes.

### **Lighting System.**

**Exterior.** PND observed that exterior luminaries are in fair to poor condition and should be replaced with “LEDS, compact fluorescent, and High Pressure Sodium” (p. 29).

**Interior.** PND submitted this set of criteria to achieve energy conservation (See page 29 of the Survey):

1. Replace all incandescent lighting in utility spaces with fluorescent.
2. Replace old track type incandescent flood lighting. It has reached the end of its life and should be replaced.
3. Shift the dominance of illumination from ambient to task lighting. Provide only the minimum amount of ambient illumination necessary. Provide task illumination of specific areas where more illumination is needed.
4. Control as much lighting as possible with Occupancy Sensors – which typically saves 15-25% of energy currently used for lighting.

### **K-12 School KWH Consumption.**

**Demand Charge.** In addition to paying for electricity per kilowatt-hour, the K-12 School & Pool also pays a “demand charge” per kilowatt (not KWH) demanded over a certain amount. The school is in the A-3 rate group, so it pays \$5.42 per KW. It is usually \$1382.32 indicating that the school is “demanding” at least 255 KW in a 15-minute period at least once a month.

All APT customers who exceed 100,000KWH or 20KW for three consecutive months pay a demand charge. Demand charges are used to pay for generation and distribution capacity that a utility needs to meet peak demand from time to time. It is standard practice in the electric utility industry.

Demand charges can be controlled provided the consumer has access to information showing when demand is occurring and at what level. APT delivered this information to the Superintendent Friday, April 3. The data should enable the school district to determine what is driving the K-12 facility’s demand and assist the school district in managing and lowering demand.

**Reducing Demand Charge.** Generally there are two strategies for reducing demand: change what equipment is run; change when the equipment is run. Reducing the number of devices operating simultaneously will reduce the cumulative effects of multiple electrical draws. Upgrading to high efficiency equipment will also reduce demand.

### **Borough Energy Conservation Plan**

The Borough Energy Conservation Plan was approved unanimously by the Haines Borough Assembly at the Regular Meeting March 24. Assembly members were complimentary.

### **Biomass Heat Feasibility Study**

According to Tom Bolen, Borough Manager, as of Friday, April 3, the Borough has not received a grant offer from AEA. That is apparently step #1 in the process.

### **Presentation to Environmental Education Class, April 18.**

Pam Randles, High School Environmental Education teacher, has asked that the Energy & Sustainability Coordinator present to the high school class on April 18. In turn, I am asking that one of you accompany me! I am happy to prepare the presentation, but I would like to emphasize to the students that energy conservation and sustainability is not just the passion of a paid person – that there is a huge volunteer-based community effort and concern behind the work.

### **Resources**

#### **Renewable Energy System Calculators**

Tools (calculators) are available to help evaluate options for generating electricity with a small renewable energy system. System technologies include microhydropower, small solar electric, and small wind electric.

[http://www1.eere.energy.gov/calculators/renewable\\_energy\\_systems.html](http://www1.eere.energy.gov/calculators/renewable_energy_systems.html). This link has been added to the Renewable Energy Installation page of the Haines Energy & Sustainability website (<http://www.hnsboroesc.outlierproductions.com/renewableenergy.html>).

### **Communications not discussed elsewhere**

**3/18/09**, Ken Bauer, Performance Contracting Sales, Siemens Building Technologies, Memo to Bauer transmitting energy consumption data for Administration Building, Public Safety Building, and Mosquito Lake School for the purpose of an estimate for energy audits.

**3/19/09**, Memo to Mayor Jan Hill and members of the Haines Borough Assembly emphasizing the importance of adopting the Haines Borough Energy Conservation Plan as directed by the Energy and Sustainability Commission 3/18/09.

**3/19/09**, Memo to Tom Bolen, Borough Manager, outlining elements recommended for inclusion in the scope of work for the wood heat feasibility study as directed by the Energy and Sustainability Commission 3/18/09

**3/20/09**, Phil Sanders, City of Fairbanks, ([pbsanders@ci.fairbanks.ak.us](mailto:pbsanders@ci.fairbanks.ak.us)) inquiring about energy consumption of new K-12 school. Mr. Sanders writes: *The City of Fairbanks City Hall building is a 1934 structure and much debate is on going about how to upgrade to current system standards. City Hall is almost 60,000 sq/ft and it cost one third less to heat than any of our newer buildings. If there is any information about the additional costs associated with the new school building I could use it for planning purposes.*

Coordinator response: Summarized information in March 9 Memorandum from Bettisworth North re elements of K-12 Building contributing to energy consumption pattern; requested permission from the Superintendent and Borough Manager to share Memorandum with Mr. Sanders. Mr. Sanders is responsible for loaning LED streetlights to the Haines Borough.

**3/23/09**, Memo to Superintendent of Schools and Commissioners, comparing K-12 School & Pool energy consumption to average monthly temperature January 2008 – February 2009.

**Webpage Statistics:** 395 unique visitors in March, 297 unique visitors in February, 262 unique visitors in January.

**Attachments:**

Press Release from Senator Begich

Press Release from US Department of Energy

Memo to Planning Commission re Chris Rose presentation and the concept of embedding an Energy Plan in the Haines Borough Comprehensive Plan