



**ENERGY COMMITTEE  
REGULAR MEETING AGENDA  
Tuesday, July 19, 2016 6:30 pm  
City Hall Council Chambers, Bethel, AK**

<b>Members</b>	<b>I. CALL TO ORDER</b>
Jody Drew Chair Jody_drew@yahoo.com	<b>II. ROLL CALL</b>
Shari Neth Vice-Chair Shari_neth@lksd.org	<b>III. PEOPLE TO BE HEARD</b> – Fifteen minutes per person
Zach Fansler Council Representative zfansler@cityofbethel.net	<b>IV. APPROVAL OF AGENDA</b>
Jeff Sanders Jeefco2004@yahoo.com	<b>V. UNFINISHED BUSINESS</b>
Eddie Stanley eddieselectric@gci.net	a. Alternative Energy Report Update b. BMC Chapter 13.08 Sewer Services, Ordinance Modification c. AVEC's Recovered Heat Project Update (John) d. AVEC's Wind Study Data Update (John)
Alternative Members:	<b>VI. NEW BUSINESS</b>
None	a. YK Delta Energy Plan Update b. New Energy Ideas – Agenda Items
<b>Ex-Officio Member</b>	<b>VII. COMMITTEE MEMBER COMMENTS</b>
John Sargent Recorder 543-1386 <a href="mailto:jsargent@cityofbethel.net">jsargent@cityofbethel.net</a>	<b>VIII. ADJOURNMENT</b>

**City of Bethel  
Energy Committee  
Renewable/Alternative Power Options  
Updated July 19, 2016**

<b>Project</b>	<b>Description</b>	<b>State of Development (Timeline)</b>	<b>Pros</b>	<b>Cons</b>
1. <b>Wind</b> Energy Construction Project (AEA & Denali Commission funding)	\$2.9 million (AVEC). In process of purchasing one EWT 900 kw wind turbine.	Switch gear installed at plant, making it ready for additional alt. energy; Purchasing EWT 900 kw turbine now for installation spring/summer 2017.	Potential to lower the increase of electricity cost; demonstrates use of 900 kw or larger turbine in rural Alaska; will allow more alt. energy to be connected to grid.	More telephone poles have to be installed near BIA Road site to get electricity from production to grid (cost).
2. <b>Recovered Heat</b>	Study completed for Bethel; Four City buildings have lines: Fire Station, Courthouse, City Hall, and PATC (2). City confirmed it wants its buildings reconnected.	Study done; repairs to recovered heat lines will be done in summer 2016; Foundation to be poured summer 2016; module to be ordered summer 2016 and installed fall 2016.	Savings over exclusive use of heating oil; AVEC has ability to recover exhaust and turn it into water heat to sell; reconnections occurring summer 2016.	Price of recovered heat has risen over the years, lowering the benefit; heat may not be hot enough to heat building effectively with other demands on the system.

Project	Description	State of Development (Timeline)	Pros	Cons
3. Natural Gas Pipeline to Donlin Creek Mine	If natural gas piped in to mine, then pipe could be extended to Bethel.	Planning stage. No timeline. Mine mostly shut down while they wait for NEPA approvals.	Natural gas is clean, plentiful, and may be cheaper than heating oil. Donlin hired MacDowell to survey region residents and this project mentioned.	Depends on NEPA approvals and mine going into operation.
4. <b>Gasification</b> unit to power public works building, power aerators at sewage lagoon, or work in conjunction with wind farm run by AVEC.	Burn municipal solid waste in super hot incinerator (gasification unit) to create electricity and get rid of waste.	Planning stage.	Electricity may be cheaper; solid waste reduced to 5% ash; can provide power to a City building; If located at landfill, close to PW bldg. or potential wind turbines behind recycle center.	Potential high costs: air monitoring, heating oil to fire it, City manpower and resources to operate.
5. <b>Kinetic Energy</b> from Kuskokwim River	Turbines placed on old barge and sunk to bottom where the river movement generates electricity.	UAF did a study 3 years ago on the Kuskokwim in Bethel. Need a copy of that study.	Potential for a cheap source of power; Power lines emanating from the river need a place for power to go: into grid, to buildings; may work under ice perfectly with little disturbance from above.	Shallow river may not lend itself to ideal locations for sunken barges; maintenance costs unknown; may present river navigation hazard; might have to remove for winter.
6. <b>Sewer System Operation/Ordinance Energy Saving Measures</b>	Change ordinances; recommend energy saving measures in the way the City provides sewer services or the way residents live.	Recommend ordinance change to legalize composting toilets in July 2016.	Residents who purchase and manage qualified composting toilets can save the City energy by NOT having City evac. at all or evac. less often.	Must garner support from PW Cmte & City Council. Residents must follow ordinance, and follow procedures. Hard to regulate.

## **Recovered Heat Project Update**

### **Wind Energy Development Update**

#### **From Alaska Village Electric Cooperative**

**Date: July 19, 2016**

#### **Recovered Heat Project Update**

Joe Earsley is the Acting Project Manager for the projects in Bethel after Steve Gilbert's passing. Joe provided the information in this update.

AVEC completed the recovered heat project review of existing and potential customer connections and required upgrades needed.

AVEC has an engineer design in-hand for the purchase and installation of the recovered heat module. The recovered heat module will be contained in a pre-fabricated building on skids located near the power plant. AVEC went out to bid to hire a contractor to complete the foundation for the module. Once the foundation is done, AVEC will go out to bid to purchase the module. A new company in Anchorage now constructs pre-fabricated buildings and has great reviews. This new company is likely to be the one from which AVEC purchases the module.

AVEC is in the process of arranging contractors to complete repairs and maintenance work on the recovered heat system currently in place. This work includes pipe testing, seal repairs, installing new pilings, and re-applying insulation.

AVEC updated its switch gear the power plant! It is now ready to accept a greater amount of alternative energy. Testing is being done now by a consultant who is preparing a full integration study to determine the amount of alternative energy it can handle, i.e., the maximum penetration. Initial results show a "marked improvement," and the fact that the system can definitely accommodate one 900 kW EWT wind turbine. The plant may also need to add voltage regulators.

#### **Wind Turbine Data and Project Update**

A biologist survey revealed the presence of protected migratory birds moving through the area around the landfill and sewage lagoon near to where the met tower is collecting wind data. The bird presence points to the BIA Road site as the likely site for the EWT 900 kw wind turbine. AVEC is now in the process of purchasing this machine. The full integration study will also estimate the amount of kWh an EWT 900 will produce at the BIA Road site.

AVEC did NOT receive an award from the State Renewable Energy Grant Fund in the last round completed in fall 2015.