



ENERGY COMMITTEE
Regular Meeting
Monday, February 20, 2016 6:00 pm
City Hall Council Chambers, Bethel, AK

Members

Jody Drew
Chair
Jody_drew@yahoo.com

Shari Neth
Vice-Chair
Shari_neth@lksd.org

Richard Robb
Council Representative
rrobb@cityofbethel.net

Jeff Sanders
Jeefco2004@yahoo.com

Juan Delgado
Juandel@gci.net

Alternative Members:

Need Two

Ex-Officio Member

John Sargent
Recorder
543-1386
jsargent@cityofbethel.net

I. CALL TO ORDER

II. ROLL CALL

III. PEOPLE TO BE HEARD – Fifteen minutes per person

IV. APPROVAL OF AGENDA

V. APPROVAL OF MEETING MINUTES

a. Regular Energy Committee Meeting- January

VI. NEW BUSINESS

a. Water-applied coating to pool as energy saver and update on meeting with Parks, Recreation, Aquatic Health and Safety Center Committee

b. Review and discussion of conditional use permit for dry toilets

c. Alternative Energy Report Update

d. City of Bethel UPS or battery back-up systems (Juan).

e. Energy audit report for city buildings

VII. COMMITTEE MEMBER COMMENTS

VIII. ADJOURNMENT

**City of Bethel
Energy Committee
Renewable/Alternative Power Options
Updated January 16, 2017**

Project	Description	State of Development (Timeline)	Pros	Cons
1. Wind Energy Construction Project (AEA & Denali Commission funding)	\$2.9 million (AVEC). In process of purchasing two EWT 900 kw wind turbines, one for Bethel and one for St. Mary's. Turbines are made in Denmark.	Switch gear installed at plant, making it ready for additional alt. energy; Plan to purchase the EWT 900 kw turbines for 2017 installation.	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; White Alice site offers potential.	More telephone poles have to be installed near BIA Road site to get electricity from production to grid (cost); two met tower sites have problems.
2. Recovered Heat	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 ordered and installed to safeguard generators.	Savings over exclusive use of heating oil; AVEC has ability to recover exhaust and turn it into water heat to sell; City may be able to see savings at YK, Dept. of Corrections, KUC.	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; cost of equipment and installation on City side of pipes.

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. Gasification 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 it.
5. Kinetic Energy from Kuskokwim River	Turbines placed on old barge and sunk to bottom where the river movement generates electricity or turbines on underside of floating barge. Barge can be taken out for winter and inserted every spring.	UAF did a study 4 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. Sewer System Operation/Ordinance Energy Saving Measures	Change ordinances; recommend energy saving measures in the way the City provides sewer services or the way residents live.	Committee to work with Planner to develop conditional use permit for composting toilets.	Residents who purchase and manage qualified composting toilets can save the City energy by NOT having City evac. at all or evac. less often.	Hard to regulate; questions about waste product, DEC disposal rules; can't go to dumpsters; must be buried on-site.

<p>7. City Building Improvements, per 3 energy audits.</p>	<p>City Hall, City Shop, and Courthouse Energy Audits have recommendations and costs.</p>	<p>Public Works Prop. Maint. Is slowly ordering and installing T-8 fluorescents and LEDs.</p>	<p>Electricity cost savings; can bite off small pieces within budget and purchase/install with Prop. Maint. Division.</p>	<p>Source of money for the larger items; Long term outlook might need short-term sacrifices.</p>
<p>8. High Voltage Direct Current</p>	<p>Construct natural gas power plant on north slope and run high voltage power lines to communities in Alaska.</p>	<p>No traction on this project. Meera Koehler of AVEC was pushing this idea around the State.</p>	<p>Easier to generate power in one place near the source for that power and send it around the state with high-tech lines that reduce line-loss.</p>	<p>Expensive to fund and build power plant; ownership? Need for state-wide plan; a lot of players need to be involved.</p>