ENERGY COMMITTEE AGENDA
Regular Meeting
Monday, November 20, 2017 6:00 pm
City Hall Council Chambers, Bethel, AK

Members

Vacant
Chair

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

Grant Kemp
Recorder
543-3110
gkemp@cityofbethel.net
GRK

I. **CALL TO ORDER**

II. **ROLL CALL**

III. **PEOPLE TO BE HEARD** – Fifteen minutes per person

IV. **APPROVAL OF AGENDA**

V. **OLD BUSINESS**
   a. Alternative Energy Report Update

VI. **NEW BUSINESS**
   a. Election of new Committee Chair
   b. Energy Ideas

VII. **COMMITTEE MEMBER COMMENTS**

VIII. **ADJOURNMENT**

Agenda posted at City Hall, AC Quickstop, Post Office, AC Co., and Swanson's.

City of Bethel
Energy Committee
Renewable/Alternative Power Options
Updated November 7, 2017

Project	Description	State of Development (Timeline)	Pros	Cons
1. **Wind** Energy Construction Project (AEA & Denali Commission funding)	AVEC to spend $5 million+ to buy two EWT 900 kw wind turbines, for Bethel and St. Mary's.	Turbines ordered. Will be here for 2018 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.	More telephone poles have to be installed near BIA Road site to get electricity from production to grid, increasing cost of project.
2. **Recovered Heat**	City requested that study engineers evaluate City buildings to determine what improvements have to be made to make City buildings able to accept recovered heat.	Conceptual Design Report completed (35%). Considering the use of steel pipe over HDPE.	Savings over exclusive use of heating oil; AVEC has ability to recover exhaust and turn it into water heat to sell; City given rate it would be charged: 30% below heating fuel cost for PCE buildings and 50% below heating fuel cost for non-PCE buildings.	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. **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.
4. **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 cheap source of power; Power lines emanating from the river need a place for power to go: into grid/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 be river navigation hazard; may have to remove for winter.
5. City **Building Improvements**, per 3 energy audits.	City Hall, City Shop, and Courthouse Energy Audits have recommendations and costs.	Public Works Shop has all new LEDs.	Electricity cost savings; bite off small pieces within budget and purchase/install with Prop. Maint. Division.	Source of money for the larger items; Long term outlook might need short-term sacrifices.
6. **High Voltage Direct Current**	Construct natural gas power plant on north slope and run high voltage power lines to communities in Alaska.	No traction on this project. Meera Koehler of AVEC was pushing this idea around the State.	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.	Expensive to fund and build power plant; ownership? Need for state-wide plan; a lot of players need to be involved.
7. Burn Box	Steel box with flying ash screen; large enough to hold burnables from front end loader.	None.	Simple technology, no moving parts, long life, can weld our own.	Takes person to manage the burn; can only burn wood, paper, cardboard; no metals, rubber, liquids.