

Cape Elizabeth Alternative Energy Committee
Minutes: January 6, 2011

Present: Wyman Briggs, Alan Lishness, , David Whitten, Ernie McVane, Brian Denison, Kate Williams Hewitt

Guests: David Clay (facilities contractor), John Christie (school board), Greg Marles (facilities director)

Absent: Frank Governali, Bill Slack

1. Introductions and welcome:

The AEC welcomed Greg Marles, Cape Elizabeth's new facilities director. Greg has over 27 years experience in the trades and has been active in South Portland in Energy Conservation and Recycling. He brings a passion for energy savings to the position and promises to continue Ernie McVane's tradition of seeking out conservation and energy saving opportunities.

2. Boiler Replacement Update – Greg Marles

The current boilers are 41 years old, oversized and not particularly efficient. Harriman Associates has designed a proposal to replace the current 2 14M BTU boilers with 3 2M BTU boilers which will increase reliability and significantly reduce energy and maintenance costs. Though in the long term the town would like to go with natural gas instead of oil for a fuel source it is not available in the near term per discussions with Unitil. The town is proposing to provide separate gas fired boilers to heat the pool and solar thermal to heat domestic hot water at the high school so that the main boilers can be shut down during the summer season – providing energy savings.

The new boilers are estimated to cost @ \$285,000 and provide the town an annual fuel cost savings of @\$39,000. Questions were raised regarding whether the proposed boilers provided adequate capacity. Greg noted that this had been considered by Harriman Associates and offered to get back to them for verification and provide further documentation of their analysis.

The existing boilers are due to be replaced this summer because of the inefficiency of using outdated/over-capacity boilers, risk of major breakdown, and high maintenance costs.

The new boilers could be converted to gas in the future though they would not be as efficient as boilers designed specifically for natural gas. They could also be converted to run as part of a cogeneration system, which would generate electricity while it provides heat.

Greg also considered biomass – but was concerned with the extra space on the limited school campus required to install a biomass system and store wood fuel, cost of installing the system and uncertain costs of wood fuel.

Cogeneration has also been considered. This would be more viable if/when natural gas can be piped to town center. It would require an expansion of existing facilities. It will be considered as a potential future project.

3. Solar Thermal Project

Greg has had ReVision Energy develop a solar hot water system to heat domestic hot water at the high school using 3 evacuated tube solar hot water collectors mounted on the flat roof above the boiler room and a 160 gallon solar storage tank. The system would cost @ \$15,000 - \$18,000 and produce over 90,000 BTUs of clean solar energy on an average sunny summer day. It would save @ 350 gallons of oil, produce 28M BTUs and reduce CO2 emissions by 7,500 lbs per year. The solar panels will preheat domestic hot water which will be supplemented by the existing oil fired indirect hot water heater as needed.

The panels measure approx 7' x 7' and the array will consist of 3 panels in a straight line. Because of their cylindrical shape, the evacuated tube collectors are much less likely to create an issue with wind or snow loading than are flat plate collectors. An 8-year pay back on this investment is anticipated.

Greg is also considering solar thermal panels to pre-heat water in the Richardson pool.

4. Approval of January 6, 2011 meeting minutes

Last month's minutes were approved unanimously with no additions or changes.

5. Future Meetings

- a. Alan and Ernie offered to serve as discussion leaders for the upcoming February 3rd meeting on high efficiency streetlights. Hopefully, we can develop a specific proposal if this appears to be an option worth pursuing.
- b. Hopefully, Rick Fontana can serve as the discussion leader for a March meeting on wastewater ground source heat pump. Hopefully, we can also develop a specific proposal if this appears to be an option worth pursuing.
- c. Greg offered to contact Kelly Fowler, Regional Marketing Director for Unitil and see if she can attend the meeting scheduled for April 7, 2011 to discuss options for piping natural gas to Cape Elizabeth town center and the costs and barriers that would need to be overcome to make this happen.
- d. David offered to lead a discussion on the "Long term energy vision for Cape Elizabeth" at the meeting scheduled for May 5, 2011.

6. Additional Discussion

- a. Several members noted that the Alternative Energy Committee is still short several members from its full complement. Wyman offered to contact Mike McGovern and ask him to do what he could to supplement the committee with additional members. Members were also encouraged to bring an interested guest to the next meeting to augment the committee's numbers.
- b. Members highlighted the need to get the word out through the Cape Courier or other means to raise awareness of the substantial energy savings achieved in recent years and opportunity for more community involvement/ membership in the AEC.

7. Next Meeting date: February 3 at 6:30pm in the Jordan Conference Room, Cape Elizabeth Town Hall.