

Energy Committee Meeting Minutes  
Dec 13, 2022. 6:00pm  
Town Hall

Present: Judy Wagner, Co-chair  
Jim VanNatta, Co-chair  
Andrew Vernon  
Alex Strysky  
Seth Hansell, Secretary

In attendance: David Hillburn, Matthew Sturz, Bernie Peratta  
Virtually: Amy Gregory (electrical engineer with CES), Tony DiLuzio

Welcome and introductions of visitors and committee members

New Town Emergency Services Building  
Discussion of new Emergency Services Building design and Function

- Presentation by Colliers Engineering and Design and consultants
- Currently in the Design and Development phase.

Matt gave an overview starting with the site.  
Masonry with a metal garage towards the back.

High performance windows  
Will meet the current stretch code -  
Originally set at 24000 sq ft and now set at downsized to 18000 sq ft.  
All one floor - but split due to slope of ground

Powerpoint presentation by David  
66% redundancy in boiler system for heating

Code minimum which is "pretty good" these days in terms of R-values for windows/walls

There will be a meeting room that will double as a public space, but no ECC

Baseline option

Mixed Air and Vertical Air Volume with Hot Water Reheat used in the front part of the building

- Explanation of this system given
- Use Oil Fired Boilers

Radiant floor heating for garage floor



High Efficiency option

Heat Pump supplements the Boiler

High Efficiency Gas replaces the Oil Burner

- Reheat always done by the boiler

Carbon "Free" option

Same baseline system

Heat Pumps

Adds an energy recovery wheel - heat exchanger

Replace Oil/Gas with Electric Boiler

More efficient as well

Regardless, the apparatus bay remains a radiant heat system

VRF/VRVs not a good fit for this building - higher maintenance, higher installation costs

No cooling for apparatus bay.

Building front at approx 8000 sq ft. would need to be heat/cooled with remaining footprint to be only heated, no cooling.

Building will be zoned, with about 20 VAV boxes serving as its own zone.

BMS system allows for scheduling times which also allows CO2 monitors to adjust and only refresh air as necessary.

Maintenance is basically the same on all, except maybe a bit more if you have back-up systems

Costs

- Baseline is lowest along with basically average maintenance costs
- Efficient system is basically the same costs
  - Particularly since we aren't offsetting with PV as currently planned
  - That was discussed, but ruled out by the Emergency Services Committee
- Carbon Free system is most expensive in its lifetime use, mostly from the installation as these systems are significantly more expensive. The electric boiler is the most expensive. You may not recoup the cost over the life of the system.
  - There are incentives but we are not aware of these.
  - Open to hearing about government grants or incentives
  - Clean energy assessment being done by group at UMass.

Is there enough electrical power provided by the town to the site selected?

- They think so, if we select to go this route.
- The grid will not support electric fire, these will remain diesel
- There would need to be a second service to the building if / when vehicles transition to electrical.



Bernie:

- Part of the decision might need to be based on the availability of materials and technology not really being ready to be employed.
- Municipalities not always good at maintenance, particularly with newer unfamiliar systems

Tony:

- As systems get more complex, companies that service need to be locally available and competent
- Unlike school districts, when we turn over the building to the Emergency services, they may not have engineers on hand who know how the system works.

Judy:

- Uncomfortable about how we are down-playing our ability to work with state of the art systems and the assumption that we need to short-change ourselves

Andrew:

- Heat pumps are now tried and true, and fairly well documented.
- We have a requirement by the state to be reducing our fossil fuel uses

Alex:

- Have we looked at geothermal?

David: Geothermal has very high up-front costs and the site is really not conducive.

Judy:

- Hearing that everything is being future-proofed in terms of being able to swap out for more electric and more efficient systems in the future as they become more available and more cost conducive.

David: Ruled out VRF systems due to reliability. Did consider them early on, but ultimately felt that since these systems are not as redundant as they could be With power outages, you would need a much greater back-up system.

Help from this committee:

- Can we find any incentives?
- What is our thinking on these three systems?
- How to get feedback to the Emergency Committee? -
  - Report back to Andrea
- April Town meeting for a vote on the building
- Finance Committee is also looking

Bernie: \$14M to 16M is for basic building construction costs, not including these heating systems. These could be way out of line with current construction costs.

We would need a true energy modeler if we wanted to get LEED incentives or energy incentives for utilities. Otherwise we can simply get by with the energy load modeling that can be done by the current engineers



Judy:

- Sounds like our hopes of making this a fully carbon-free system are out of reach for this project
- Sounds like we want as much application of common sense savings in terms of energy insulation, etc.
- We want to make any designs to be future ready in terms of adaptability for future energy needs.
- Sounds like we are leaning towards system 2, the energy efficient system
- Off site electrification systems (PV) to offset electrical costs is something that we would still like to look at.

Next Energy Building Committee meeting on the 21st at 4:30. Available on Zoom and open to the public

Acceptance and discussion of November minutes tabled until January meeting

Update if any from Eversource about engineering support:

- Nothing really to note, disappointing
- If anything does happen, we will need to jump on it hard and fast

Update if any from UMass Solar Siting Assessment project:

- Jim shared a one paragraph update sent through email saying that the students are basically in the middle of finals.
- There are approx 83 rooftops that are considered "large"
  - Identified what kind of structures these are
- Still measuring sizes of usable areas and completing the infrastructure survey which was supposed to be done by the end of this semester.
- If they are looking at private land, what about the old gravel pit? Seems ideal for a solar site.

Outreach for new members

- Still needs to be done.

Priorities for 2023

- Will be discussed in Jan

Items not known at the time agenda was posted

- Alex's last meeting comments
  - Keep him in the loop and send links about virtual meetings.

Approved:

x  date: 2/1/23

x \_\_\_\_\_ date: \_\_\_\_\_

x \_\_\_\_\_ date: \_\_\_\_\_