



**TOWN OF
BROOKLINE, NEW HAMPSHIRE**

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***Minutes
Solar Committee
Wednesday, July 22, 2020***

Committee members attending via Zoom video conference: Brendan Denehy, Kelly Seeley, Jacob Solon, Joel Shaklee, Dennis Comeau.

Also present: Tad Putney, Dick Henry

7:20pm Brendan opened the meeting. **Brendan** said we are meeting electronically under Executive Order 2020-04 and Emergency Meeting Orders #12 and #23, which allow for remote meetings. Committee members all stated they were social distancing, some with others present in their homes, but not in the room.

Introductions

Brendan introduced Dick Henry and Dennis Comeau.

Approval of Minutes

Jacob moves to approve minutes from the last meeting, **Dennis** seconds. Motion is approved unanimously by committee

Dick Henry Presentation

Dick shared his background and written biography with the committee. Recently he has worked with the Hollis school district on community outreach and securing funding for their projects.

Dick began his presentation at **7:30pm**.

Considerations regarding solar PV installations for town buildings:

- Behind-the-meter energy usage involves making and using electricity without interacting with the grid.
 - Behind-the-meter value of solar is about \$0.14 per kWh in Hollis/Brookline when incorporating total costs avoided (usage, delivery, fees, etc.)
- Systems are based on the energy usage of buildings, so emphasizing energy efficiency to reduce overall demand is recommended.
 - If measures can be taken to make buildings more energy efficient for a lower cost than installed PV, that is highly recommended
 - **Kelly** said that the schools will be doing an energy audit soon.

- **Dennis** shared that Eversource can assist with energy auditing.
- Time-of-use involves using generated solar energy during the day while it is being produced so that it is sold back to the utility.
 - If more power is being generated than is being used, it can be either sold back to the grid, it can be stored in a battery, or can be discarded (wasted).
 - Battery storage options: Lithium is good for 7-15 years, capacitors are useful for longer timelines
 - **Jacob** asked if Lead-Acid batteries are considered as an option. **Dick** did not recommend them except for short terms projects (2-5 years).
 - Electric vehicle charging (staff vehicles, busses, etc.) on-site is a useful way to soak up extra power generated.
- Solar Renewable Energy Credits
 - A utility meter tracks how much solar is generated, and monetary credit is applied either to offset behind-the-meter usage or for selling back to the grid.
 - Potential for solar assets to become sources of income in the future, depending on state and federal metering policies
 - **Joel** commented that RECs are an incentive for solar generators to produce more solar energy. The credits can be sold back to the utility or other entities and are used to help the utility etc. meet their renewable energy generation goals
- Net Metering and Group Net Metering
 - **Dick** commented that this method only allows generators to sell back at the default service rate (\$0.07)
 - In group net metering, if the system produces more kWh than it uses in a given month, those extra credits can be applied to other buildings in the group (EX other town buildings)
 - Demand charges still apply in net metering scenarios, so even if the building offsets its total kWh usage it will still have to pay according to its peak kW demand (Eversources is \$15 per kW, the max continuous draw for a 30 min period)
 - **Dennis** commented that battery or capacitor storage may be a significant asset in the future if utilities decide to enact time-of-use metering
- Time of use pricing
 - Pay/sell electricity according to the cost of electricity at that time (peak vs. off-peak usage)
 - Battery storage can allow generators to buy and sell power at the most favorable rates
- Financing options
 - Municipal Bonds have very low interest rates currently (1.67% LP for 15 yr, 1.97% LP for 25 yr)
 - Municipal Lease Purchase, recently 1.82% for 10 yrs
 - Power Purchase Agreement with solar vendor. No up-front cost, 20-25yr contract with buyout clause after 6 yrs. All attributes (RECs, etc) go to the vendor.
 - **Dick** does not recommend PPAs because of the lost assets and deceptive paybacks.
- Grants and rebates: constantly changing
 - Public Utility Commission has some support for municipal solar
 - Some COVID-19 fund may be available, especially for schools

- Shovel-ready municipalities will be in best position to take advantage of evolving financial
- Next steps
 - Identify buildings that can make and use solar
 - Find out energy usage of buildings
 - Figure out the optimal solar array for the buildings
 - Estimate/calculate cost of project, savings, and length of time for payback
 - Explore financing alternatives
 - Educate the community about the project, get feedback, and answer questions. One of the most impactful steps!
 - Think about financing as cash-neutral or cash-positive (have savings come right away)

Jacob asked what vendors are selling capacitor systems. **Dick** shared some info about a company called Introspective Systems out of Portland, ME which has a few flagship projects, including on an island off the coast of ME.

Dick commented that any way to set up a microgrid that can help low-moderate income has lots of financial incentives available.

Joel asked what the process would be for working with **Dick** going forward. **Dick** answered that he usually works on an hourly rate as a consultant. He is familiar with most of the local players and has a long history of experience on municipal projects.

Brendan asked for the slideshow to be available for committee members not present. **Dick** gave permission to share his slideshow with this limited group.

Dick left the meeting at **8:20pm**.

Discussion of Dick's Presentation

Dennis and **Jacob** commented that **Dick** would be a worthwhile value for the expertise he brings. **Jacob** shared some analysis about the energy usage data provided by **Tad** earlier in the week. Committee agreed that detailed energy audits for town buildings will be critical moving forward. Energy efficiency improvements to reduce usage in town buildings, and programs to assist with the cost of improvements, will be investigated. **Joel** commented that addressing peak demand for buildings may be a critical aspect of system design.

Updates from Committee

Due to time, the committee agreed to postpone review of Brookline energy usage report and other committees updates until the following meeting.

Action items for next meeting

Brendan recommended that committee members look into the Hollis School District projects on the websites. **Kelly** offered to track down the link and share with the committee members. **Jacob** will continue researching information on financial incentives.

Maria will continue to research past and ongoing projects in other towns. **Brendan** will serve as the committee's contact for **Dick**.

Scheduling Next Meeting

Meeting scheduled for **Wednesday July 29th at 7:15pm**

Meeting adjourned at 8:40pm by **Brendan**.

Minutes submitted by **Jacob Solon**.