

TOWN OF BEDFORD
September 26, 2019
ENERGY COMMISSION MINUTES

A meeting of the Bedford Energy Commission was held on Thursday, September 26, 2019 at the Bedford Meeting Room, 10 Meetinghouse Road, Bedford, NH.

Present: Jeff Kerr (Chair), John Russell (Vice Chair), Chris Bandazian (Town Council Liaison), John Schneller (School Board Liaison), Bill Foote (School Board Liaison Alternate), Andrew Gillis, Bing Lu, John Russell, Sarah Braese, Tim Paradis

Absent: Catherine Rombeau (Town Council Liaison Alternate)

I. Call to Order: Chairman Kerr opened the meeting at 7:00 PM

II. Quorum Count:

III. Approval of Minutes – August 22, 2019

MOTION by Mr. Gillis to approve the August 22, 2019 minutes. Seconded by Mr. Russell. 3 abstentions (Ms. Braese, Mr. Paradis, Chairman Kerr) Vote taken – Motion Passed – All in favor.

IV. Reports of Members and Committees

a. Legislative update

1. Group net metering $1\text{MW} \geq 5\text{MW}$ (HB 365) House failed to override

Mr. Bandazian reported that HB 365 did not pass. There are some irons in the fire to bring it back, but it may not be brought back in time for a deal at the landfill because several federal tax credits and incentives change next calendar year. The municipal aggregation bill did pass. He is not sure that is worth looking at from a town perspective; but we could open the standard power umbrella to other residents to take advantage of our rate, hypothetically.

b. School projects – Nothing to report.

V. Special Orders

a. Transfer station composting

1. Composting Plan
2. Possible inclusion of school system in composting and other waste
3. Reconfiguration plan for transfer station
4. Possibility of using Axion plastic wood in town projects
5. Energy efficiency improvement projects
6. Electricity municipal aggregation

Jeff Foote, Public Works Director, introduced Ryan who works for Standard Power, the Town's Energy Consultant for the past couple years to talk about municipal aggregation of electricity. A

renewal contract is in place for the town at an average rate of \$0.07 for the next 3 years. The contract includes Standard Power's hydro program, a net metering hydro program which the town has benefitted from. Standard Power is currently helping the town, but he is here tonight to discuss how they might help the residents of the town.

Ryan said the Governor signed into law SB 286 – Community Power is a community power/municipal aggregation which is a new business model to New Hampshire that is overseen by municipalities or counties to allow for an aggregation of unserved electricity accounts within a town or a city to go out to bid for electricity and save money on energy bills. It also involves the future development and implementation of renewable energy, smart meters, and improved data analytics of a town's energy profile. Standard Power centralizes the decision making to an individual town or variety of towns, cities or an entire county. There are several approaches to take with this, but the first stepping is receiving approval from the legislative body of the town or community by a formal committee (it might make sense to have it be the Energy Commission).

Community Power benefits the residents because they are not using third party supply contracts to lower their electricity bill and 90% of businesses are already in a contract, but businesses in an unserved contract can also be helped. It is an opt-out program, so if a community decides to move forward with this program, a letter is sent out to all homeowners, or unserved meters (which means the town is in a supply contract so its account is a "served" account, and a home that is not currently using a third party supplier is considered "unserved") and they can opt-out if they choose. They are given a certain amount of time to respond to the request. This is still new, so Community Power is still learning from the Public Utility Commission (PUC) and Eversource and other utilities how this might play out and trying to inform communities as they learn. Standard Power has been doing energy aggregations for schools and towns for multiple years and knows about aggregating for multiple entities. Standard Power is very familiar with the process already and wants to be there step-by-step to help towns along the way. This does not replace Eversource (they are still your supply and transmission supplier, they still own the lines, and deliver the power to homes. For the short term they are still the provider for the delivery of the power. Aggregation means the grouping of retail electric companies to provide, broker, or contract for electricity power supply and retail customer services which may include: The supply of electrical power; demand side management; conservation; meter reading; new meter installations and communications (subject to PUC approval); and the operation of energy efficient and clean energy districts. Ryan explained that aggregation not only helps lower energy costs but it starts to paint a picture of what the town's energy profile overall which opens future possibilities for a community. The use of smart metering (a new more sophisticated meter on your house that communicates with the utility hourly relaying the energy usage versus a monthly read as occurs now). The end goal is micro-grids and getting a community fully off of energy infrastructure. To get started a committee must be formed or designated by the town and then involvement from the community for public feedback. Creating a rate structure is something Standard Power could work with the town to develop the best product to deliver to your constituents whether it includes renewable energy credits if the town wants to go 100% green by a certain date/year. Lots of communities are exploring this. Ryan will relay information on how forming a committee will work and he has copies of SB 286 if anyone would like to read it.

Why participate in Community Power?

- Short term (1-3 years)

- Protect consumers
- Reduce costs
- Reach environmental targets (e.g. RECs) – including RECs in whatever rate the aggregation receives.

If the Town of Bedford wanted to build their own solar field you could have solar power sold to the town instead of selling it elsewhere and incorporate that power into your portfolio so you are buying less power from the suppliers. Other things worth looking into may be load following, biomass, hydro, grid modernization, and smart meters and time of use as a way to help users not use power in peak grid times.

Questions & Answers:

Q: Does a community always mean a town or are large developments included?

A: It is all the constituents of a municipality. All of the unserved meters of a municipality including residential and commercial.

Q: Can it go as small as a neighborhood?

A: Yes. NH made it an opt-in program, so you would have to get everyone to agree to it before you do it. Massachusetts and California have opt-out programs and it makes it so much easier to do, because if someone doesn't want to do it, they just opt out.

Q: How does it affect net metering?

A: If a home already has net metering an alternate supplier could probably be used. Last year HB 321 which allows a customer to be in a third-party contract and also in a group net metering at the same time. They are happy it passed but it seems that the net metering bill made more sense.

Q: Eversource provides smart meters, so if you are in this program you would get another new meter?

A: Yes, that's the idea.

In 2017 there were 8,003 housing units in Bedford so they are talking about a potential aggregation size of 64,000,000 kWh which is very substantial, so a supplier would be eager to price something of that size. Bedford has between 40-50 accounts at 1.3 million kWh. The town's supplier is s EDF on Constitution Dr. in Bedford. They usually only work with at least 2 million kWh minimum but agreed to price Bedford because they are a business located in town and wanted to retain the town's business. Aggregation would bring the power usage up and make Bedford more attractive to other companies to work with. Ryan thinks the town vote will take place in March. The bill is active October 1st, but most won't be able to do anything until next year.

Chairman Kerr thinks if we take this on a huge education campaign would be needed. Mr. Lu says rather than just say something general like, "we can save you money" it would be helpful to have specific numbers to materialize it for people such as, "we can save you \$5 a month" or "the average household can save \$X". Mr. Lu said if there are any negatives, people have to see both sides and have it presented to them. Ryan said if someone is in a supply contract now, Eversource is by law required to deliver power to your house even though you are buying it from someone else. Eversource is responsible for restoring power even though it is purchased from someone else. Chairman Kerr thinks as aggregation occurs and people use smart meters you eventually can get to using micro grids. Standard Power has been looking at getting micro grids down the road for Nashua's Police Department, ice rink and 2 hydro dams. They were also looking into multiple solar installations. Their goal is to make that area a microgrid so in case there's a natural disaster

so the Police Station, and the dams and solar providing power so people have a place to go. They are hoping to add in the schools. Chairman Kerr asked what the goal of a microgrid is. Ryan said it is to become self-reliant and not have to depend on a utility. The goal is to build up as many renewable energy sources for a town so they can be self-reliant and one day they could officially separate from the utility and not have to rely on the to deliver power to them and a town could own their own lines. There are some regulated towns in New Hampshire: Wolfeboro, Littleton and Woodsville have their own generating plants that supply power to the town, but they also buy power from third-party suppliers to deliver energy to the town. Standard Power has looked at using one of the biomass plants that are shutting down to supply power to a community up north so they could maybe get off the grid. The bill could lead to a microgrid as an end result. Ryan said the path to microgrids should become clearer in the next few years.

Jeff Foote of Public Works provided an update on Public Works projects that related to energy. One of the larger things budgeted for in 2020 is to hire an engineer to come in and assess the lighting at the library. Ballasts have burned out and the fire department has been called. The specialty bulbs currently being used are at the end of their useful life. The goal is to have dimmable LEDs used in the interior of the library. They are looking to get new lighting at the library, the town office building, the highway garage, and the safety complex. In order to make the safety complex more energy efficient this year they have replaced two entry doors and overhead door openers in the apparatus bay, and the Public Works and Fire Department are each going to be buying one energy efficient refrigerators and the Fire Department will be eliminating one additional refrigerator. The Facilities Department has replaced 3 inefficient water heaters (one failed, and the other 2 were likely to fail in short time). Another small measure: The vendor removed the soda machine from the 2nd floor and if people wanted soda they could walk to the machine on the first floor, so only one machine was needed. Bottled water is no longer in the building and they've installed a bubbler that has filtration and tells you how many plastic bottles you have saved. They are looking at the incremental things like this that make the building more efficient. The bathroom fixtures in the town offices were upgraded in hopes it will play some part in reducing needs. An ambient boiler plant temperature control system was installed that self-adjusts the water based on the outside or ambient temperature. So, when it's 40-degrees outside the boiler will shut off when it gets to 170-degrees. When it is 0-degrees outside the boiler will get up to 190-degrees to heat the building. It used to be that the boiler had to go to the highest setting to heat the building, now we have something in there that will use less energy theoretically to complete the same task. In 2019 there were two water tanks at the highway garage. One of them failed and both were replaced with higher efficiency tanks. In 2020 the highway garage and transfer station outdoor lighting is scheduled to be converted from metal halide lighting to LEDs. At tennis courts in 2019 there were issues with the lighting and when lights were turned on and off, so they installed a bump so that when the lights are activated they work from dusk to 10pm, to hopefully eliminated excess lighting usage costs. Mr. Bandazian said that has been effective. It is the lowest the lights at the tennis courts have been since we've started monitoring. We will probably finish the year at half of what 2017 was. Mr. Lu said if you cut the usage, you don't cut the demand charges; so, it would be interesting to look into the details. Jeff Foote said the bump was also introduced on the lighting at the basketball courts at Legacy Park. Mr. Gillis said it would be cool to have at the schools, and on the SAU fields. Bill Foote said he's been at the high school when nobody is there and the lights are still on.

Jeff Foote said that with all the good things we are doing, there is one thing that seems to negate all of the gains we've made in reducing electricity consumption and efficiency measures especially at town offices and the safety complex: The building envelopes aren't the best and every month of the year personal space heaters are used in the building. The Facilities Manager is adamant that we need to take action to eliminate those or limit their use to extreme conditions. The EPA's MS4 general permit requires town vehicles to be washed in a controlled environment, so there will be no more outdoor vehicle washing at the Public Works Garage. We have budgeted \$25,000 in 2020 for the trucks and other large equipment to be washed and the closest vendor we've found is on South Willow Street in Manchester. We took a trial run and it took 22 minutes to get there and 18 minutes to return to South River Road. Between fuel costs, cost of the vendor, and wages are a significant amount of money the town will be spending on vehicle washing as a result of MS4 which was implemented to control the runoff because they can't have chlorides running into the environment. If the expanded building on Chubbuck Road is built it could be dealt with on a more permanent and efficient basis, but some type of remediation and desalination would need to be included in whatever we do. It is not cheap, but the money spent to drive to Manchester for the next 20 years would pay for it.

Jeff Foote discussed the transfer station and composting. You can see a complete set of plans. Phase 1 is currently being constructed. They want to reposition the location of the scale house and make travel within the transfer station more efficient. If you are discarding a pay item like a couch, mattress or refrigerator the scale is currently in the back of the facility. The project entails relocating the scale house down to the entrance of the facility so folks can scale in, go up and dispose of what they need to dispose of, and circle back down and out by the scale house. It will be more convenient for residents and businesses and allow Public Works better identify who and what is coming in the facility. The goal is to make the transfer station more efficient and better serve the residents of the town and optimize our revenue. That is the goal for 2019.

Jeff Foote stated that there have been discussion about composting in the rear of the facility with the schools as an education component, but it is stalled until the 2019 building has been completed and they can see what their finances are and what the desire of the community is. If people want to compost its great if it could be done either at the transfer station, or by providing an incentive to purchase a bin and keep the material from even entering the facility. Nationally compost is 20-30% of the Municipal Solid Waste (MSW). If we set a goal for 5% of MSW not coming into the facility or being composted to make material that could be re-used in town it could result in at least \$27,000 savings (Our MSW in 2018 was 7,500 tons, so 5% is slightly less than 400 tons at \$72.83/ton would be \$27,000 a year). There are costs to the town to compost, but there are some savings and in the long run that is the way many communities are going. Composting is mandatory throughout the State of Vermont. Jeff Foote has gotten positive feedback on composting and it is a way to reduce cost and is the right thing to do. Any food waste except for bones or meat waste could be composted. Must finish Phase 1 first, see where the finances are, and if there is a will among residents of the town and the money is available they will look into what we could compost. He doubts we will get to 30%, but a goal of 5% and taking out 375-400 tons a year through composting would be a good start. There was discussion about the town and school working together on compostable waste.

Chairman Kerr said the Energy Commission had been discussing moving away from single stream recycling to having users sort. Jeff Foote shared statistics: Bedford has 23,000 residents in 2018 they processed 7500 tons of MSW processed, and about 1,250 tons of single stream that includes

gas. We have 4 full-time and 1 part-time employee. New Boston which has mandatory recycling and requires their residents to sort and separate all the things we single-stream: Cardboard, newspapers, and plastics #1 - #7. New Boston has 5,000 residents and processed 1,100 tons of MSW a year, 600 tons of recyclables, and have 4 full-time employees and are open less than 25 hours a week. If Public Works was to do this, they would have to double the personnel because it is time consuming to have people bulk it and store it so it can be sold to the commodities market at a later date and get it ready for sale. There was discussion about single stream vs. separating, reducing which # plastics to eliminate from the stream, incinerating, what is going on in China vs. a MERF. Jeff Foote said China's economy is growing at slowest pace in 30-40 years, so when they come out of it is when we should have the discussion about recyclables going to China. Jeff Foote would appreciate it if the Energy Commission took a trip to Hillsboro or New Boston to look at what they are doing because it is *extremely* time consuming. Everything come down to resources, and everything takes time. We look to see how we can get the biggest bang for our buck. We need support of boards and residents. Public Works has 35 people in Public Works responsible for roads, electrical contracts, buildings plowing and they are very short staffed and pulled in many directions. They do not have the resources nor hours in the day to venture off into many of the great ideas the Energy Commission has.

Mr. Gillis thinks what the Public Works is working on is all good stuff. Mr. Russell said the roads are great. Chairman Kerr said if Public Works is short staffed and have ideas to pursue, please kick those ideas to Energy Commission and they can talk about it.

VI. Old Business

a. Green Business Award

1. Social media promotion update – Flyer

Ms. Braese shared the Green Business Award flyers with the Energy Commission. In July we talked about the actual presentation for Earth Day in April at an event with other Earth Day activities. She reached out to other communities. Joppa Hill may be interested in hosting at their site if we can get some type of event planned there are volunteers in the community who would like to do that. It would be great to recognize the winners of the Green Business Award in front of the community in the afternoon - perhaps announce on Wednesday and award the following Saturday. Mr. Paradis will coordinate with Ms. Braese and Mr. Russell to visit businesses to talk to them about applying for the Green Business Award; and they will work on selecting the location to hang the 10 posters about the Green Business Award so the commission can work to get them put up around town. Chairman Kerr discussed Harbor Group as a potential business as a potential applicant. Ms. Braese said the application is online and Wednesday, March 18th is the deadline date to apply which gives us time to review the applications, but we do not have a deliberation process about how to select a winner yet and we need to formalize the process.

b. EV Charging Station Encouragement Project

Ms. Braese reported that she talked with Siemens to see if they had done anything in an IOU environment with municipalities to incentivize EV stations. There's not much we can do besides own the station and pay for the power ourselves, so it's probably not the best opportunity. She is unsure how to incentivize a business to have an EV charging station. Eversource says they may have something at some point, but she wouldn't hold her breath waiting for it. Mr. Gillis said

Tesla will provide the chargers for free and pay for the install, but you have to pay for the power. Chairman Kerr read an article in the Concord Monitor that said there I a committee of 3-5 people trying to decide what to do with the funds from the Volkswagen settlement – one was in favor of destination charging, but was out voted by the others on the committee who want to replicate Tesla’s fast charging stations along the interstate corridors. Chairman Kerr favors destination charging because you could get chargers to libraries, town offices, and places that are spread out away from the interstate so people can use them locally and not have to go on the interstate in order to fast charge. If we want to impact change we need to affect the group looking to get the chargers on the interstate. Ms. Braese confirmed that Eversource’s intention is to have chargers along major corridors too, but they were talking only about I93 and not Route 101 or Route 3 and other travel routes. Chairman Kerr says that it is not a done deal yet, and with public pressure it could still go the other way. If we want chargers on Route 101, we need to weigh in on that.

Chairman Kerr said the Concord Monitor article quoted the cost of a Level 2 charger is \$3,000 and \$100,000-\$200,000 to install, but you install less of them. Eversource likes being a part of bigger projects, but smaller projects only require an electrician and you’re done. There are people who are pushing what’s best for them, and not necessarily what is best for the residents of the State to do with the Volkswagen settlement money. Chairman Kerr says GM builds cars like the Volt and leaves it up to the State to pay for the infrastructure to charge them, whereas, Tesla creates the car as well as the infrastructure. Level 2 chargers that work for every car are the best solution – that’s his opinion.

c. Landfill Solar – On hold

Chairman Kerr said we should cross this off the agenda until something happens in the future. It has become much more politicized with HB 365 than originally expected.

d. Solsmart

1. www.thesolarfoundation.org

A. Start with the Bronze level

Mr. Bandazian reported that he sent the checklist out to the primary personnel at Planning, Building, and to the Fire chief. The Fire Chief returned the checklist right away since he had only one question to answer - and we got 10 points. So, our Solsmart designation is in the works, but it is a terrible time of year to get people to work on anything other than their budgets. Target talked about doing PV on their roof a couple of years ago but then we never heard about it; however Mr. Bandazian recently read in the Fire Department monthly report that the fire department worked with Target on their photovoltaic system and the dangers to fire fighters, flat roof construction, commercial flat roof, utility control and forceable entry for metal doors. This makes him think that Target must have quietly installed solar. If it is true, Target could be on the list for the Green Business Award.

e. New Solar Up campaign

1. Was the survey sent out – Mr. Gillis reported that he is still working on it.

f. Eversource bills to calculate demand charges

1. Bing looking at demand charges

2. Adding the pool and library to see if PV will work
 - a. May need to consider energy storage for pumps/motors

Mr. Lu reported that the numbers are all posted on a spreadsheet for Energy Commission review. The pool data is very interesting. He divided the kWh by days and 24 hours and it looks like we are using energy 24/7, so there is no demand charge from the pool which was very surprising. The library is scary because the average kW is 30 kW and the peak charge we get is 60 kW – that is 50%! He is a little bit concerned because the demand charge is not significant (20%), so you have to offset almost half of the energy to save the demand charge and he is wondering if there is anything worthwhile to do there. Chairman Kerr said it would be interesting to know what is causing that spike at the library so you could peak shave the 60 kW. Mr. Lu thinks it may be that the heating and air conditioning gets turned on for 20 minutes and then turned off for 20 minutes. Mr. Bandazian wonders if it is an old demand calculation that pre-dates the geothermal system at the library in 2016. Mr. Lu said the data he got was new for the library - it was from 2018.

Mr. Gillis said this is when you have look at time of use and consider running these things at night and pre-cooling or pre-heating the building. Chairman Kerr said it might be worth bringing someone in to do an analysis of the energy at the library. He has a device he is not using that could tell the library how much power they are using in real time - it just needs a battery change, and he would be happy to donate it for the cause, otherwise there are devices that will do the tracking that cost about \$100-\$200. Mr. Bandazian said he could give it to Peter, and the library could monitor and track it for 1 month. He said part of the energy consumption is from the old lighting fixtures going back to 1996 and maybe we could upgrade to T12's. There is definitely a lot of electricity being used by the lighting. They discussed the pool running 24 hours and it was asked why the pool is not turned off at night. Mr. Paradis has heard from multiple sources that the best way for filters to work most efficiently for pools is to have them running 24/7 because the filtration systems work much better and pools are cleaner and better when run 24/7.

- g. Change transfer station policy to put recyclables in solid waste – Already discussed.
- h. Town Solar
 1. Pool PV array size would be roughly 67' x 60'

Chairman Kerr said the solar array he is proposing for the pool would be an overhead mounted solar array so that no land is being used, and it could be used as a shaded area. Maybe rather than looking to fund it from the landfill revenue we could instead look to see if there is any payback based on 24/7 usage at pool. Chairman Kerr, Mr. Gillis and Mr. Lu will work on this.

- i. Plastic (#2) to structural plastic and wood replacement

Mr. Schneller reported that Jeff Foote asked him to hold off on this until Phase 2. Perhaps he will pay a separate visit to him in regard to this.

VII. New Business

- a. Marc Hebert of Harbor Group will attend the November meeting
 1. Marc will bring Mark Weissflog, his solar installer to discuss mainly the financial reasons and Mark will address any technical questions
- b. Municipal Aggregation

Chairman Kerr reported that Marc Hebert will talk about Harbor Groups solar. The entire building is being heated and cooled by 3 massive mini splits. It's an incredible piece of engineering and a really cool set up. Chairman Kerr recalled that Mr. Schneller talked about bringing in speakers (Bart & Henry) from Freedom Energy but wasn't sure if we'd received enough information from Ryan today. It was decided to put it off until December & January when things have gelled and are not so vague with the legislature and rules. Mr. Paradis feels the community education component would be a big part of this before the vote in March, and we would probably need time for this. Chairman Kerr thinks it isn't enough time to get a business plan and get the businesses to support it and put something on the ballot for March. Ms. Braese feels if someone is willing to come in and speak in the interim there is no harm in getting more education. Mr. Schneller would like to bring him in sooner rather than later – and will try to get him here in October to speak for about ½ hour to update us on what the status is and what the options are.

Mr. Bandazian would hope to get help from the aggregator on publicity rather than making taxpayers pay for that. Freedom Energy has 50-60 employees, and Standard Power only has 4, so Mr. Schneller thinks they could better help with putting together a marketing program.

Mr. Bandazian shared that the Local Energy Solutions Conference is Friday, November 15th from 8:00 – 4:15 at the Grappone Center in Concord. He emailed the announcement to the commission. Let him know next week if you would like to attend and take advantage of the early-bird rate. Chairman Kerr highly recommends going. He's been twice and was really blown away. It's an excellent way to find out what is going on and towns are there sharing what they have been doing.

VIII. Reminders: Next upcoming meeting is October 24, 2019

IX. Adjournment

MOTION to adjourn by Mr. Gillis at 9:00 P.M. Seconded by Mr. Schneller. Vote taken- Motion Passed

Respectfully submitted by,

Tiffany Lewis