TOWN OF BEDFORD
January 24, 2019
ENERGY COMMISSION MINUTES

A meeting of the Bedford Energy Commission was held on Thursday, January 24, 2019 at the Bedford Meeting Room, 10 Meetinghouse Road, Bedford, NH.

Present: Jeff Kerr (Chair), Chris Bandazian (Town Council Liaison), Catherine Rombeau (Town Council Liaison Alternate), John Russell, Alexander Joy, Bing Lu,

Absent: Andrew Gillis (Vice Chair), Shana Potvin (Past Chair), Bill Foote, Bill Coder,

I. Call to Order: Mr. Kerr opened the meeting at 7:03 PM

II. Quorum Count: 5

III. Approval of Minutes – There were no minutes to approve.

IV. Reports of Members and Committees

a. Legislative update

Mr. Bandazian discussed active legislation pertaining to energy. He shared that there are several bills to increase the net metering cap: One on large scale; one from 1-5; and one for the new class which is capped at 100. There is a bill to use money that gets funded with utility bill system benefit charge to benefit low income homeowners. It would include things such as free LED's and programmable thermostats for low-income people. There have been attempts to make the rates for methane and energy go either up or down.

b. School projects

In Mr. Foote's absence Chairman Kerr School commented on activity that had occurred on school projects in the Google Group. The school board is trying to pass in a bond implementing some of the results of the energy audit that was performed last year and part of the previous bond. There are many large ticket items, but they would pay for themselves in 10 years. In his opinion, anything that pays for itself in 10 years and lasts 30 years is a good idea. We will wait to hear more on this from Mr. Foote. Mr. Bandazian noted that since the school district is an SB2 form of government it requires a 60% favorable vote for the bond to pass.

V. Special Orders – None.

VI. Old Business

a. Green Business Award

Mr. Joy said there is nothing to report because he is not using Facebook, and Twitter seems to be an issue. Chairman Kerr posted some information about The NH ButtonUp presentation that was done at the Hannaford Supermarket on Kilton Rd last month. Chairman Kerr and Ms. Potvin are

trying to do some outreach on that. The gentleman who did the ButtonUp presentation was on the radio talking about NH home heating. Chairman Kerr sent out a link to that if anyone is interested in listening to it. Basically, what he was saying is that insulation is good, keeping out air drafts is best, and the type of fuel is secondary.

b. EV Charging Station Encouragement Project

A couple of weeks ago Mr. Joy circulated the Google Doc on the EV Charging Station Encouragement Project for review. He is trying to iron out an award that exists in parallel to The Green Business Award. This would be something like a merit badge given to a business that installs an electric vehicle (EV) charging station on their site. To encourage businesses to bring EV charging stations to the town we might give businesses a plaque; or note their location on a map that we maintain; or give some token of recognition for bringing EV ports into the Town. He needs to determine what type of charging stations we want to bring to the Town. There are some charging stations that favor Tesla vehicles, and some that are more universal. The charges provided by each vary dramatically. He wondered if the Energy Commission had any idea what kind of infrastructure it would like to bring to the Town and how it feels we should pitch this to local businesses. Because Level 2 charging takes a long time, Mr. Bandazian feels that grocery stores should not be targeted. A hotel parking lot would be a better location, or anywhere that drivers will be staying for a while so the vehicle can charge. A workplace would be a good location, but is not really open to the public, and people may not be in restaurants for a long enough time.

Chairman Kerr explained the various Levels of charging. Level 1 is a standard household 120-volt outlet (A Level 1 charge gives 2-3 miles per hour [mph] of charge, so it is very slow), Level 2 is 240-volt washer-level plug and current (A Level 2 charge gives up to 25-30 mph of charge). Level 2 is what Whole Foods and the Bedford Village Inn have on-site. At the Bedford Village Inn guests do not have to pay to charge their vehicle, but non-guests would need to pay for a connection charge. There is no charge for the electricity. At places where people are staying and paying to utilize the business there is not usually a fee charged; however, at Whole Foods there is a built-in metering-charge depending on what kind of charge network drivers are on which gets charged to their credit card. Level 2 gives the most "bang for the buck" and is easily accessible and widely available. Level 3 is called DC fast charging. If the Bow Lane apartment complex is constructed in Bedford Chairman Kerr wondered if the zoning commission needs to ensure the accessibility and plugs exist for that. If not, would we encourage other businesses throughout the town to allow people who live in those apartments and eventually get electric cars to be able to charge on their business sites? He feels we need to expand the horizons to what the Energy Commission alone would do and begin thinking of what is convenient for other people in different housing situations to do, and grocery stores may be part of that equation. Those with a home, a garage, and 240-volt plugs will just charge at home, but there are other living situations to consider. Mr. Joy noted that since The Bow Lane Apartments would offer apartments to those with a lower-income, it is probably highly unlikely that those residents would own a Tesla, so having a charger that favors Tesla vehicles would not make sense. Mr. Bandazian noted that, as proposed, only 25% of the apartments are for those making $45,000/year, and the rest could be that income level or above. When Chairman Kerr got his electric car 5 years ago, he rarely saw another one on the road, but now he sees their numbers increasing. In 10-15 years, it only makes sense that electric

cars will be even more prolific. If you don't have the infrastructure in place to accommodate for this, you have missed the boat, and we would like to get ahead of the dock on this.

Mr. Joy asked what kind of chargers the Energy Commission would like to promote businesses to install – the ones where drivers do not have to pay, or the ones where they do. The network Chairman Kerr is familiar with in parking garages is called ChargePoint. Since you are already paying for parking, there is no additional fee for charging. It is up to the person who bought the equipment and owns the facility whether or not they want to charge a fee or not. ChargePoint works by placing an RFID tag near the device, which unlocks the charger so a driver can charge their car and is not billed. He thinks we would want to support something like ChargePoint's model rather than a different fee for servicing. He thinks drivers must pay for the chargers at Whole Foods but is not sure. Mr. Lu suggested that grocery stores may want to have some kind of loyalty program where you buy something at the store and get discounts on your charging. Chairman Kerr noted that most customers go in and out of a supermarket in 20-30 minutes which is not really enough time to charge; so, if you own a supermarket would you want people parking their car in front of your store overnight to fully charge? Mr. Bandazian noted as chargers become more built out you could go to a movie, have a meal, and do some shopping, which would be a good enough amount of time to do a small charge to get around town.

Chairman Kerr noted that when people are travelling, Tesla places their superchargers in an area where travelers stop for a while on a long-distance trip (like a rest area or restaurant where you stop for a while before getting back on the road). In that instance it's not about getting the car fully charged, but getting it charged enough to the next charger, your destination, or back home. The Level 2 charger would work in much the same way – charging the car enough to get it to the next stop. It is up to the person who buys ChargePoint equipment and installs it whether or not they want to have people pay for charging or not. ChargePoint installs and maintains the equipment. Mr. Joy will look into ChargePoint's business model and what the entry cost is.

Mr. Joy asked what kind of charging environment we want to cultivate in Bedford. Mr. Bandazian noted that although Tesla's charging station is proprietary whoever places it on their site gets it paid by Tesla; therefore, he thinks it would not be too hard to convince buy-in to whatever Tesla is using. Mr. Joy thinks it would be better to tie the award for electric vehicle chargers to something more universal and not be seen as promoting and focused just on one company, like Tesla. He thinks it might be a good idea to offer many options and say that we would be happy to see businesses elect to do any one of them because electrical infrastructure is good.

In summary: The Energy Commission wants to encourage anything that is open and public and then businesses will do what they feel is right for them. Reward ideas: Small plaques hanging in a store or in their place of business or listing participating businesses on the Town webpage so the public knows where the chargers are and what businesses they can go to for a charge.

Mr. Joy will use all the points discussed today to refine a more complete draft for the Commission's review next time. It was suggested that he might want to visit Whole Foods and talk to them about how they operate, and he may also want to mention the Green Business Award to them, since no one applied for it last year.

c. Tour of recycling and incineration facilities

Mr. Russell was a little disappointed we could not get the tour done last December, but still hasn't heard anything back from the facilities yet. He will continue to work to secure a date for the tour.

d. Landfill Solar – RFP closed on 12/19

Mr. Bandazian reported the town still has not reissued the RFP. The RFP should open any day now and close about two weeks afterwards. The looming date is budgetary town meeting (Wednesday March 13). We want to deal with it by then.

e. New Solar Up campaign – Was the survey sent out?

Mr. Bandazian reported that the spreadsheet does not lend itself to mail merge. One cell combines name and address (and instead of names sometimes lists revocable trusts and other things), so it will require a lot of manual labor to take the addresses out of the spreadsheet and see if there is a human name to put it in the salutation line of the mail merge letter. If there is no human name, it would have to be researched (or else say "Dear Solar PV user"). The information originally came from the assessor's office.

f. Transfer station – Mandatory glass separation in effect

Mr. Bandazian reported glass is going really well, but Portfolio Manager is no longer available. He is unsure what happens once it gets hooked up because web service is interfaced with Eversource, and they will be very backed up. We are unsure if we will be missing months of data or receiving months of combined data. It will probably require manual labor to sort through it.

g. Eversource bills to calculate demand charges – Bing looking at demand charges

Mr. Lu provided a "Demand Charge Analysis" to the group. The Delivery is a fixed charge regardless if energy is used or not. There is a Demand Charge which means if your power level is more than 5 kilowatts (or whatever they set it at) they charge you per kilowatt, not kilowatt hour. That is roughly a charge of $15 per kilowatt regardless if you use it or not. If you use 1 kilowatt hour but use 100 kilowatts that is $1,500 a month even though you pay about $1 for the electricity. The Distribution charge comes to about 8 cents; the transmission charge comes to about 3 cents; and miscellaneous charges for extremely less, and lastly, there is a negligible tax charge. The big challenge is really the kilowatt hours used; roughly 18 cents per kilowatt hour and the kilowatt base which is about $15 per kilowatt. He compiled a chart showing the Demand Charges at different fields including Joppa Hill Field, Legacy Park Field 1, Legacy Park Field 2, Riley Field, Sportsman Field and the Tennis Courts on Country Road. Most of the demand charges for the fields are very high: 60-80%. The Energy Commission should look into why we are charged so highly for the Demand Charges. Mr. Lu looked at Legacy Park Field 1 in particular. From May 2018 back one year there are months we are using almost no power and there is no demand charge; but when, for example the demand charge is 6 kilowatts and 1,000 kilowatt hours and the demand charge is huge. There is a huge difference between the energy charge and the demand charge. If you are using constant power there is not much that can be done besides changing to LED lamps.

If there is any fluctuation on the power being used it will give us a chance to save big.

Chairman Kerr noted if usage can be brought below 5 kilowatts the town does not have to pay the demand charge. The Energy Commission needs to get information to the town, especially since they are looking at the bond to re-do the sports fields. He thinks LED lights may be the solution to help us save on demand charges. Mr. Bandazian shared that should the bond pass Sportsman field and Riley Field will be the first two fields to be done, and they are the fields with the highest demand charges. He thinks it would be useful to show the town per field what could potentially be saved on demand charges. People would be surprised to learn that 80% of the electric bill is from demand charge. Chairman Kerr suggested one way to get around this would be to install a big solar array that fed into a battery that would power the lights so that you get charges below 5 kilowatts.

Mr. Lu previously looked at the football field at high school to see if there is a spike in the charges upon being turned on and it was determined this was not happening. Could DPW put a monitor on the lights to see if there is a temporary spike in kilowatts when the lights come on? If so, that would be a definite reason to replace the lights. Typically, when you turn on a light there is a spike, and then the power cells back down to some level – so if the demand charge is for the spike-level you are paying big money for a 5-minute spike. Knowing this would give us more information as to whether the lights are always going to be like that or if there is something wrong with the lights or something that needs to be replaced or adjusted. Mr. Lu suggested that an easy way to do it is to have someone record how many hours the lights were used per day at the fields and use that to see the average power vs. the peak demand charge we are then charged. This is easier because we wouldn't need any equipment, just a person to record how many hours they turned on the lights each day. Each field also has a meter that could be checked. Also, if all the banks of lights are turned on at the same time there is going to be a higher peak. If they sequence the turn on it will be lower. That would be a simple control fix: To have the lights stagger on. The group is unsure if DPW or some other department is responsible for when the lights are turned on. Different people may be turning on lights at different times. Changing to LED lights is expensive, but so is paying the demand charges.

Mr. Bandazian noted that the pumping stations (which use a huge amount of energy and probably have variable speed motors) may get lost because it is paid by an enterprise fund (which is run by the Town), but he has no idea of the magnitude because it is paid by rate payers. Even though it doesn't affect tax-payers as a whole wastefulness and higher rates are good. He would like to see some bills, and assumes they are large. Since pumping stations are paid for by an enterprise fund run by the town, any savings would go back to the homeowners and businesses.

VII. New Business

a. Solsmart

Chairman Kerr mentioned an interesting NHPR story he heard about heating and insulation. Since the last meeting we found there are a few New Hampshire towns receiving Solsmart certification from the Solar Foundation (www.thesolarfoundation.org). Concord and Keene have declared their intention to be net zero by 2030. If we could get the PV lease going, this is something we could think about. We would like to get "green certification" for the Town – which is a recognized

certification that we could achieve and use publish our green credentials. The groups feels this is worth pursuing.

In other business, Ms. Rombeau asked if there had been any consensus about not doing meetings over holiday weeks. The group was in agreeance that they prefer not to hold a meeting between Christmas and New Year's Eve this year, and instead moving that meeting to mid-December. They decided to leave the meeting date where it is now on the calendar, and in October/November if there something important that the Commission is working on, they could decide if they want hold or cancel December's meeting.

VIII. Reminders: Next upcoming meeting is February 28, 2019.

IX. Adjournment

MOTION to adjourn by Ms. Rombeau at 8:47 P.M. Seconded by Mr. Joy. Vote taken- Motion Passed

Respectfully submitted by,
Tiffany Lewis