



CITY OF DOVER

ENERGY COMMISSION – MINUTES

Meeting Type: **Regular Meeting**
Meeting Location: **2nd Floor Conference Room – City Hall, 288 Central Ave.**
Meeting Date: **Wednesday, April 18, 2018**
Meeting Time: **5:30 PM**

1. Welcome

Members present: Vice Chair William Baber, Michael Behrmann, Julie Fournier, Zak Koehler, Lisa Logel (Alternate), Walter Milliken (Alternate), Otis Perry, Deborah Thibodeaux (Council Liaison), Rob Weir

Members absent: Walter King, Chair

Others present: Elena Piekut, Staff Liaison and Assistant City Planner, John Storer, Director of Community Services, Gary Bannon, Recreation Director, Jane Bard, President of Children's Museum of New Hampshire, resident Susan Smith, a UNH student observer

Vice Chair Bill Baber stated that he would reorder the agenda to hear New Business prior to staff updates if there is no opposition.

2. Citizen's Forum

Resident Susan Smith introduced herself and explained that she was speaking again on behalf of the Sierra Club Ready for 100 Campaign, which asks cities across the country to commit to sourcing 100% renewable electricity by 2035 and 100% renewable sources for all other fuels by 2050. She noted that Dover is often at the forefront of sustainability and self-sufficiency, and said that 58 cities and towns, seven counties, and one state (Hawaii) have made the commitment. This includes Hanover, Plainfield, and Cornish, NH, with Concord voting on the matter soon. Ms. Smith shared the executive summary from a Concord Energy Committee whitepaper on the matter and said more info is available at sierraclub.org. She said that Sierra Club would assist the City in achieving the goal after a commitment is made, and that the organization 350NH would also like to partner on the effort and add a grassroots approach.

Vice Chair Bill Baber noted that the entire document from Concord was recently circulated among members. He stated that he would like to invite representatives from Concord and Portsmouth to an Energy Commission meeting and asked Ms. Smith to send Staff Liaison Elena Piekut her contact from Portsmouth.

3. Approval of Meeting Minutes of March 21, 2018

Otis Perry moved to approve the minutes of March 21, 2018 as written. Zak Koehler seconded. Vote: U/A

4. New Business/Other Business

A. Children's Museum of New Hampshire/Dover Indoor Pool Solar Array – Dan Weeks, Revision Energy

Vice Chair Bill Baber gave an overview of this potential project, which began with an opportunity through the Energize 360 campaign. Part of the campaign, which chose Revision Energy as its partner in securing lower prices for private solar panels through the region, was an offer by Revision to donate one



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solar panel for every installation to a public organization. The Children’s Museum of New Hampshire was selected to receive 103 panels. The City owns this building, which the museum leases. The museum and the Dover Indoor Pool share an electric account, with one meter, and billing is divided on a fixed percentage basis. Because of this relationship and the pool roof’s suitability, the intent is to include additional panels beyond the ones being donated. Vice Chair Baber said that if the Commission is supportive of the project, it should provide a letter of support to the City Council.

Recreation Director Gary Bannon explained that the pool’s roof is most obviously suitable due to its simplicity and age. He believes it makes economic sense to use both.

Community Services Director John Storer said that if staff brings forward a proposal to the City Council, the Energy Commission’s support would be helpful in gaining approval. He believes the competitive procurement process completed by the Energize 360 Campaign would likely justify a waiver of the City procurement procedure.

Children’s Museum of New Hampshire President Jane Bard explained that the museum has been LEED Silver certified for 10 years, and that solar would provide a wonderful addition to their core values and education. She said a new exhibit would be added in conjunction with the project, and noted that the museum has 93,000 visitors every year, with 20,000 coming from Dover.

Vice Chair Bill Baber pointed out that there may not be a need for a net metered array given the facility’s load, including 24/7 pool operation. He said Revision Energy made a pledge to include an interactive display.

Otis Perry asked for more detail about the roof of the museum and Gary Bannon said it needs to be analyzed to determine how soon it will need to be replaced.

The group initiated a conference call to Dan Weeks of Revision Energy. Mr. Weeks introduced Revision Energy as an employee-owned, Certified B Corporation. He described the proposed project as just over 100 kW DC, generating approximately 120,000 kWh per year. The company has gone through an analysis of the museum and pool building including site suitability, general panel locations, estimation of electricity production, consideration of net metering possibilities, and financial modeling. The result has been presented to the Commission in hard copy. Mr. Weeks reiterated that one of their core commitments to the Energize 360 campaign was to donate one solar panel per completed installation to a nonprofit of the committee’s choosing.

Vice Chair Bill Baber asked Mr. Weeks to give a high-level overview of the numbers provided. Mr. Weeks explained that since non-profits and municipalities cannot take advantage of the 30% federal investment tax credit and depreciation incentives, purchasing solar arrays is less appealing than it is to private entities. He explained that these factors have led to the power purchase agreement (PPA) model, which pairs the solar developer with a private investor with tax liabilities they can offset with solar-related credits. The investor owns the array through an LLC and expects a modest rate of return, and the property owner leases them the space for the array. The arrangement is designed to be cash flow neutral or positive, with the property owner purchasing electricity from the array at a predetermined rate. After six years, when the investor partner has exhausted available credits, the property owner is offered an opportunity to buy the equipment outright at fair market value.



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Mr. Weeks provided an overview of figures provided, including:

- The projected cost of construction is \$233,000 (which includes the \$25-30,000 value of the donated panels)
- A 6% rate of return is anticipated for the investor partner
- A 9.2 cent-per-kilowatt-hour rate is anticipated
- If purchased in year six, the system would pay for itself in year 13
- All modeling assumes panel degradation of 0.5% per year
- A full 25-year PPA, with no buyout, is also modeled
- An annual increase in grid electricity rates of 2.5% is modeled, while increases in recent years have been 3-4% annually.

Mr. Weeks also noted that this project would create a meaningful reduction in CO₂ pollution.

Vice Chair Bill Baber asked the Commission members to present their questions while evaluating the proposal at a high level, noting that final details will be negotiated between the vendor and City.

Otis Perry asked for clarification on some figures presented and Dan Weeks explained that Revision projects a 2.5% annual increase in utility prices, while the proposal includes a 2% yearly escalator price in the PPA rate. He explained that Revision has the flexibility to eliminate the escalator and instead raise the buyout price. Mr. Perry asked where the price for Renewable Energy Certificates (RECs) came from. Mr. Weeks explained that it is based on current market conditions, that during the PPA term they accrue to the investor, and that once the City owns the system they will accrue to the City.

Walter Milliken asked why operating expenses are \$0, considering that the City will need to budget for maintenance after buyout. Mr. Weeks explained that Revision does also offer an operations and maintenance package for \$850 per year, beginning in any year. He said that \$0 represents the responsibility of the array owner. He said he is confident that operations and maintenance costs will be very low, and the cost of an inverter replacement is built into year 21. He also noted that many issues are covered by warranty. Mr. Milliken noted that there may also be insurance costs associated with the equipment and that he is concerned about wind and snow loading. Mr. Weeks noted that current insurance policies may cover this equipment already. He also explained that a low ballast and low degree pitch reduce risks of wind damage.

Robert Weir noted that the Commission recently published a report on energy consumption data, and asked whether the line item for the pool includes museum electricity use. Mr. Weeks said that it does. Mr. Weir noted that the system proposed would provide about 40% of the combined facilities' usage, and Mr. Weeks confirmed that the model shows no month in which production would exceed consumption.

Mike Behrmann said that he finds the proposal very well put together and very conservative, with RECs at about the right price. He said he believes the projection for inverter replacement is long at 21 years, and recommends planning for 15 years. He asked whether snow is taken into account in production modeling. Mr. Weeks said that it is, using an assumption of some snow cover. He does not recommend removing snow as being cost beneficial. Mr. Behrmann asked whether the buyout price will be adjusted for each possible year. Mr. Weeks said it will reflect market value and that the PPA will enumerate an



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estimate for each year. Mr. Behrmann asked about panel types and warranties and Mr. Weeks said that Revision currently uses a German company manufacturing in South Korea, which provides a 25-year warranty.

Councilor Thibodeaux asked whether Revision provides its maintenance services for arrays other than those they develop and Mr. Weeks said that they do, based on a base cost and a per kilowatt cost. Vice Chair Bill Baber noted Councilor Thibodeaux is likely asking because the City recently released a Request for Proposals (RFP) for a system at the Dover High School

Lisa Logel asked for clarification on how the project evolved from a donation to the Children's Museum into a City project. Vice Chair Bill Baber explained that it evolved due to the attractiveness of the indoor pool roof, and it began to make sense for it to be a single, larger project utilizing both structures and benefiting both organizations. Mr. Weeks noted that the Museum and City will need to come to an agreement regarding electricity billing. Ms. Logel asked whether the Commission would recommend the early buyout. Mr. Baber said the Commission would not address the financial deliberations. Mr. Weeks reminded members that the buyout is always an option, never a requirement. Assistant City Planner Elena Piekut said that the Commission could advocate for the buyout at this point, as the City does plan financial decisions well in advance.

Community Service Director John Storer noted that the Finance Director will need to review all assumptions. He asked whether Mr. Weeks has seen municipalities have trouble securing bonds for equipment that is already six or more years old. Mr. Weeks explained that Revision has been offering PPAs for seven years, and seven of the initial eight projects have completed a buyout. He suggested the cost may be too small for bonding and recommending planning for the expense in advance. He noted that he has seen fundraising efforts be very successful, with the New Hampshire Charitable Foundations specifically seeking out these types of project to fund due to investor interest.

Vice Chair Bill Baber asked for clarification about plans for net metering. Mr. Weeks explained that strictly speaking, there may be times of export to the grid, but because billing is monthly, it is unlikely there will be a net export over the course of the month. Mr. Baber asked whether to assume that Revision handles maintenance during the PPA and Mr. Weeks said that they do.

Assistant City Planner Elena Piekut asked who the investor partners are, and whether they are local and/or individuals. Mr. Weeks explained that Revision has assembled the NH Solar Impact Investment Fund, consisting of multiple, individual New Hampshire investors. Revision bundles projects together and acts as the sole active investor. Otis Perry asked whether the LLC that owns the array also owns others, and Mr. Weeks said, no, there will be a single-purpose LLC for each project. Rob Weir asked if Dover has any limitations on entities it can partner with, and Ms. Piekut said she did not know of any.

Vice Chair Bill Baber reminded the Commission that Revision completed Durham's recent ground-mount array. Mr. Perry asked whether the investor will require performance guarantees, and Mr. Weeks said yes, it must be a productive array. Mr. Perry is concerned about some legal requirements and IRS rules, and Mr. Weeks said he would refer the questions to their legal and finance departments.

Vice Chair Bill Baber asked Community Services Director John Storer how the Commission can assist in moving the project forward. Mr. Storer asked that if the Commission supports the proposal, they write a



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letter of recommendation to the City Council. He will look into obtaining municipal references. Mr. Baber asked whether any members had reservations and none were expressed.

Otis Perry moved to support the proposal and encourage staff and the City Council to move forward. Julie Fournier seconded. Vote: U/A.

Mr. Storer noted to Mr. Weeks that the City Council will likely want to hold a workshop and hear a presentation before voting at a subsequent meeting.

B. Community Services Energy Discussion – John Storer, Dover Community Services Director

Community Services Director John Storer introduced himself and his background. He described other potential sites for solar arrays, such as the waterfront dredge cell, Mast Road gravel pit, and Tolend Road Landfill. He shared experience from other municipalities, such as with anaerobic digestion and load shedding efforts he would like to explore in New Hampshire. Discussion ensued regarding various opportunities, available data, and the relationship of Community Services to the School Department. Mr. Storer offered to attend additional meetings in the future. Discussion also ensued regarding opportunities for increasing equipment and fleet efficiency, no idling policies, LED lighting, relevant new positions proposed in the Community Services budget, and wastewater outflow turbines.

5. Staff Updates

A. Dover High School Solar Array Request for Proposals

Assistant City Planner Elena Piekut provided an update on the release of a Request for Proposals (RFP) to install solar on the roof of the new Dover High School. She said that a pre-bid site walk was held Monday, and that four interested firms were in attendance. She said that Thursday, April 26 is the deadline for questions from potential respondents, that those questions will be answered May 7, that proposals are due May 17, and a decision should be made by June 7.

B. UNH Sustainability Fellowship

Assistant City Planner Elena Piekut shared that the City and UNH offered the summer Sustainability Fellowship, Measuring Municipal Carbon & Nitrogen Footprints, to Jackson Kaspari. Jackson is a local student who attended St. Mary's Academy and St. Thomas Aquinas High School, and is currently a senior at UNH anticipating a Bachelor of Science in Chemical Engineering. He will continue on to a PhD in Physical Chemistry. Jackson will begin in the first week of June and attend Energy Commission meetings over the summer.

6. Old Business

None.



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7. Member Comments

Zak Koehler said he would look into the status of LED lighting use in the schools.

Mike Behrmann reminded the Commission that the Governor has approved the full amount of funding available for electric vehicles and charging infrastructure, and that the City should look into pursuing infrastructure funding. He said the comment period is open until June. Vice Chair Bill Baber asked Elena Piekut to invite the City's Parking Manager to the May Commission meeting, as well as Becky Ohler of the NH Department of Environmental Sciences.

Mike Behrmann also shared that the state has updated the State Energy Plan, which is drastically different from the original document. He said it guides the legislature as to the Governor's goals. Mr. Behrmann said he would send the plan to Elena Piekut to distribute.

8. Call for Agenda Items

9. Adjourn

Julie Fournier moved to adjourn. Zak Koehler seconded. Vote: U/A.