

MEMORANDUM

To: Bowdoinham Selectboard
From: Community Development Advisory Committee
Date: June 9, 2020
Re: Recommendation for use of a solar source to meet Bowdoinham's municipal electrical needs

Recommendation:

CDAC recommends that the Selectboard proceed immediately to issue an RFP to solar contractors to include Option 1 and Option 2 as outlined below. While CDAC prefers Option 1, Option 2 can also be included in the RFP. Since Bowdoinham's usage is comparatively small and might not attract as many investors, Option 2 will enable a contractor to bundle us with other projects for a larger investment opportunity. Once the Selectboard receives the bids, you can compare the advantages and potential savings outlined in their proposals and decide whether to move forward.

Context:

On Tuesday, January 14, 2020, Yvette Meunier and Nick Whatley of Topsham Solar Advocates presented information to the Selectboard on solar energy options to supply the town's energy needs. They used a PowerPoint to outline why it is important to consider this now, the use of Power Purchase Agreements (PPA), the various options a town can choose in order to reduce their energy costs, and possible ways to go forward.

By March, 2020, the Selectboard had made a formal request to CDAC to research the various solar options and to make a recommendation.

Description of CDAC's Research Process:

Over the last 3 months, CDAC has done extensive research on the options for sourcing solar power for the town. We have been aided in this process by Yvette Meunier of Topsham Solar Advocates and John Deans, a Bowdoinham resident. They have shared a number of documents that have been very helpful in our deliberations:

- The original PowerPoint that was presented to the Selectboard
- The full proposal that ReVision Energy submitted to Topsham in response to their RFP
- A document that compares the three proposals Topsham received in response to their RFP
- A sample RFP document that Bowdoinham could use as a template
- A list of 20 solar energy companies who routinely bid on municipal contracts

As CDAC digested these materials, we peppered Yvette and John with detailed questions through email. They were very responsive and helped answer all our inquiries.

In the meantime, Nicole Briand researched Bowdoinham’s current energy usage. She supplied us with a spreadsheet that lists all the municipal properties/street lights, the monthly usage amounts, supply costs, and the total bill for each. The information she provided covers January, 2019 through March, 2020.

Important Considerations/Information:

Power Purchase Agreements (PPA). This mechanism makes it possible for municipalities to consider solar power in a way that is economically advantageous. As outlined on Yvette’s PowerPoint, the way it works is that a town contracts with a solar installer to do the project. The installer partners with a 3rd party investor who funds the project. The investor is able to claim a tax abatement which makes this investment desirable. (Sometimes the solar installer also acts as the investor.) The town agrees to purchase the power generated from the solar project. A contract can last from 6 to 30 years with flexible choices for a system buyout if the town wishes to pursue that.

Timing: It is very important to choose an option and get a project started as soon as possible. Right now, investors can take advantage of a 26% tax credit, but that will go down to 21% in 2021. ReVision Energy has advised us that as long as a solar installer has been chosen, a PPA signed and 5% of the equipment costs have been expended by Dec., 2020, the investor can access their tax credit for this year.

Financial considerations: We want to be sure that any choice we suggest has the promise of saving the town money. Using the information we have, we feel confident that choosing a solar option will accomplish this. First, any leasing escalator costs in our solar contract will be outlined ahead of time and will be a known quantity. CMP cost increases are at the whim of that company and are unpredictable. Secondly, an analysis of our town’s energy consumption shows that a solar source will cost less.

Using the chart Nicole supplied, the following table provides a rough estimate of our savings based on the Topsham model. Calculations were created to include full usage of the Public Works Building for a complete year. Please know that these are estimates. When we get the final bids from potential contractors, they will outline our savings more specifically given the options we ask for.

Municipality		
Topsham usage	977,750 kwh	100%
Bowdoinham usage	93,000 kwh	9.5% of Topsham
Topsham projected savings	\$39,524 per annum	100%
Bowdoinham projected savings	\$3,755 per annum	9.5% of Topsham

The per annum savings for Bowdoinham represents approximately 25% of our current electrical expense (\$15,000).

Environmental considerations: If the cost of CMP electricity and the cost of solar energy were the same, we would recommend changing to solar energy. The benefits to the environment have been well documented. To the degree that the Town of Bowdoinham can have a more beneficial impact on the global warming issue, the better.

Location for the solar array: Bowdoinham has two prime locations for a rooftop solar array—the Public Works Building and the Fire Station. Both of them have standing seam metal roofs which are ideal for solar because they will last longer than the life of the panels. In addition, the Public Works Building has a reinforced rooftop in anticipation of a solar panel installation. We recommend that both properties be included as potential sites in any RFP so the solar installer can choose the best option. Since Bowdoinham has no zoning restrictions for locating a solar array, we don't need to clear a zoning hurdle. In addition, the size of our array would not require 3-phase power so we are not constrained in our choice of location.

Many of the solar installation companies are participating in larger solar farms located around the state. They bundle projects, based on each entities' usage. As outlined below, this would be wise to include as a possibility in any RFP.

CDAC extensively discussed five primary options for the town. Each option has advantages and disadvantages. The five options were:

1. The town would lease the equipment and put it on town property. The advantages are that there would be no need for any up-front financing from the town. In addition, there would be no land leasing fees or Operations and Management (O&M) fees while we lease. We have 2 prime properties that might serve as a site for solar panels—the Public Works Building and the Fire Station. This option gives us the flexibility to lease for 7 years (and then purchase) or for 20 years with possible extensions. Finally, the investor would get the tax rebate. We would have to pay leasing costs with yearly increases (escalators).
2. The town leases the land and equipment which is located elsewhere. The advantage is that we have no up-front purchase costs, O&M fees or decommissioning fees, and the investor gets the tax rebate. This allows the contractor to bundle us and our relatively low usage amount with other projects. Of course, there would be leasing escalator rates each year. While it isn't exactly a disadvantage, the array would not be located in our town.
3. The town would purchase the system and put it on town property. The town would have to come up with the purchase money which would be around \$200,000 according to John Deans. We would save on leasing fees over the course of its lifetime. We would be responsible for O&M which would be about \$1,000 per year (John Deans).
4. The town purchases the equipment and leases the land elsewhere. The biggest drawback for this is the upfront financing cost. Owning the system means no escalator rates, but the town would have to cover O&M and decommissioning. There would be land leasing fees

5. The town purchases a solar system without a PPA. The advantage is that the town would not have a leasing payment with yearly increases (escalator rates). The disadvantage is that we would have to pay for maintenance and operation (O&M) (about \$1,000 per year), we couldn't take advantage of the tax rebate because we are a non-profit, and we would have to finance the purchase up-front.

Conclusion:

Based on our research, an analysis of potential savings, the requirements of purchase vs. leasing, and the need to proceed in a timely way, CDAC would like to encourage acceptance of our recommendation.