MEMORANDUM

To: City Council
CC: City Manager Joyal, Assistant City Manager Parker
From: Assistant City Planner Piekut
Date: December 7, 2016
RE: Solar Photovoltaic Project Partnership with Ameresco, Inc.

Current Status

The City's Letter of Intent with Ameresco, Inc. expires December 9, 2016 unless terminated or extended. With the assistance of City staff and the Energy Commission, Ameresco has completed initial site screening, estimated system sizes and output for all viable sites, then identified the four best locations to utilize the benefits of net metering: the roof of the new High School, the Tolend Road Landfill, the former gravel pit at 271 Mast Road, and the roof of the Community Services building at 271 Mast Road. Although the landfill and gravel pit could be host to larger systems, the initial design is capped at 1 MW in order to take advantage of net energy metering and the size limits imposed by State law. The roof-mounted systems are smaller due to design constraints.

Each of the four locations has been treated as an individual project in order to facilitate approval through the Public Utilities Commission's process. The City signed a site control agreement in order to communicate the readiness of our projects to the PUC. That agreement also made project development contingent upon the success of the net metering applications. Four separate applications were completed, but not submitted due to the discovery that the City's and school's third-party electricity supply contracts in effect for 2016 make the City ineligible to apply for net metering under the PUC's rules. An organization must be a full-service customer prior to applying for space in the net metering queue. The queue is currently over-subscribed despite the legislature's increase of the net metering cap in mid-2016.

Next Steps

After the PUC confirmed that the City must remove relevant accounts from its third-party electricity supply contracts before applying to be a net metering host, staff met with Ameresco to discuss next steps. The company is heavily involved in the next legislative effort to increase the net metering cap again, hopefully from 75 MW to 200 MW. They stressed that they intend to continue to work with the City and would like to wait for the next cap increase.

Meanwhile, the PUC is in the midst of a proceeding, ordered by the legislature, for the "Development of New Alternative Net Metering Tariffs and/or Other Regulatory Mechanisms and Tariffs for Customer-Generators" (http://puc.nh.gov/Regulatory/Docketbk/2016/16-576.html). Staff's understanding is that when this proceeding is completed (anticipated March 2017 but possibly delayed to June), new customer-generators will be compensated for energy generation at a lesser rate than the supply rate that is currently used. Although the cap is likely to increase again, the financial incentive to net meter will also change. It is also worth noting that the political landscape has changed since last year, creating a fair amount of uncertainty around the growth of the solar industry.

The PUC has indicated that, at the discretion of the utility, a single (rather than group) net metering project is permitted to *apply* while still using a third-party supply. The new High School, which could produce almost as much electricity each year as it consumes, is an example of a project that may qualify. However, at this time there is no net metering capacity to apply for. Further, Eversource needs to complete an interconnection study (at an expense of approximately $5,000) to determine whether improvements must be made to the local system to accommodate the proposed solar array. The City must make the application for the interconnection study, which may take several months.

In October, City staff, Ameresco, Dover High School design and construction personnel, and Eversource representatives met on site to coordinate the progress and relationship of both projects.

In addition to Dover, Ameresco has been working with the Towns of Derry and Plaistow on similar efforts, with the same obstacles. In December or January the three municipalities will meet to coordinate an approach to discussion with the PUC and advocating for an increase in the net metering cap before the NH legislature.

The City's third-party electricity supply contracts going into effect for 2017 include a clause allowing us to remove accounts up to 25% of the usage.

Background

In the early fall of 2015, members of the Energy Commission, with the help of the City's Purchasing Agent and Environment Consultant, chose Ameresco, Inc. from three firms who had responded to a request for qualifications. The RFQ sought a firm that could provide turnkey photovoltaic arrays, manage them, and present a benefit to the City through group net metering credits, lease payments, discounted electrical rates, and/or tax revenue.

Ameresco outlined a process by which City sites would be screened for suitability before the company proceeded with 30% design for selected sites and presented power purchase and lease agreements for Council approval. In its evaluation, the selection team ranked Ameresco highest based on its financial resources, national experience, willingness to begin work free of charge, nearby offices, and ability to design, construct, and maintain turnkey systems.

In December 2015, City Council authorized signing of a 365-day agreement that Ameresco would conduct research and 30% design, explore the possibility of utilizing group net metering, and present power purchase/lease agreements at a later date. At the same time, Ameresco began similar projects in a handful of other New Hampshire communities. Over the winter, City staff worked to gather and provide as much information as possible about the sites and structures, as well as the City's and schools' current electricity supply contracts and usage data. Ameresco's engineers utilized these and made site visits to complete initial screening, while its executives and lobbyists worked on the effort to pass a significant increase of the "cap" on net energy metering in the New Hampshire legislature (SB 333/HB 1116). In January, Assistant City Planner Piekut appeared at the Senate Energy and Natural Resources Committee hearing on SB 333, which overflowed into the Statehouse halls. A member of the Energy Commission attended a later hearing.

Net energy metering is the way for individual customer-generators to be paid for the excess electrical energy that they supply into the grid. In the case of the new Dover High School, the building can accommodate a system that produces nearly as much electricity as it uses each year. However in the summer, it will generate more than it uses, and that electricity is distributed into the grid. With net metering, the school's bill is offset by credits for the electricity generated. In *group* net metering, one customer-generator that produces more electricity annually than the group members (who produce nothing) consume annually, benefits the members in the form of net metering credits. New Hampshire has seen tremendous growth in net metering over the past several years.

States with liberal net metering policies have seen tremendous growth in the solar industry, while the public utilities oppose the growth of net metering or otherwise over-incentivizing customer-generation, primarily because of the infringement on their industry and because customer-generators benefit from the use of their distribution infrastructure. There are arguments both for and against the concept that solar customer-generators shift the utility's costs onto regular ratepayers.

In January 2016, Eversource's portion of the initial net metering cap (which had existed unchanged for years) was exhausted. The legislature passed HB 1116 in the spring, increasing the statewide net metering cap from 50 MW to 75 MW (http://www.gencourt.state.nh.us/rsa/html/XXXIV/362-A/362-A-9.htm). Sixty percent of the cap increase (15 MW) was reserved for small/residential systems up to 100 kW. Forty percent (10 MW) was made available to systems between 100 kW and 1 MW. Systems larger than 1 MW may not utilize net metering. These amounts are then divided among the utilities according to their share of energy demand, leaving Eversource with 7.8 MW available to the larger systems.

The law went into effect May 2. On May 4, *New Hampshire Business Review* reported that Eversource had 7.2 MW worth of projects on its waiting list and another 7.8 MW worth of projects in development in its territory. (http://www.nhbr.com/May-13-2016/For-some-projects-NHs-new-net-metering-cap-has-nearly-been-reached/) At that time the PUC also changed the rules for the queue to ensure that projects that weren't truly ready to be built didn't take up space in line. After the law went into effect it was also revealed that a number of existing hydroelectric dams had been poised to apply for net metering benefits, and took up a large share of the cap increase that all expected to be available to new solar photovoltaic projects.

By early June, the City had signed a site control agreement, which is used to communicate the validity of Ameresco's projects to the PUC. Ameresco had prepared four separate net metering host applications for the City to submit to get on the waitlist, totaling just over 3 MW of generating capacity, divided as follows:

Host	Size	Projected Annual Output	Group Member(s)	Projected Annual Load
Dover High School	720 kW	1,197.99 MWh	High School	1,544.19 MWh
Tolend Road Landfill	1000 kW	1,546 MWh	Middle School Horne Street	1,750.4 MWh
Mast Road Gravel Pit	1000 kW	1,607 MWh	Woodman Park Garrison River St. Pump Station Griffin WTP	2,101.2 MWh
Community Services	345 kW	514.9 MWh	CS and DPW City Hall Calderwood Well	659.35 MWh

Although the Mast Road Gravel Pit and Tolend Road Landfill offer the opportunity for larger arrays, only 1 MW systems were envisioned for the sake of net metering. Ameresco calculated that if all of the City's suitable sites were used (for systems under 1 MW), we could present 4.2 MW of generating capacity—more than half of Eversource's share of the cap increase for its entire territory. This is part of the logic behind choosing four distinct projects to apply for separately.

Although Ameresco had cautioned the City against signing third-party electricity supply contracts for 2017 without obtaining account removal clauses, the company was under the impression that the City could make an application for net metering while 2016 contracts were still in effect. The PUC confirmed that that is not the case. Because we had no account removal clause in the 2016 contracts, we would have needed to be warned about this barrier long before the 2016 contracts were signed.

New Hampshire's net metering cap of 100 MW is much lower than caps in the other New England states; Maine and Connecticut do not limit net metering at all. The effort to increase incentives for the development of solar, including expanding net metering, may be an issue the Council wishes to address with Dover's representatives to the NH General Court.