



Office of the
SELECT BOARD

TOWN OF NEEDHAM

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Article 8 **October 25, 2021 Special Town Meeting** **Authorize Power Purchase Agreement – Jack Cogswell Building** **Frequently Asked Questions**

What are the environmental benefits of this proposal?

The project proposed under Article 8 is to install a 203.8 kW DC solar array on the roof of the Jack Cogswell Building (JCB). This installation is consistent with the Town's goals as a Green Community and will fit within a future Climate Action Plan adopted by the Town by helping to lower Greenhouse Gas (GHG) emissions. Key metrics include:

- 216,500 kW hours of solar generation per year is the equivalent of approximately 170 tons of carbon dioxide emissions reductions
- GHG Emission Equivalents:
 - o +/- 33 fewer cars on the road, or
 - o +/- 385,500 fewer miles driven per year
- Carbon Dioxide Emission Equivalents:
 - o +/- 17,250 gallons of gasoline per year
 - o +/- 30 homes of electricity consumed per year
- Carbon Sequestered:
 - o +/- 2,500 tree seedlings grown for 10 years
 - o +/- 190 acres of forest in the US in one year

What is the Jack Cogswell Building (JCB)?

The JCB is a DPW vehicle and equipment storage building approved at the 2018 Annual Town Meeting. The facility is located next to the Recycling/Transfer Station (RTS) on Central Avenue. The JCB rooftop was designed to be "solar-ready" in compliance with current building codes so that the structure could support the addition of a rooftop solar array.

What options were considered for the JCB Solar Project?

Weston & Sampson, the JCB design firm, provided a preliminary design for a 203.8 kW DC array with about 425 solar panels projected to provide between 210,000 kWh and 216,500 kWh per year of electrical power production. The design proposed uses industry-standard clips fastened to the standing seam roof, eliminating the need to penetrate the roof. This solar array would generate more energy than is currently used by the JCB. In fact, the array is projected to produce enough energy to meet the total electrical demand of all the buildings at the RTS. If the Town net meters this excess energy to these and other building accounts, it will realize the full benefit of the installation.

What is Net Metering?

Net metering is a mechanism that allows domestic or commercial energy users who generate their own electricity using solar panels or photovoltaic systems to export their surplus energy back to the grid.

Why is the Town proposing a Power Purchasing Agreement instead of constructing the solar panel installation itself?

While the original project authorization (Article 35 of the 2018 Annual Town Meeting) has sufficient contingency to procure this solar array, the Select Board is recommending that the Town instead pursue a Power Purchase Agreement (PPA) with a private solar energy provider to construct, maintain and operate this roof-mounted solar facility. The Town would lease the use of the rooftop to a private developer and agree to purchase the power at a low fixed or escalating rate. This approach would limit the Town's capital investment and future maintenance costs of the solar asset, provide a long-term financial benefit, and hedge against future energy price escalation.

What is the estimated value of the project?

The Design team and its consultant created a range of scenarios for funding the project through borrowing, cash or use of a private vendor. The proposed PPA option netted an approximate total benefit of \$332,000 total benefit over 25 years – an average annual benefit of \$13,300.

What is the status of the project at this point?

The PPBC and Building Design and Construction Department have secured an approval from the Solar Massachusetts Renewable Target (SMART) incentive program and gained approval from the Planning Board for a de minimus change to its Special Permit for this installation. Other regulatory approvals are currently being sought from the Department of Public Utilities (DPU). Because DPU guidelines do not allow more than one solar array on a given parcel, the Town is in the process of seeking a waiver to allow this net metering project due to the location of the solar array at the capped landfill on RTS property. DPU has issued waivers in similar circumstances. Even if the waiver is not granted, the alternative methodology – “on-bill credits” versus “net metering credits” – would result in a financially favorable project with a net total benefit of about \$43,000 over 25 years with the accompanying environmental benefits. This would mean an approximate annual benefit of \$1,700 per year. If the Town is not successful in obtaining a waiver, the Select Board will regroup and hold a public discussion as to the future of the project.

What is the Town's sustainability policy for Town buildings?

In recent years, the Town has implemented numerous sustainability measures. When positive bidding climates allowed, sustainability measures were included in building construction, such as the solar array on the roof of the Sunita Williams Elementary School. These efforts, while numerous, have mostly been done on an ad hoc basis. The Select Board adopted a goal to create a Climate Plan Action Committee (CPAC), and recently approved the charge and composition of that committee. One of the tasks the Board will ask the CPAC to complete is to articulate and recommend a sustainability strategy to guide public construction in Needham.