

TOWN OF WAYLAND ----- TOWN CLERK'S OFFICE
NOTICE OF MEETINGS OF TOWN BOARDS/COMMITTEES/COMMISSIONS

Posted in accordance with the provisions of the Open Meeting Law

Revises agenda posted January 5, 2021 at 1:39 p.m.

*In compliance with the revised Open Meeting Law requirements, we will live stream the meeting via Zoom and, in some instances, on WayCAM. No in-person attendance of members of the public will be permitted. The Zoom meeting can be entered using the following link: Zoom LINK PW:

<https://zoom.us/j/98275011901?pwd=OWsrQ1ZuRVdscmhqN2FoR0JrYU1yQT09>
248914

**To make a public comment via Zoom, perform a virtual "hand raise". The meeting moderator will contact you via a chat message to acknowledge your request and will inform the chair of your request to comment. Instructions for performing a virtual "hand raise" can be found at <https://support.zoom.us/hc/en-us/articles/205566129-Raisingyour-hand-In-a-webinar>

NAME OF BOARD/COMM: Energy and Climate Committee

FILED BY: Anne Harris, Energy and Climate Committee

DATE OF MEETING: Wednesday, January 13, 2021

TIME OF MEETING: 9:00 am

PLACE OF MEETING: Via Zoom

NOTE: Notices and agendas are to be posted at least 48 hours in advance of the meetings excluding Saturdays, Sundays, and legal holidays. Please keep in mind the Town Clerk's business hours of operation and make the necessary arrangements to be sure this notice is received and stamped in an adequate amount of time.

9:00 am	Call to Order by Chair
9:05 am	Public Comment
9:10 am	Welcome New Associate Member Mike Kanarek
9:15 am	Discuss Petitioner Warrant Article: Resolution Endorsing Declaration of a Climate Emergency - Michael Delman
9:30 am	Solar Panels on Loker Roof - JH
9:45 am	Public Buildings Director Updates - Ben Keefe <ul style="list-style-type: none">• Green Communities grant projects• Facilities projects
9:55 am	Community Choice Aggregation Warrant Article - ET
10:10 am	Sustainability Director Discussion Updates - ET
10:15 am	Electric Buses: Draft Memo to Town Administrator -TS
10:25 am	Energy Analysis project by Metropolitan Area Planning Council (MAPC) - Sasha Shyduroff, MAPC Clean Energy and Climate Planner

- 10:40 am Reports
- Energize Wayland - ET
 - Metropolitan Area Planning Council greenhouse gas emissions (GHG) tool - AH
 - Net Zero letter to Board of Building Regulations & Standards - ET
- 10:50 am Miscellaneous business
- Committee member town emails
 - Town Committee Dropbox
 - Approve 12/9/20 meeting minutes
 - Schedule next meeting
- 10:55 am Business not reasonably anticipated by chair
- 11:00 am Adjourn

NOTE: Per changes to the Open Meeting Law, notice of any meeting of a public body shall include “A listing of topics that the chair reasonably anticipates will be discussed at the meeting”. AG’s Office guidelines state that the list of topics shall have sufficient specificity to reasonably advise the public of the issue to be discussed. Please list those topics on the above agenda.

Revised Meeting Notice/June 23, 2010

PACKET

Jan 4

2021



LOUISE L. E. MILLER
TOWN ADMINISTRATOR
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TOWN OF WAYLAND

41 COCHITUATE ROAD
WAYLAND, MASSACHUSETTS 01778

BOARD OF SELECTMEN

LEA T. ANDERSON
MARY M. ANTES
THOMAS J. FAY
CHERRY C. KARLSON
DAVID V. WATKINS

Revises revised agenda posted December 30 at 3:58pm

BOARD OF SELECTMEN

Monday, January 4, 2021

5:00 p.m.

Wayland Town Building

Council on Aging Room

41 Cochituate Road, Wayland, MA

Proposed Agenda

Note: Items may not be discussed in the order listed or at the specific time estimated. Times are approximate. The meeting likely will be broadcast and videotaped for later broadcast by WayCAM.

*In compliance with the revised Open Meeting Law requirements, we will live stream the meeting via Zoom as well as WayCAM. The Zoom meeting can be entered using the following link:

<https://zoom.us/j/95721725414?pwd=RVVkcG9qMXRVcXNlc1pMWVRXY1JLQT09>

Password: 346818

The meeting may be viewed live on the WayCam Government Channel (Comcast 9, Verizon 38). Public Comment will be received either through Zoom** or by phone at 508-358-6812 for this meeting. The phone number will be active during the public comment portion of the meeting. Thank you in advance for your patience; we intend to address all calls that come in during the Public Comment period.

In addition to being live streamed, WayCam will record the meeting and this recording will be made available to the public as soon after the meeting as is practicable. No in-person attendance of members of the public will be permitted, but every effort will be made to ensure that the public can adequately access the proceedings.

**To make a public comment via Zoom, perform a virtual "hand raise". The meeting moderator will contact you via a chat message to acknowledge your request and will inform the chair of your request to comment. Instructions for performing a virtual "hand raise" can be found at

<https://support.zoom.us/hc/en-us/articles/205566129-Raising-your-hand-In-a-webinar>

- 5:00 pm 1. Call to Order, Review Agenda for Public
- 5:03 pm 2. Announcements and Public Comment
- 5:10 pm 3. Licensing:
 - a. Vote to approve renewal of 2021 Used Car Dealer's License Class II for Wayland Foreign Motors
- 5:15 pm 4. Town Administrator Review: Distribute Town Administrator self-assessment including a report on goal achievement.
- 5:20 pm 5. Committee Appointments:

TOWN OF WAYLAND SPONSORING BOARD ARTICLE REQUEST FOR TOWN MEETING

Attach extra pages if necessary

Article Title: Community Choice Aggregation

Article Description (final language to be provided by Town Counsel based on description provided):

To authorize the Board of Selectmen to initiate the process of aggregating electrical load through a Community Choice Aggregation Program(CCA), and to contract for electric supply for Wayland residents as authorized by M.G.L. 164, Section 134, and through the CCA, to decrease greenhouse gas emissions from the generation of electricity used by Town residents by pursuing a higher percentage of Class I designated renewable energy than that required by the Massachusetts Renewable Portfolio Standard (RPS).

The article further authorizes s the Town Administrator to establish and/or appoint representatives for a committee or task force to oversee the process.

Sample text from other communities is included as an attachment.

Background Information (to be used by the Finance Committee to draft its report. Please explain the intent of the article, why it should be supported now, as well as known reasons the article may be opposed):

Municipal aggregation often referred to as Community Choice Aggregation (CCA) is a state regulated process that allows towns and cities, including Wayland, to purchase electricity supply in bulk for all households and small businesses currently enrolled in Eversource's Basic Service (EBS). These Wayland residents and small businesses would be offered the choice to buy electricity generated with a higher percentage of locally produced renewable sources (e.g., solar and wind) compared to the 18% currently mandated by the state for 2021, further reducing greenhouse gas emissions that are contributing to the climate emergency. Residents and small businesses would be enrolled in the program by default, as required by legislation, but can opt out at any time and return to Eversource Basis Service or another supplier at no cost. During the process of exploring CCA, the Town incurs no cost beyond staff time and will only enter into a CCA contract if the negotiated rates are favorable for its residents and small businesses compared with Eversource Basic Service rates. Experience in other communities has shown that such rates are competitive, if not lower, than average Eversource Basis Services rates. Once a CCA Program is implemented, State law requires residents and small businesses on Eversource Basic Service to enroll in the program by default; however, they may opt out at any time with no fees.

Reasons in favor:

Adopting a CCA program has several benefits

1. **Consumer Choice and Vetted Options:** The program would provide Wayland residents and small businesses with a choice of one or more negotiated CCA supply rate(s), which will have a higher

percentage of renewable energy supply. The Town will, with support from a consultant, identify vetted supply options to [increase our renewable energy supply and maximize, to extent feasible, procurement of](#) locally produced green energy. Residents may opt out of the CCA program at any time and return to EBS or another supplier. Consumers are increasingly approached by various electricity suppliers attempting to sell them energy contracts. CCAs offer municipalities a way to vet suppliers for residents through government procurement procedures. CCA is well regulated and overseen by the [Massachusetts](#) Department of Energy Resources ([DOER](#)) and the Department of Public Utilities (DPU).

2. **Addressing the Climate Emergency by Increased Use of Renewable Energy:** We face a climate emergency that warrants action. CCA will give Wayland residents the opportunity to purchase supplied electricity with a greater percentage of renewable energy, reducing our collective greenhouse gas emissions. The CCA program will add more renewable energy to the supply [above](#) the state mandated Renewable Portfolio Standard (RPS), [which requires 18% renewables in 2021](#).
3. **Stability and Competitive Rates:** Through CCA, Wayland will have the opportunity to negotiate longer term (2-3 year) supply contracts, in contrast to Eversource Basic Service rates which change every 6 months. Rates are competitive [and, in some towns](#), have been lower than EBS.
4. **Minimal Municipal Staff Support is Required and No Added Costs:** The town will engage a consultant to manage the process, which includes identifying supply options and managing the implementation and operation of the program (e.g., tracking rates to ensure the negotiated rate remains competitive or better than EBS, managing the resident opt in/opt out through a web portal and phone line, providing outreach materials to help explain the program). The consultant is paid by fees on the supply rate at no cost to Wayland.
5. **Good Track Record:** Over 40 municipalities have used or are in the process of using CCA including neighboring towns of Newton, Brookline, Sudbury, Natick, and Lincoln. Weston passed a CCA Town Meeting article in December 2019. [Framingham is also moving forward with CCA](#).

Potential issues that could be raised.

Residents may be concerned about the ease of the opt out or opt in process. Experience in other towns has demonstrated that this can work [smoothly](#). An important criterion to be used in hiring the consultant will be the level of support they plan to provide and their track record in doing so.

Estimated Cost: There are no anticipated costs to the town beyond staff time to oversee the effort. The Energy and Climate Committee will also assist in overseeing the effort.

Proposer's Comments (if needed, 150-word limit per Town Code):

We face a climate emergency requiring action. Community Choice Aggregation (CCA) is a state regulated process that allows Wayland to purchase electricity supply in bulk for households and small businesses currently enrolled in Eversource's Basic Service (EBS). Residents and small businesses would be offered the [choice](#) to buy electricity generated with a higher percentage of locally produced renewable sources (i.e. solar and wind) from a well vetted supplier [above](#) the ~~18~~18% currently mandated by the state. [Higher percentages will](#) further reduce our collective greenhouse gas emissions. Residents/small businesses can opt out at any time and return to [Eversource Basic Service](#) or another supplier at no cost. The Town incurs no cost during the process of exploring CCA and will only enter into a CCA contract if the negotiated rates are favorable.

Contact Information for Publication in Warrant Contact Person Name: Ellen Tohn, Energy and Climate Committee Co-Chair

Contact Person Town Email) etohn@wayland.ma.us

Proposing Board Information:

Board Name: Energy and Climate Committee

Board Vote (Quantum) to Submit – The Energy and Climate Committee will vote (TBD) on 1/13/2021 on this specific text.

Signature of Board Chairperson:



Contact Person Phone: 508-667-5164

Date of Board Vote: Date:

Attachment: Sample Town Meeting Article Text From Other Communities

Weston Town Meeting Article

To vote to authorize the Board of Selectmen to initiate the process of seeking to aggregate energy, whether independently or in joint action with other municipalities, and contract for electric supply for Weston residents as authorized by M.G.L. 164, Section 134, and through what is known as Community Choice Aggregation (CCA), decrease greenhouse gas emissions from the generation of electricity for Weston residents by pursuing an amount of Class I designated renewable energy higher than is required by the Massachusetts Renewable Portfolio Standard (RPS), and further to authorize the Town Manager to establish, and/or appoint representatives for a taskforce to oversee such independent or joint action, or take any other action relative thereto.

Proposed from the Board of Selectmen to the voting residents of the Town of Scituate

To see if the Town will vote to authorize the Board of Selectmen to enter into a Community Choice Aggregation Program and contract for electric supply for Scituate residents and businesses as per Massachusetts General Law 164, Section 134 of the Acts of 1997, or otherwise act thereon. This includes authorizing the Town Administrator to establish and/or appoint representatives for a

committee to oversee such independent action, or take any other action relative thereto, and to execute all documents necessary to accomplish the same.

Proposed from the Board of Selectmen at Sharon's Town Meeting

To see if the Town will authorize the Board of Selectmen to commence a Community Choice Aggregation Program (CCA) and contract for electric supply as authorized by M.G.L. 164, Section 134, and through CCA decrease greenhouse gas emissions from the generation of electricity for Sharon residents and businesses by pursuing an increased amount of Class I designated renewable energy than is required by the Massachusetts Renewable Portfolio Standard (RPS), or take any other action relative thereto.



TOWN OF WAYLAND
SPONSORING BOARD ARTICLE REQUEST FOR TOWN MEETING
Attach extra pages if necessary

Article Title: Loker Elementary School Solar Agreement

Estimated Cost: _____

Article Description (final language to be provided by Town Counsel based on description provided):

To determine Whether the Town will vote to:

- a.) authorize the School Committee, to transfer the care, custody, management and control of the parking lot and building of the Loker Elementary School at 47 Loker Street to the Board of Selectmen for the purpose of leasing, as lessor, or licensing said areas of land and buildings for a term of not more than twenty (20) years for the installation and operation of solar photovoltaic power generation systems to be installed and operated on canopies located in parking lot and on the roof of Loker Elementary School; and
- b.) authorize the Board of Selectmen to enter into and execute an agreement for the purchase of solar energy or net metering credits generated by said systems above to be installed and operated on canopies located in parking lot of Loker Elementary School for a term of twenty (20) years; and
- c.) authorize the Board of Selectmen, pursuant to the provisions of Massachusetts General Laws Chapter 59, Section 38H, with the approval of Town Counsel as to form, to enter into and execute a structured tax or payment in lieu of tax (PILOT) agreement in connection with the solar photovoltaic power generation systems to be installed and operated on canopies located in parking lot at The Loker Elementary School for a term of twenty (20) years upon such terms and conditions, as the Board of Selectmen shall deem to be in the best interest of the Town.

Background Information (to be used by Finance Committee to draft its report. Please explain the intent of the article, why it should be supported now, as well as known reasons the article may be opposed):

What is the purpose of this article? The article empowers the Town to sign a power purchase agreement (PPA) with a solar project developer selected by the Town (the Developer) to lease portions of the roof and parking lot of the Loker Elementary School, for the construction and operation of a solar photovoltaic system at such site and for the Town to purchase all of the electricity generated by such system, for a term of 20 years. The article also empowers the Town to enter into a structured tax agreement with the Developer to set the amount of annual property taxes associated with the solar system to be paid to the Town for the same term.

With passage of this article, the Town will: 1) take action on its [2018 Town Meeting](#) resolution to minimize carbon-based energy use in undertaking all new municipal building construction and substantial renovation projects and reduce town related greenhouse gas emissions to address our climate emergency 2) support its 2009 state designation as a Green Community, 3) save money through reduced electricity costs, and 4) generate additional property tax revenues for the Town.

What is the financial benefit to the Town? The Town expects financial benefits from the solar project in two ways: 1) the Town will realize savings on its electricity bills, and 2) the Developer will pay annual property taxes on the solar project. The amount of the electricity cost savings and property tax payments will depend on the ultimate size of the solar array on the roof and whether a solar canopy is installed in the Loker parking lot. The combined savings and property tax payments could exceed \$20,000 in the first year. The combined potential benefits over 20 years could exceed \$400,000 or more, depending on future utility electricity rates increases.



TOWN OF WAYLAND

SPONSORING BOARD ARTICLE REQUEST FOR TOWN MEETING

Attach extra pages if necessary

What has been the Town's past experience contracting for solar systems? Wayland has had a positive experience with a similar agreement for the four existing solar arrays at the Wayland High School, Wayland Middle School, Town Building, and the Department of Public Works facility (the Existing Arrays). The 2015 Town Meeting approved the Town entering into a power purchase agreement (PPA) with Ameresco to design, construct and operate the Existing Arrays and to sell the power to the Town. The arrays commenced operations in early 2017. They have generated over \$100,000 each year in savings and property taxes. The Existing Arrays were constructed at no cost to Wayland, beyond staff time.

Why is a solar array being considered now for the Loker Elementary School roof? The pending installation of a new roof on Loker Elementary School in 2021 offers an ideal opportunity to add a solar array to that Town facility; the age of the roof prevented the Town from installing a solar array earlier.

How will the Town select the solar developer? The Town is evaluating proposals from two solar developers: Ameresco and Solect Energy. Both solar developers were selected under separate competitive procurements that can be accessed by the Town. If the Town chooses Ameresco, the Town can amend the existing PPA with Ameresco to add the Loker solar project. Ameresco was selected as the solar developer for our existing solar projects based on their successful response to an RFQ for energy management services issued by the Metropolitan Area Planning Council (MAPC). Alternatively, as a member of PowerOptions, the Town can contract with Solect Energy, the solar vendor competitively selected by PowerOptions.

What is the solar project structured? Under the PPA, the Developer will design, permit, finance, install and operate the solar electric power system at the Loker Elementary School at no cost to the Town. The Developer will sell the solar electricity to the Town at a negotiated price. Some of the solar electricity will be used by the school; the excess over the school's needs will be sent to the utility, Eversource Energy, in exchange for credits on our electric bills, as allowed by the state's net metering credit incentive program. There are no anticipated indirect operating costs to the Town. The Developer is responsible for all costs including the construction, operation, maintenance, and removal of the solar systems.

As the owner of the solar system, the solar project owner will be required to pay personal property taxes to the Town. Under state law, Wayland can enter into a structured tax agreement with the Developer to set the amount of the annual tax payment. A level tax payment enables Wayland to: 1) count on a known property tax income stream over 20 years, and 2) simplify the Town's tax administration. The warrant article is needed to authorize the Board of Selectmen, in consultation with the Board of Assessors, to enter into the structured tax agreement.

Status of Town Staff and Committee Reviews (To be updated):

- The Energy & Climate Committee on November 11th voted unanimously to endorse the solar initiative.
- Town Staff and Energy & Climate Committee are reviewing proposals from Ameresco and Solect for the Loker solar project and will make a recommendation to the Board of Selectmen.
- Prior to Town Meeting, the Board of Selectmen will vote on signing a non-binding letter of intent with one of the Developers.
- Prior to Town Meeting, the proposal from the selected Developer will be reviewed by the Permanent Municipal Building Committee, the School Committee, and the Board of Selectmen.
- Consideration by the Board of Assessors of a structured tax agreement will be subject to approval of this article.

If Town Meeting approves this article, the Board of Selectmen will negotiate the power purchase agreement with the assistance of the Town Administrator, Town Counsel, the Energy & Climate Committee, and, if needed,



TOWN OF WAYLAND

SPONSORING BOARD ARTICLE REQUEST FOR TOWN MEETING

Attach extra pages if necessary

outside solar technical and legal services experts hired by the Town for this purpose. Approval also will enable the Town to negotiate the structured tax agreement. Installation of the solar array will follow installation of the roof on the Loker Elementary School. The Developer will work with the Town to manage the installation schedule to minimize the impact on school activities.

ARGUMENTS IN FAVOR:

- The solar project will be a visible and significant reaffirmation of the Town's resolution to reduce its carbon-based energy use and continue to fulfill its obligations as a Green Community.
- The solar electricity will exceed Loker Elementary School's own electricity net requirements, with the excess generating credits that will reduce the Town's electricity bills. Preliminary estimates from Solect Energy estimate an annual electricity credit of \$20,000?
- The solar project will protect Loker Elementary School from future inflation-related utility electricity rate increases. Any such rate increases would raise the solar project's net financial benefits to the Town.
- The solar project will generate property tax payments for the Town each year.
- This is an opportune time to install a solar array on the roof. Both the new roof and the solar array will have similar long-lives, making it likely that the Town can avoid the cost of removing panels for roof repairs. In addition, the roof and solar contractors can coordinate to ensure the roof warranty is maintained in full force.
- The Developer will have sole liability related to construction and operation of the solar arrays.
- The Town's existing four solar arrays have generated savings and tax revenues to the Town, with no operating issues. We can build on that good experience to add a fifth project.

ARGUMENTS OPPOSED:

- The projected net electricity saving assumes continuation of the state's net metering credit solar incentive program.
- The value of the utility's net metering credits will vary, as the credits are not set by contract. Lower electricity prices might reduce the value of the credits and the net savings to the Town from the solar project.
- There is no guaranty that the Developer will be in existence to maintain the solar arrays during the twenty-year life of the power purchase agreement or to remove the arrays at the end of the agreement.
- Town operating costs might marginally increase as a result of working around the canopy.
- The solar canopy in the parking lot might complicate any future remodeling during the next twenty years.
- There can be incremental costs if the Town damages the solar systems or if solar panels on the roof need to be removed to support roof maintenance.

Proposer's Comments (if needed, 150-word limit per Town Code):

The Energy & Climate Committee strongly favors passage of this article. The Loker solar project will build on the success of the existing solar arrays in generating financial benefits for the Town. It will show the commitments of Loker Elementary School and the Town to taking meaningful steps to combat climate change. Both solar Developers are highly experienced, having installed comparable solar arrays for dozens of towns and other non-profit entities in Massachusetts. The solar project will not require any Town capital expenditure and will create immediate and tangible electric utility cost savings and property tax payments for the Town. Passage of the article is necessary in order to realize these savings and tax payments. Deferral on this article for a later meeting would result in the solar project receiving lower state financial incentives, causing a permanent reduction in potential Town electricity cost savings.



TOWN OF WAYLAND
SPONSORING BOARD ARTICLE REQUEST FOR TOWN MEETING
Attach extra pages if necessary

Contact Information for Publication in Warrant

Contact Person Name: Ellen Tohn **Contact Person Phone:** 508/667-5164
Contact Person Town Email: etohn@wayland.ma.us

Proposing Board Information

Board Name: _____
Board Vote (Quantum) to Submit Article: _____ **Date of Board Vote:** _____
Signature of Board Chairperson: _____ **Date:** _____

DRAFT

January 7, 2020

Memorandum

To: Town of Wayland Energy & Climate Committee
From: John Harper, Associate Member, Energy & Climate Committee
Re: Loker Elementary School solar project – direct Town ownership vs third party private sector ownership

The Town is considering installing solar arrays on the Loker Elementary School roof and in the adjacent parking area. The Energy & Climate committee has prepared a draft warrant article for Town Meeting to authorize the Loker solar project. The Board of Selectmen reviewed the article at its meeting on January 4th. A question came up about whether the draft warrant article leaves an option for the Town to own the solar arrays.

The current draft article does not authorize the Town to purchase the arrays directly. The text instead assumes that a private sector entity will own and operate the solar project and sell the power to the Town under a long-term agreement. Private sector ownership is the most cost-effective approach for the Town. Wayland used this approach for its four existing solar projects at the High School, Middle School, Town Building, and DPW facility.

The Federal government offers significant tax incentives to encourage investment in solar projects. These include a 26% investment tax credit and accelerated depreciation (100% write-off in year one). These incentives lower the effective cost of a solar project by over 30%. As a tax-exempt entity, however, the Town cannot use these federal tax incentives. Instead, the Town can indirectly benefit from these tax incentives by entering into a power purchase agreement (PPA) with a private sector third-party owner to purchase the electricity produced by the solar project. The private sector owner uses the federal tax incentives and passes on those benefits indirectly to the Town in the form of lower electricity prices. Tax-exempt entities like municipalities and other government agencies, universities, houses of worship, and charities across the country use PPAs to undertake solar projects. The attached 2016 memo by the National Renewable Energy Laboratory describes solar PPAs in more detail: <https://www.nrel.gov/docs/gen/fy16/65567.pdf>.

There are other benefits to the Town to third party ownership of the solar project. The Town avoids the initial capital cost altogether; instead, the third-party entity will have that responsibility. The Town also will have no ongoing operating cost obligations (the third-party owner also will have those obligations). The Town also will avoid the administrative burden of conducting its own competitive procurement for the equipment and construction services, and of overseeing ongoing operation and maintenance. The third-party owner also will have the obligation to pay for removing the array at the end of the PPA.

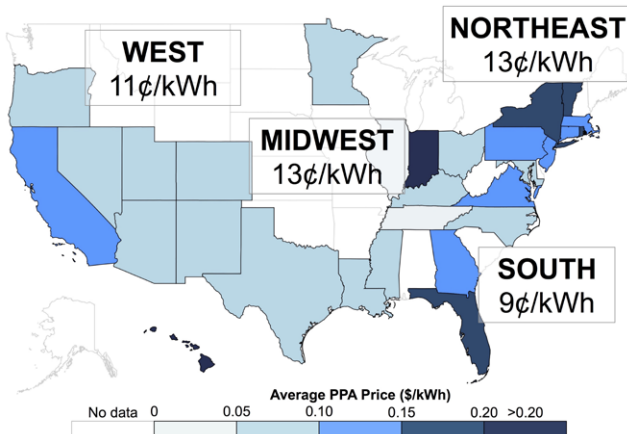


Using Power Purchase Agreements for Solar Deployment at Universities

Solar power purchase agreements (PPAs) have facilitated more than 100 megawatts (MW) of solar deployment on campuses around the country. This brochure provides guidance to universities on the process of using PPAs and how PPAs can make economic sense for campus solar deployment. This document can support university stakeholders charged with the financial planning of campus solar projects.

What is a Power Purchase Agreement?

In a PPA, a solar purchaser or “offtaker” buys power from a project developer at a negotiated rate for a specified term without taking ownership of the system. The project developer procures, builds, operates, and maintains the system. The solar photovoltaic (PV) system may be physically located on the offtaker’s premises (onsite PPA) or located remotely from the offtaker (offsite PPA). In either case, a PPA is a financial mechanism that allows the offtaker to accrue many of the benefits of solar power without owning a system. The PPA conveys the economic benefits, and in some cases the environmental benefits, of solar power to the offtaker regardless of whether the power is physically delivered to serve the offtaker’s electric demand.



Average offtaker rates for systems between 100 kW and 5 MW, by state and region in 2015. Regional figures based on non-weighted state averages. Data are a representative sample. Source: Mercatus

PPAs: Key Components and Terms

Assignability: The ability of the project developer to transfer site rights to another party.

Contract term: The period during which the offtaker agrees to purchase power from the system owner.

Escalator: Contract clause under which the PPA price increases over time at a pre-determined rate, generally less than 3%.

Expiration: Conditions defining the offtaker’s options at the end of the contract term, including whether the offtaker will have the option to purchase the system.

Environmental attributes: Contractual instruments representing the environmental attributes (renewable energy certificates) of the system’s output.

Liabilities: The contract defines the obligations of the offtaker and the system owner for system maintenance, repair, or other liabilities arising from unforeseen events.

Offtaker: The purchaser of power and/or renewable attributes of the system.

Performance terms: The PPA specifies the obligations of both the offtaker and system owner concerning the system’s performance, including any exclusions under which either party is exempt from compliance with contract terms (e.g., force majeure events).

PPA price: The contract specifies the rate (\$/kWh) at which the offtaker will pay the project developer for the system’s output.

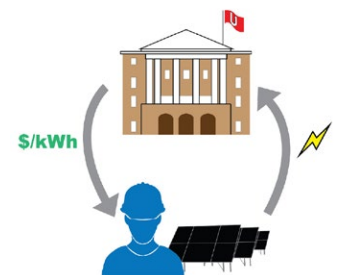
Site right agreement: Agreement defining the developer’s rights to access and use the offtaker’s property for project development, operation, maintenance, and decommissioning.

Tax equity: Capital raised from a taxable entity in return for the receipt of tax incentives.

How Does a PPA Work?

The university (offtaker) buys power at a negotiated PPA rate (\$/kWh) for a specified PPA term without taking ownership of the solar system. The project developer or a tax equity

investor owns the system. The developer is responsible for all permitting, installation, maintenance, and decommissioning.



Cover photos courtesy of University of California-Irvine, Colorado State University, Mount St. Mary’s University, and Arizona State University.

The PPA Process

Step 1: Preliminary Assessment

Like any solar procurement process, the PPA process begins with a preliminary assessment of PV suitability on campus. Universities typically begin by studying whether PV is an economically viable option or whether PV is in line with other university goals. Universities can conduct preliminary site assessments to provide potential developers with information on proposed sites. Universities can use *NREL's System Advisor Model (SAM)* to perform preliminary assessments and work with NREL staff to identify cost effective solar options using *NREL's Renewable Energy Optimization (REopt)* tool.

Step 2: Finding a Project Developer

Offtakers typically use a Request For Proposal (RFP) to solicit competitive PPA bids. The RFP is one of the most important steps of the process as subsequent issues can arise if the RFP terms result in a PPA that does not satisfy the university's needs. RFPs must be sufficiently prescriptive but also flexible enough to ensure a successful RFP. Universities can identify which elements of the RFP terms will be negotiable and non-negotiable during PPA development. Universities may want to base their selection on developer's project development experience, financial stability, and willingness to provide performance guarantees, among other possible criteria.

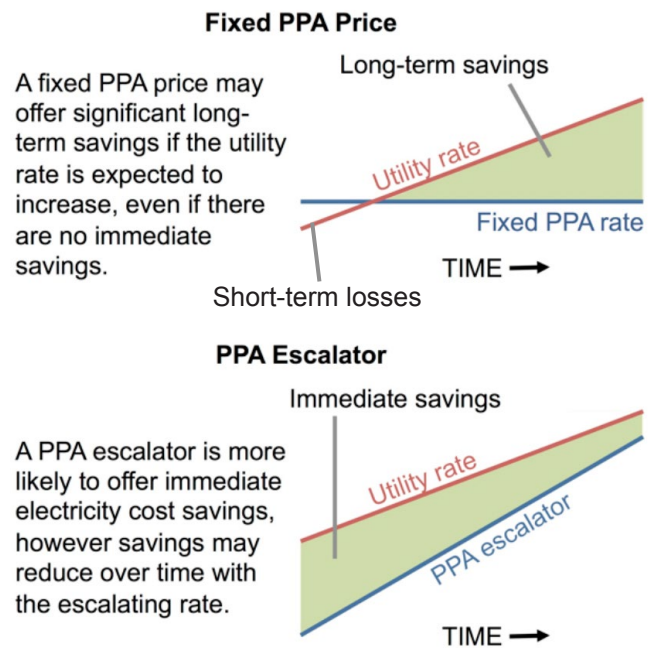
Step 3: PPA Negotiation

After a winning bid has been selected, the offtaker negotiates a long-term contract with the developer to purchase the system's power. The parties negotiate site rights (i.e., license, easement, or lease), the contract term, the PPA price structure, and the ownership of the environmental attributes of the project.

PPA contract terms generally range from 15 to 25 years, roughly in line with the expected lifetime of solar PV modules. The PPA typically specifies the offtaker's options at the end of the contract, which usually consist of contract termination and system removal, contract renewal, or the option to purchase the system at fair market value.

Determining a PPA pricing structure is a crucial step in the successful outcome of the PPA process. The objective of the

PPA price structure can be maximizing long-term cost savings or immediate electricity cost savings. A fixed PPA price that is currently higher than the incumbent utility electricity rate may make sense if the utility rate is expected to increase above the fixed PPA rate some time in the future (the Energy Information Administration projects that average retail electricity prices will rise by about 0.6% per year over the next 25 years). A PPA escalator is another form of PPA price where the PPA price increases over time at some negotiated rate (generally less than 3%).



Last, PPA negotiation generally addresses ownership of the environmental incentives and attributes of the project embodied in renewable energy certificates (RECs). In order to claim to be using solar power, make environmental claims, and credit the renewable attributes towards one's greenhouse gas reporting, the university (offtaker) must receive and retain the associated RECs from the project. If the university wants to use their purchase towards their Climate Leadership Commitment goals or join the EPA's Green Power Partnership, they will need to retain ownership of the RECs. However, developer ownership of RECs may significantly improve project economics, depending on the market. For more information on RECs, see NREL's *Renewable Electricity: How do you know you are using it?*

Why Use PPAs? – Tax Equity

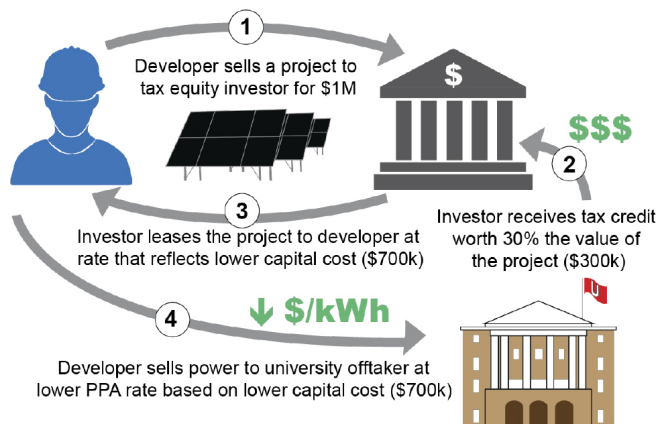
Several federal and state policies allow investors to reduce their tax liabilities in proportion to an investment in a solar project. Universities, as public agencies or 501(c)(3) non-profit organizations, generally do not pay taxes. Thus, university ownership of solar systems inevitably leaves “money on the table” in the form of un-monetized tax benefits. PPAs allow universities to benefit indirectly from tax incentives through lower electricity prices by using tax equity.

“PPAs made the most sense for our large projects. As a nonprofit that cannot take advantage of tax incentives, we simply couldn’t leave that much money sitting on the table.”

– Carol Dollard, Colorado State University (CSU).
CSU signed a PPA for 5.3 MW in 2009.

Tax equity investors are taxable entities that fully or partially purchase solar projects in return for the receipt of tax incentives. Project developers either invest tax equity themselves or sell the system to a tax equity investor, who then monetizes the tax incentives (typically within five years). The tax equity investor leases the project to the developer at a lease rate that reflects the lower capital cost achieved through the tax incentives. The project developer can then pass the lower capital cost to the university off-taker via a lower PPA price.

Tax Equity Example for a \$1M Project



“PPAs are the model we use. There is no money up front. We don’t need to bring in new in-house expertise. There is stable pricing.”

– Rick Coulon, University of California-Irvine.
UC-Irvine has signed a 3.2 MW PPA.

Primary Federal Tax Incentives

The federal solar investment tax credit (ITC) provides 30% of the value of an investment in a solar system. Following an extension in 2015, the ITC is set to ramp down in 2020 and will fall to 10% in 2022. Solar projects are also eligible for accelerated depreciation. Project developers can make deductions for the full basis of project cost (after accounting for the ITC deduction) within five years of project operation.

Other PPA Benefits

No up-front cost: PPAs allow universities to consume power produced from a solar system without tying up capital in a large up-front investment. The zero-up-front-cost makes PPAs an easier sell to university boards and financial planners concerned about returns on investments.

No additional budgetary outlays: Existing budgetary outlays for electricity can be converted directly into PPA expenditures, thus PPAs do not require the creation of a new capital source to cover the solar investment. Further, PPAs do not require budgetary outlays for system operation and maintenance.

Electricity price certainty and hedging opportunities: Long-term PPA contracts improve cost certainty in university budgets relative to volatile utility electricity rates.

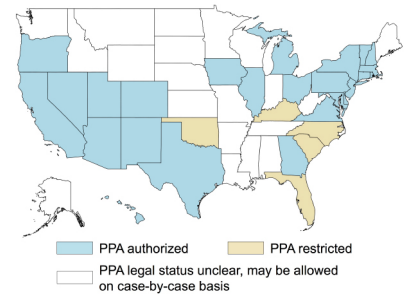
Procedural simplicity and maintenance: PPAs allow universities to install solar without any requirement for in-house solar expertise. The project developer is responsible for all system interconnection procedures during installation and all maintenance during system operation.

Challenges to PPAs

- PPAs are not available in all states (see next page)
- PPAs entail a learning curve for university staff
- Some university CFOs may be hesitant to enter into a long-term contract for power
- Low university creditworthiness can result in higher PPA prices.

Where are PPAs Allowed?

State regulations limit or restrict non-utility providers from selling electric power in regulated electricity markets. Twenty-five states and Washington, D.C. have facilitated PPAs by clarifying that third-party system owners are not subject to regulation as a utility. Consult the [Database for State Incentives for Renewables and Efficiency](#) for the PPA policy in your state.



Campus PPAs by the Numbers

Many campuses have already used PPAs to procure more than 100 MW of solar capacity. Below are some key numbers and figures that summarize universities' experience with PPAs to date.

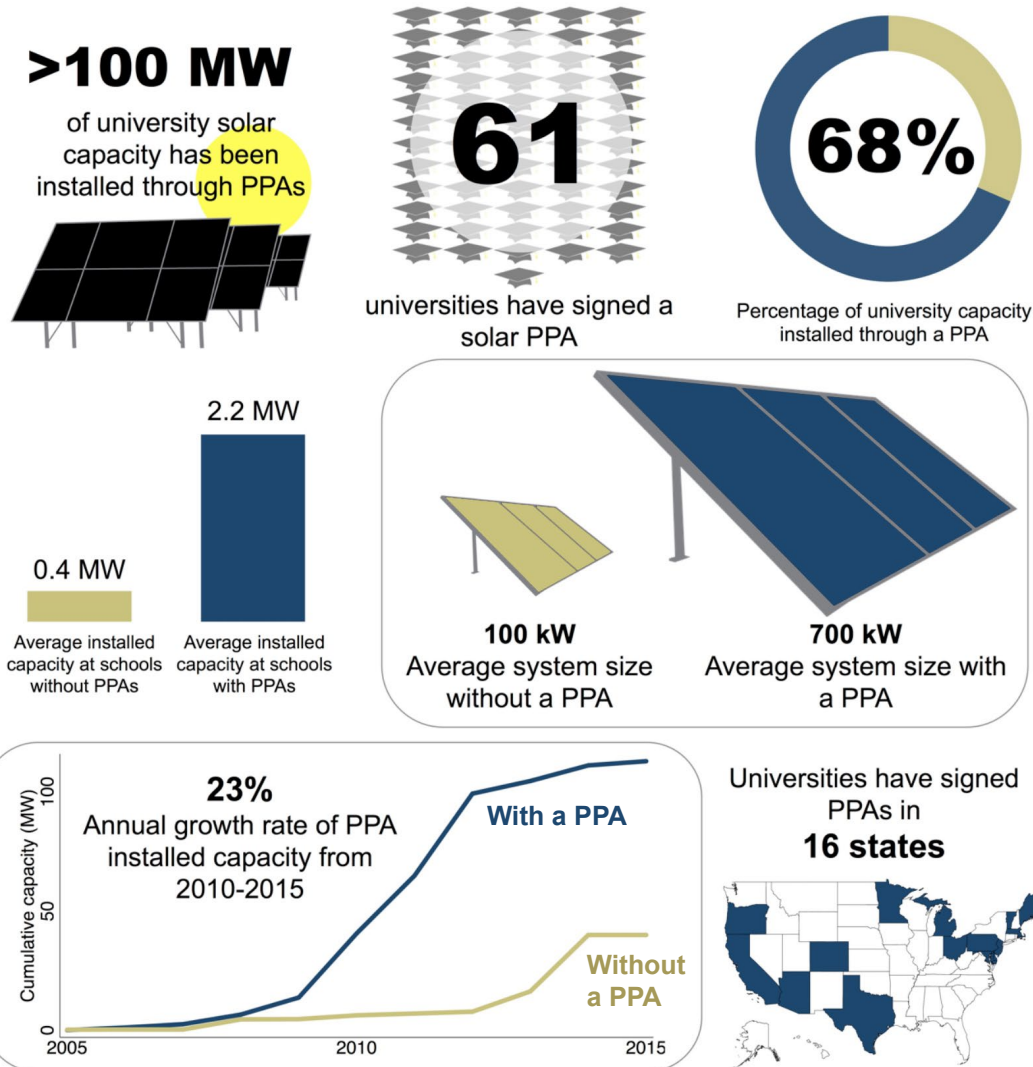


Figure based on data from The Association for the Advancement of Sustainability in Higher Education Campus Solar Photovoltaics Installation Database (2015). Data are self-reported and should be interpreted as a representative sample. Data represent PPAs both with and without oftaker ownership of RECs.

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**RESOLUTION RECOGNIZING THE CLIMATE EMERGENCY AND INITIATING A
CLIMATE EMERGENCY MOBILIZATION EFFORT**

WHEREAS, there is already cascading environmental harm, severe health impacts, and destruction due to the current average global warming of 1°C;

WHEREAS, restoring a safe and stable climate will require deep greenhouse gas emissions reductions through rapid, unprecedented transitions in all aspects of society;

WHEREAS, progress toward this future is already underway in Massachusetts, a national leader on climate initiatives;

WHEREAS, Wayland has already undertaken important steps on climate and is better positioned than most municipalities to lead the way on the critical transition away from fossil fuels and can act as a model for other communities;

NOW, BE IT THEREFORE RESOLVED that the Town of Wayland **declare that a climate emergency threatens our town**, all human life, and the natural world; **and that a climate emergency mobilization effort to meet this challenge is both a moral imperative** to remedy environmental harms **and an opportunity** to convert to a just and ecologically sustainable economy and improve human lives;

BE IT FURTHER RESOLVED that the Town of Wayland commits to a town-wide mobilization of municipal departments, boards, commissions, residents, and businesses, with the ambition of achieving **an 85% reduction of community-wide greenhouse gas emissions from its current levels by 2030**;

BE IT FURTHER RESOLVED that the Town administration shall create a **Climate Emergency Mobilization Task Force** composed of members of The Energy and Climate Committee and other residents to: (1) within 3 months report on means to achieve a rapid phase-out of fossil fuel use in Wayland municipal operations as well as residential and business settings, including changes to local ordinances and permitting processes, incentive programs, local renewable power generation, and municipal operations, and (2) within 6 months develop a 10-year Climate Mobilization Action Plan for Wayland to achieve the above goal of an 85% reduction of community-wide greenhouse gas emissions from its current levels by 2030, with which addresses greenhouse gas mitigation; resilience; adaptation; engagement; education; and taking into account the consequences of recommended technologies on residents beyond our town's borders. The planning process shall engage residents representing various ages, incomes, racial backgrounds;

BE IT FURTHER RESOLVED that the Town of Wayland shall submit a certified copy of this resolution to elected officials at the county, state, and federal levels as well as to relevant agencies and request that all relevant support and assistance in effectuating this resolution be provided and encourage a state-wide, regional, and national climate emergency mobilization effort.

RESOLUTION SUBMITTED TO THE ENERGY AND CLIMATE COMMITTEE FOR A VOTE AT
ITS 1/13/2021 MEETING BY MICHAEL DELMAN, 192 STONEBRIDGE ROAD, WAYLAND, MA