

Purchasing a Home with a Solar Photovoltaic Array



This is one of a series of fact sheets designed to help Massachusetts residents incorporate energy efficiency and renewable energy into their day-to-day lives. For more information, visit the UMass Clean Energy Extension (CEE) website, <https://ag.umass.edu/clean-energy>.

So, you're buying a property which already has solar photovoltaic (PV) panels installed – congratulations! A solar PV array can generate renewable electricity for your home, while providing you with significant energy cost savings. There is some additional paperwork required to ensure the value of the electricity generated by your new panels is successfully credited to you, but once this is complete, your solar PV system should require little time or effort on your part to maintain.

Note: The information provided in this fact sheet addresses small, residential-scale solar PV systems (capacity ≤ 10 kW). Larger systems may involve additional regulations or requirements.

Getting Familiar with Your Solar PV Array

If you're not already familiar with solar PV systems in general, the Massachusetts Clean Energy Center (MassCEC) [Residential Guide to Solar Electricity](#) provides a clear overview of residential solar PV. As part of the property sale process, you will want to obtain the following information from the seller, if available:

- The system capacity (size) in kilowatts (kW)
- The age of the system, and whether it qualifies for SREC I, SREC II, or SMART program incentives
- Contact information for the installer, and any companies that have performed system maintenance
- Warranty information for all system components
- Whether the inverter or other components have been replaced, and if so, when
- Whether the system has a Data Acquisition System (DAS) installed, and if not, how the seller has been reporting electricity production to the MassCEC Production Tracking System
- Any associated back-up energy storage (e.g, batteries), and whether it is available during a power outage
- Average monthly and annual generation, in kilowatt-hours (kWh)
- Contact information for the commercial SREC aggregator the seller has been working with, if applicable

If possible, it is also helpful to have the seller or seller's agent walk you through the house to show the location of all solar PV array components and their functions.

Safety

As long as your system was installed and maintained by a licensed installer or electrician, there should be no danger of electrocution during regular operation or maintenance of your array. All wires should be contained within conduit or within the walls of your house, and any system components which pose a risk of electrocution should be accessible only via a locked box. In 2014, the National Electric Code added a rapid-shutdown provision for PV systems installed on buildings, to allow first responders to quickly disable PV system circuits in case of an emergency.

Transferring Ownership & Benefitting from your Solar PV Array

There are three main issues to be cognizant of when obtaining ownership of a solar PV system:

- 1) **Warranties & Maintenance** – You will want to be aware of the length of warranties associated with system components, and any maintenance that should be performed on the system.
- 2) **Electricity & Net Metering** – You will want to ensure that electricity generation from your solar PV array is correctly being credited to your electricity account.
- 3) **State Solar Incentives** – You will want to make certain that electricity production from your array is registered with the MassCEC Production Tracking System, and any associated incentive payments are correctly being credited to you.

Warranties & Maintenance

The performance warranty for a solar panel array will typically guarantee 90% of initial electricity production at 10 years after installation and 80% at 20 or 25 years. Other system components, such as the inverter, are often under warranty for 10-12 years from date of installation, which means you may have to pay to replace certain components after this time. Depending on the age of the system, it is usually worth the investment in new system components, so long as the solar panels themselves are intact and functional.

Solar panels require little regular maintenance. The presence of snow, pollen and dust on panels can reduce electricity generation, but typically not enough to be concerned about. During the winter months, heavy snowfall can completely block light to the panels, cutting electricity production to zero. You have several options following a severe winter storm. You can simply wait for the snow to melt – solar panels face the sun and are usually installed at a significant pitch, so will shed snow faster than other surfaces. The loss of electricity production may be slight, since panels do not generate as much electricity on the short winter days as they do during the summer. If your panels are mounted on a horizontal surface, or otherwise accessible, you can clear snow from them using a roof rake with a special soft head designed for the purpose. Telescoping poles are available to reach more out-of-the-way locations. On warm winter days, or during the summer months, garden hoses can be used to remove snow, dust, or pollen.

Electricity & Net Metering

In order to ensure that electricity generation from your solar panels is properly credited to your account, you will need to notify your utility company of the change of ownership. When calling your utility company, it is helpful to have the registration number for the system from the original interconnection agreement with the utility. If the seller is unable to provide you with this information, record the meter number from your electricity meter, and have the street address for the electricity account on hand when you call. These pieces of information should be sufficient to identify your system. As part of the process, you will likely be required to sign a statement agreeing to net metering terms & conditions, as well as fill out and sign a Schedule Z, which assigns net metering credits to your account.

Net metering is a process through which you receive credit for the electricity generated by your solar PV system. Under net metering, you will still receive a monthly electricity bill, but you will only be charged for your net electricity consumption. You can calculate your net monthly electricity consumption using this formula:

Net monthly consumption = (total electricity consumed in a month) - (total electricity generated in a month)

If your net consumption is positive, and you use more electricity than you generate, you must pay an electricity bill to your electric company for the excess consumption at the end of the monthly billing period. If your net consumption is negative, you will receive a net metering credit on your electricity bill instead. Net metering credits appear in the form of a dollar amount (not kilowatt-hours) on your bill, equal to the value of electricity during that month (\$/kWh) multiplied by the number of excess kilowatt-hours your system generated. The utility company will not pay you directly for the electricity generated by your system, but this dollar value credit will roll over to the next billing period and will be credited towards any future bills. These credits never expire. It is worth noting that utility companies are typically allowed to charge a small monthly customer fee. Therefore, if your net consumption were exactly zero, you might still receive a small electricity bill from the utility. However, any accumulated net metering credits would go towards covering the cost of this fee.

If the solar PV system installed on your property ends up generating more electricity than you use annually, net metering credits will begin to accumulate in your account. You have the option to submit a revised Schedule Z, which can assign a percentage of your net metering credits to another electricity account located in the same load zone as yours.

For more details on net metering, what it means, and how it works, see the Massachusetts Department of Energy Resources **Net Metering Guide**: <https://www.mass.gov/guides/net-metering-guide>

State Solar Incentives

Depending on when the solar PV array was installed, it may qualify for incentive payments under the Solar Carve-out, Solar Carve-Out II, or SMART program. In order to obtain these incentive payments, it may be necessary for you to report monthly electricity production to the MassCEC Production Tracking System.

Program Name	Project Qualification Period	Incentive Type	Incentive Description
<i>Solar Carve-Out</i>	January 2010 - April 2014	SREC	Renewable energy credit for every MWh of electricity generated, to be sold at auction
<i>Solar Carve-Out II</i>	April 2014 - TBD 2018	SREC	Renewable energy credit for every MWh of electricity generated, to be sold at auction
<i>SMART</i>	TBD - Beginning late 2018	Tariff	On-bill payment, fixed price per kWh

SRECs

Solar PV systems installed through the [Solar Carve-Out](#) and [Solar Carve-Out II](#) programs may qualify for **Solar Renewable Energy Credits (SRECs)**. SRECs are issued to system owners based on how much electricity their solar panels generate. For most residential-scale systems, the system owner will earn 1 SREC for each MWh of power generated by the solar array. However, systems installed between the January 8, 2017 and the start of the SMART program have an SREC factor of 0.8. These systems must generate 1.25 MWh in order to earn 1 SREC. Systems that qualify under these programs can earn SRECs for a period of 10 years from the date they are first interconnected and operational.

Utility companies are required to purchase a certain number of SRECs every year. You do not have to sell your SRECs, but if you choose to do so, most homeowners work with a commercial aggregator who sells the SRECs in bulk at auction. MA DOER sets a floor and ceiling on the auction price for SRECs, which declines by a small percentage each cycle. The person selling the property and associated solar array may already have an aggregator that he or she works with. Alternatively, you can find a list of SREC aggregators who operate in Massachusetts on the **MA DOER website** listed below. Scroll down the page to **Aggregators**.

<https://www.mass.gov/guides/solar-carve-out-ii-srec-ii-statement-of-qualification-application>

After 10 years of operation, your solar system will no longer earn SRECs, but it will continue to earn renewable energy credits (RECs). RECs are worth less than SRECs, but can still be aggregated and sold at auction to utility companies.

More information is available at these links:

- Solar Carve-Out Program Overview: <https://www.mass.gov/files/documents/2016/11/wr/rps-solar-carveout-program-overview.pdf>
- Solar Carve-Out II Program Overview: <http://files.masscec.com/innovate-clean-energy/prod-track-system/RPSSolarCarve-OutIIProgramOverview.pdf>
- Managing SRECs: <http://files.masscec.com/innovate-clean-energy/prod-track-system/PTSHomeownerGuide.pdf>

SMART Tariffs

Solar PV systems installed through the [SMART program](#) may receive incentives known as “tariffs.” These tariffs are on-bill payments to the owner of the system that will appear on the electricity bill associated with the account. The payments are based on a fixed price per kilowatt-hour, established at the time the system was installed. The seller of the property should be able to tell you the value of these payments (\$/kWh). Under the SMART program, your solar system will generate renewable energy credits (RECs), but these credits will flow directly to the utility company for a period of 10 years. After 10 years of operation, your solar system will no longer receive tariff payments, but it will continue to earn RECs. These credits can be aggregated and sold at auction to utility companies, although the return will likely be lower than the value of the SMART tariffs.

More information is available at these links:

- SMART Program Information: <http://masmartsolar.com/>
- SMART Program Regulations: <https://www.mass.gov/service-details/development-of-the-solar-massachusetts-renewable-target-smart-program>

Reporting Monthly Electricity Production

In order to receive monthly incentive payments, the electricity generated by your system must be logged through the MassCEC Tracking System. All systems larger than 10 kW in size, and some smaller systems, have a Data Acquisition System (DAS), which automatically reports electricity generation to the Production Tracking System.

If your system does not have a DAS, and you do not choose to install one, you must manually report electricity generation via the **Production Tracking System**: <http://www.masscec.com/production-tracking-system-1>

MassCEC has a **Help Center** with details on how to transfer ownership and successfully report electricity generation through the Production Tracking System: <https://masscec-pts.zendesk.com/hc/en-us>