AVAILABLE INCENTIVES FOR SOLAR

Table 1. — Solar incentives summary.

	Solar photovoltaic	Solar hot water
Set pricing structure	×	×
Utility bill savings	×	×
Tax credits	×	×
SREC-II program (retiring in 2018)	×	
SMART program (to replace SREC-II)	×	
Net metering	×	
MassCEC rebates		×

A. Set pricing structure

With a guaranteed base price of $2.91 per Watt of solar photovoltaic (PV) for residents of Lincoln, Wayland, and Sudbury, which includes all necessary components and a turnkey installation for a base model system, this price is only available through the Solarize LSW program. The average base price in Massachusetts outside of Solarize is $3.27 per Watt.[1]

For solar hot water, the base price offered is more than 20% less than the average price of systems installed in Massachusetts, as tracked by the Massachusetts Clean Energy Center (MassCEC).

B. Utility bill savings (avoided electricity costs)

Purchasing a solar electric system is the equivalent to paying for many years of electricity use in advance, at a fixed and stable price. Homeowners can get a very accurate projection of the cost they are paying for the solar power produced today and into the future, because the fuel price is stable (sunlight will always be free), solar resource (days of sunlight per year in a given region) is generally predictable, and there is little system maintenance required.[2]

For solar hot water (SHW) systems, savings depend on the current method or fuel used for making hot water. A SHW system can offset 70-80% of the annual fuel used, be it gas, oil, propane, or electricity.

C. Tax credits

Federal tax credits are available for 30% of the total project cost of either solar photovoltaic or solar hot water. In addition, Massachusetts offers a tax credit of 15% (up to $1,000 total) for either system type.

[1] Solar-Estimate. From http://www.solar-estimate.org, accessed July 27, 2017.

[2] Massachusetts Clean Energy Center. Solar Electricity Residential Guide: Economics of Solar Electric Systems. From http://files.masscec.com/solar-loan/SolarElectricityResidentialGuide.pdf.

D. Solar renewable energy certificates (SRECs)

Utilities are required to purchase SRECs every year to meet state mandates toward Massachusetts's Renewable Energy Portfolio Standard (RPS), a statutory obligation for utilities to hit targeted increases in renewable energy at a rate of increase at 1% each year.[3] In 2017, 12% of all Massachusetts retail electricity must be sourced from renewables.[4] IMPORTANT: SRECs are set to retire in 2018, and a new incentive program called SMART will take its place.[5]

Beyond the value of the electricity produced, solar energy has an additional "clean" value because of its positive environmental attributes. For every 1,250 kWh that your system produces, you will are eligible for one certificate. Thus:

- An average-sized home will generate approximately 6,600 kWh/year, equivalent to ~5 certificates
- One certificate is valued at $271 during the first year
- A homeowner could therefore receive $1,355 in certificate revenue in Year 1
- Thereafter, a homeowner could receive $1,000 in certificate revenue in Years 2-10

E. Solar Massachusetts Renewable Target (SMART) Program

The SMART incentive program is based on achieving an overall statewide goal of 1,600 megawatts of new solar generation. There is no set date for the deployment of the SMART program.

SMART will offer a fixed compensation rate so that revenue for the project over the next 10 to 20 years will be known from the start. This change has a direct effect on the monthly savings of residential solar customers: under the SREC program, for example, an 8,000-Watt system would generate $19,000 in savings over its lifetime, whereas the SMART program would save about $10,400.

Unlike the SREC program, where you would get this amount above and beyond your net metering, the value of energy determined by your provider is subtracted. For example, if under SREC you would get $0.28 for every kWh you produce beyond your net metering, under SMART it is likely to be closer to $0.18 per kWh.

Finally, with the SMART program, incentives decrease over time. The program is administered in blocks, wherein as each block fills up, the incentives go down. The block is set at 200 megawatts of solar installations, so that once enough residents install solar to reach that cap, the block is filled and incentives decrease by 4%. At the end of the day, the longer you wait to go solar, the less you save.[6]

Depending on location and other benefits, additional financial incentives may be available for arrays sited on brownfields, in low-income areas, for community solar, and for energy storage projects.

F. Net metering

Net metering is a billing mechanism that credits solar energy system owners for the electricity they add to the grid. For example, if a residential customer has a PV system on the home's rooftop, it may generate more

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[3] Massachusetts Executive Office of Energy & Environmental Affairs. From http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/.

[4] U.S. Department of Energy Database of Incentives for Renewable Energy (DSIRE). From http://programs.dsireusa.org/system/program/detail/479.

[5] Massachusetts Executive Office of Energy & Environmental Affairs. From http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/development-of-the-next-solar-incentive.html.

[6] RevoluSun. From http://massachusetts.revolusun.com/smart-program-solar-massachusetts-renewable-target-program/.

electricity than the home uses during daylight hours.[7] Grid-connected solar producers can receive dollar credits at close to the retail rate (for arrays 10 kW and smaller).

G. MassCEC rebates

Cash rebates are available for small-scale residential solar hot water systems, payable upon installation of the system. Amounts are tied to the number and type of solar collectors utilized. Typical systems generate rebates covering 30-40% of the system cost. Rebates are increased for homeowners who have PV systems and for low- and moderate-income families.

For more information, consult with your solar hot water representative or see page 10 of the MassCEC's Residential- and Small-Scale Solar Hot Water Program Manual.[8]

FINANCING OPTIONS

Table 2. — Solar financing options summary.

	Solar photovoltaic	Solar hot water
Mass Solar Loan	×	
Sungage Financial loan	×	
Mass Save HEAT loan		×
SunPower lease agreement	×	

A. Mass Solar Loan

The Mass Solar Loan program is a state-funded loan program administered by the Massachusetts Department of Energy Resources (DOER) and the Massachusetts Clean Energy Center (MassCEC), with interest rates ranging from 3.5% to 5.5%, depending on qualifications. This initiative offers three types of loan support for solar photovoltaic:

1. Income-based loan support, based on household income, and which pays directly to the principal of the loan at project completion
2. Interest rate buy-down of 1.5%, paid directly to the lender; the current maximum interest rate for the customer is 5.5%
3. Loan loss reserve, which is an additional incentive to help those with lower credit scores obtain a loan

As of August 2017, almost 90% each of interest rate buy-down funds and income-based loan support incentive funds are subscribed. MassCEC is in the process of designing a transition program based on feedback from solar PV installers and lenders. Watch for changes at www.masssolarloan.com.

[7] Solar Energy Industries Association. From http://www.seia.org/policy/distributed-solar/net-metering.

[8] Massachusetts Clean Energy Center. Residential- and Small-Scale Solar Hot Water Program Manual. From http://files.masscec.com/get-clean-energy/residential/commonwealth-solar-hot-water/SHW_Program_Manual_Small_Scale.pdf.

B. Sungage Financial loan

Sungage Financial offers five- or ten-year loans at 4.49% or 5.49% for solar PV. For a limited time and limited availability, there is a fixed monthly SREC payment option. See more information at www.sungagefinancial.com.

C. Mass Save HEAT loan

Mass Save offers energy-efficient home improvement project loans at 0% interest for 7 years, for project costs of up to $25,000. This program requires a no-cost home energy assessment. These loans can be utilized for solar hot water systems, as well as other improvements, but are not available for solar photovoltaic systems. Visit https://www.masssave.com/en/saving/residential-rebates/heat-loan-program for more details.

D. SunPower lease agreement

SunPower acts as a third-party solar owner and pays to install a solar PV system on a customer's roof. Customers put no money down with a 0% annual utility escalator, and then customers pay for the energy produced by the solar energy system at $0.12–$0.14 per kWh (versus $0.1076 per kWh from Eversource). This option is available in an easily-transferrable 20-year agreement. Good site conditions and credit score are required. See https://us.sunpower.com for details.