

SO YOU WANT TO GO SOLAR: What now?



A Green Newton Library Webinar presented by
Liora Silkes, Newton Energy Coach
Bob Persons, Newton Citizen Energy Coach

September 30, 2022 Update

Considering Residential Rooftop Solar?

- Look at Existing Systems
- Evaluate your roof and shading
- Find an installer
- Arrange financing
- Use incentives

Look at Existing Systems

What is a small system for Newton?

- Installed February 2010
- 3.45 kWdc, 15 each 230W panels
- \$6.75 / Wdc before incentives, \$3.73 after

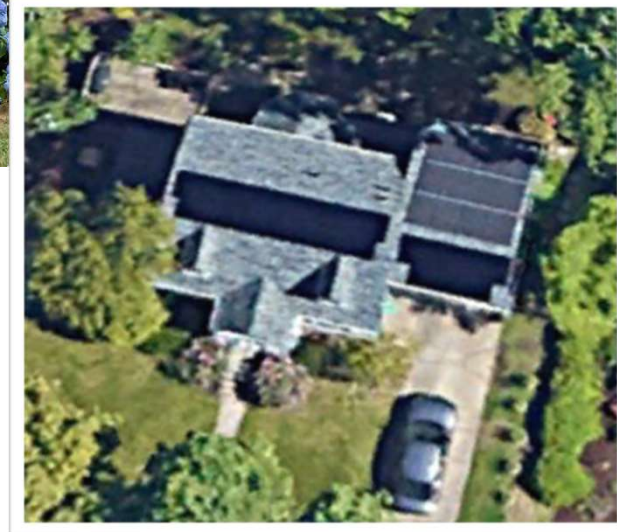


Look at Existing Systems

What is a medium-large system for Newton?



- Installed June 2019
- 10.4 kWdc, 31 each 335W panels
- \$3.69 / Wdc before incentives, \$2.55 after
- Annual SMART revenue \$1,600±



Evaluate Your Roof and Shading

What Makes a Slam-Dunk Roof?

Roof with minimum 25 years remaining life.

Roof structure meets current building code.

- Substandard roofs can be reinforced for a small adder.

Roof area unobstructed by skylights, chimneys, plumbing vents

- Plumbing vents can be rearranged for a small adder.

Asphalt shingle or raised seam metal roofs are easiest.

- Slate roofs entail a substantial adder.

“2.5 times” shading guideline: An object 25 feet south of the array will shade the array in winter if it is more than 10 feet higher than the bottom of the array.

- Some shading can be mitigated by using power optimizers (a.k.a. microinverters).

Power optimizers enable use of east-, west-, and even north-facing roof planes.

Main electrical panel in good condition with room for expansion.

Find an Installer

Reliable Sources

EnergySage

Massachusetts Department of Energy
Resources (DOER)

Google

Find an Installer

EnergySage



- Third-party solar marketplace and educational resources
- Input your address to get initial installer quotes based on satellite imagery

<https://www.energysage.com/p/newton/>

A screenshot of the EnergySage website for Newton, MA. The page features a navigation bar with links for "How It Works", "Research Solar", "Community Solar", "Energy Upgrades", "My Marketplace", and a user profile for "Liora Silkes". The main heading reads "Explore your solar options today!" followed by a sub-headline: "The City of Newton Sustainability and Climate Team has partnered with EnergySage to help you select a solar installer or community solar project!". Below this is a large image of a house with solar panels on the roof, accompanied by the "NEWTON CLIMATE ACTION" logo. At the bottom of the image, there is a call to action: "Compare solar quotes online & get honest advice", a text input field for "Enter your zip code", and an orange "Get Started" button. Below the button, it says "or start with an Instant Estimate of your solar savings".

Find an Installer

EnergySage

Narrow Your Results
Add filters to refine your search

Primary Business

Keyword

Distance

Technology



- Users can browse installer details and reviews without committing to referrals:
 - Click on Research Solar / Solar Reviews
 - Under “Narrow Your Results”, select “Installer”
 - Enter Zipcode and Distance (e.g. 20 miles), click Submit
 - Click on resulting installer names to find ratings, vetted reviews, services (e.g. financing) & technologies (e.g. storage) offered, licenses, insurance, warranties, certifications, affiliations, photos, years in business, etc.

Find an Installer

DOER

- Data for 2019+
- <https://www.mass.gov/doc/smart-solar-tariff-generation-units>
- Click on spreadsheet link
- Download spreadsheet and filter for Residential, Town(s), Storage Yes/No, etc.

Find an Installer

DOER

DOER data 1/1/19-9/30/22, Newton Residential, no storage, ≥ 2 projects

Page 1 of 2

Company Name	Average Size (kWdc)	Average \$/Watt	Number of Projects
Sunrun Installation Services, Inc.	8.36	\$3.57	47
Great Sky Solar, Inc	8.61	\$3.09	28
Sunlight Solar Energy	7.86	\$3.37	28
Trinity Solar Inc.	7.27	\$4.10	27
SunPower by BlueSel Home Solar, Inc.	9.24	\$4.11	23
The Boston Solar Company, LLC	9.17	\$3.63	21
Tesla Energy Operations, Inc	8.12	\$2.59	18
SunBug Solar	9.69	\$3.76	15
Vivint Solar	6.71	\$3.37	15
Freedom Forever Massachusetts, LLC	9.28	\$3.74	11
NuWatt Energy	10.84	\$2.98	7
ReVision Energy Inc.	8.54	\$3.91	7
Venture Home Solar, LLC	6.60	\$3.98	7
Newport Electric Construction	8.99	\$3.70	6
VISION SOLAR LLC	9.36	\$4.10	6
ACE Residential Solar LLC	9.42	\$3.19	5
Energy Monster	6.97	\$3.33	5
Northeast Solar Services dba Revolusun	8.82	\$3.65	4
Second Generation Energy LLC	9.80	\$2.99	4
Solar Wolf Energy	7.87	\$3.60	4
Apex Solar Power	6.68	\$3.38	3
Cazeault Solar & Home	6.46	\$3.79	3
East Coast Solar, LLC	9.68	\$2.78	3
Future Energy Solar LLC	12.46	\$2.85	3
Mass Renewables	6.93	\$3.88	3

Find an Installer

Check Google for Reviews

- Search Google by Company Name.
- Check rating and number of reviews.
- Scan recent reviews for trends over time.
- Example:



Find an Installer

Check Google for
Reviews

- Use available **filters**.
- Does owner respond to reviews?

Boston Solar

55 6th Rd Suite #1, Woburn, MA

 Write a review

4.9  660 reviews 


People often mention

All project coordinator 70 incentives 26 conduit 24 winter 19 +6

Sort by

Most relevant Newest Highest Lowest


 Mike 
1 review


 a week ago **NEW**

Excellent experience. very pleasant to work with. Expectations were plainly set and exceeded. our system took just under 4 months from initial contact to being turned on. It is running well and providing the estimated power. highly recommended

 Like

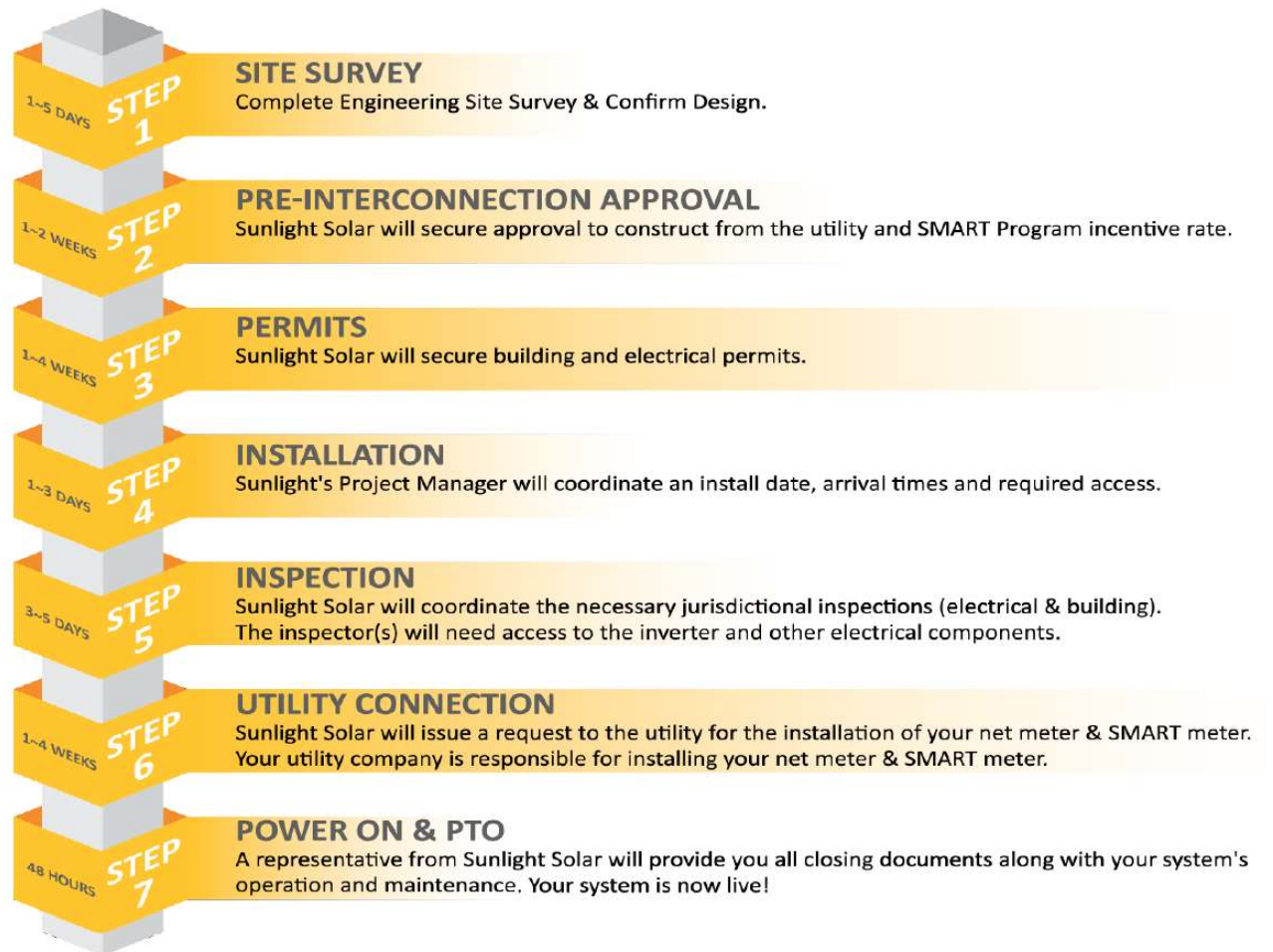
Response from the owner a week ago

Thank you for your review Mike. It is great to hear that we exceeded expectations. Congrats on your new system! We hope you enjoy the benefits of your new system for many years to come! 

 Customer Experience Manager

Find an Installer

Representative Project Schedule

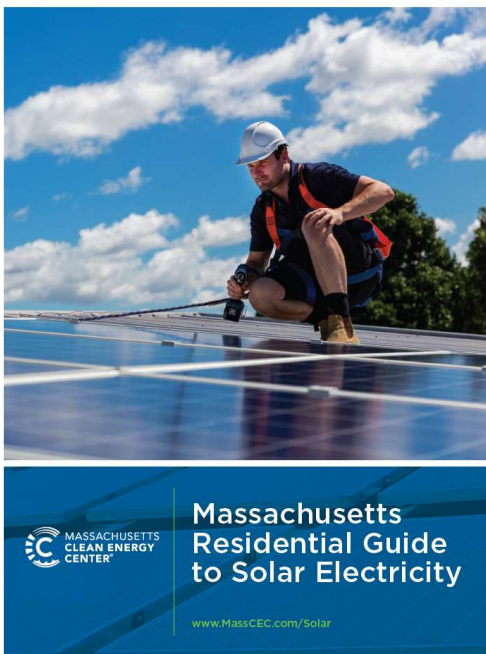


Source: Sunlight Solar Energy, Inc.

Arrange
Financing

Mass Clean
Energy Center
Homeowner
Guide

<https://goclean.masscec.com/downloads/MassCEC-Residential-Solar-GUIDE.pdf>



Solar Electricity Today	1
Solar Electric System Components	2
Sizing and Optimizing a Solar Electric System	4
Important Regulations	7
Ownership Options and Incentives	8
What to Look For in a Contract	12
Environmental Benefits of Solar Electricity	14
Battery Energy Storage	15
Complementary Technologies and Alternatives	18
Solar Installation Process	20
Buying or Selling a Home with Solar	22
Homeowner's Solar Electricity Checklist	24
Additional Resources	25

Arrange Financing

Financing Options

Solar Lease

- Low/no upfront cost, monthly payment
- Developer owns system and take incentives
- Homeowner takes production risk

Solar Power Purchase Agreement (PPA)

- Developer owns system and takes incentives
- Homeowner pays reduced \$/kWh rate for system output
- Homeowner takes rate risk

Home Equity Line of Credit or Solar Loan

- Homeowner owns system and takes incentives
- System output offsets Homeowner's utility use
- Homeowner provides maintenance, but most systems don't need any

Use Incentives

Federal Investment Tax Credit - Residential

- 30% through 2032

Massachusetts Tax Credit

- 15% up to \$1,000

Massachusetts Net Metering

- Excess production flows to the grid
- Credited to your bill net of conservation charges, etc.

SMART Program

- 10-year term, benefit declining as program matures

<https://www.newtonma.gov/government/climate-and-sustainability/financial-incentives>

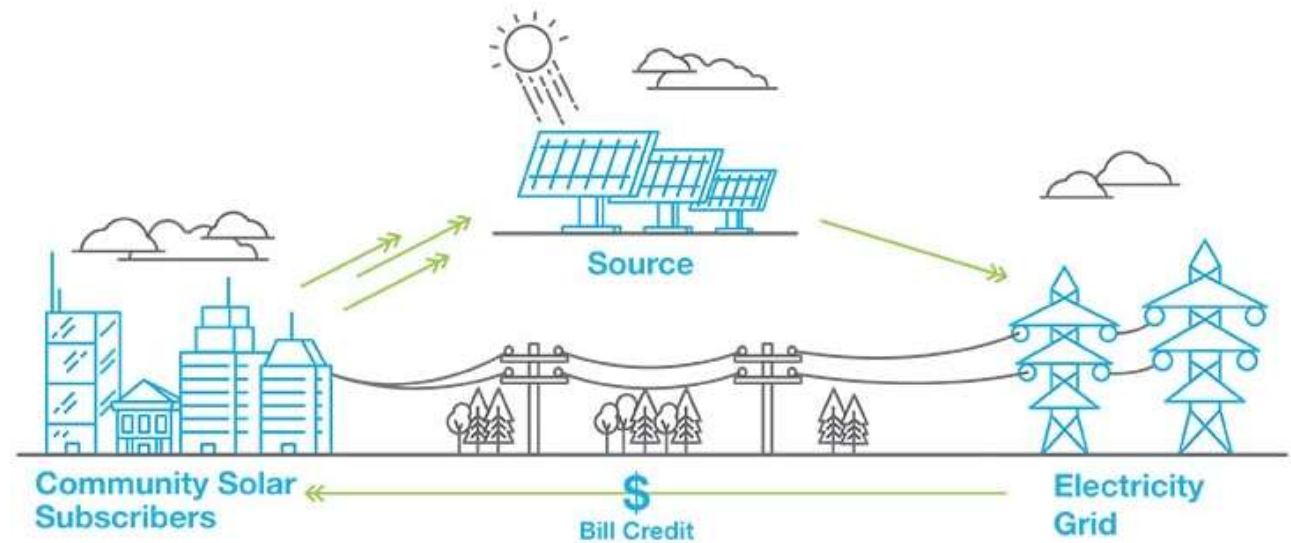
The Big Picture

Powered by
renewables

In addition to rooftop solar, other clean energy options include:

- Community Solar

energysage.com/p/newton



Graphic from <https://www.usourceenergy.com/>

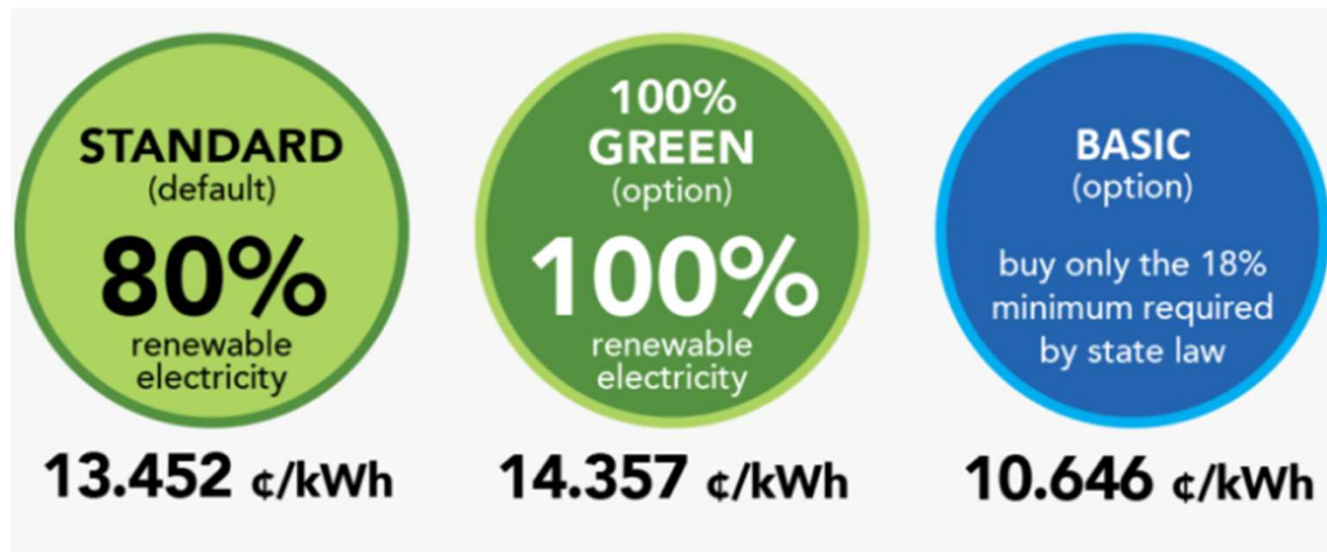
The Big Picture

Powered by
renewables

In addition to rooftop solar, other clean energy options include:

- Newton Power Choice

newtonpowerchoice.com



The Big Picture

Whole-home energy upgrades

How is solar fitting into your household energy use?

- Use Less, Green the Rest
- <https://www.newtonma.gov/government/climate-and-sustainability/take-action-4-for-our-future-2>

