SUNSHARES

SOLAR MADE SIMPLE

Housekeeping

- Use the Q&A function to submit questions anytime during the presentation.

- Webinar is being recorded and will be posted at cityofpaloalto.org/workshops

Agenda

- SunShares Overview
- Solar Resources and Tools
- Planning and Optimizing Your Solar System
- Solar and Your Utility Bill
- Q&A

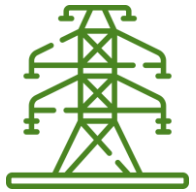
Benefits of Going Solar

Financial

- Predictable electricity costs
- Discounted prices through SunShares
- 26% Federal Tax Credit for systems installed by Dec. 31, 2022
- Improve the value of your home

All-electric Future

- Charge your EV and electric appliances with your own electricity*
- Future-proof your home



Resiliency

- Rooftop solar combined with battery storage can provide back-up power during power outages

** Your solar system alone will not provide power during a blackout since it is connected to the grid. Consider adding battery storage for backup power.*

SunShares

BUSINESS COUNCIL ON
CLIMATE CHANGE

SUNSHARES

Simple. Affordable. Together.

Fall 2021 Informational Webinar

Bay Area SunShares

- **Solar + Storage discount program**
  - 15% on solar; 10% on battery storage
  - All Bay Area residents can participate
- **Our Goal:** Make clean energy more accessible and affordable, for a more sustainable and resilient Bay Area!
- **Annually from Sept 1st - Nov 30th**

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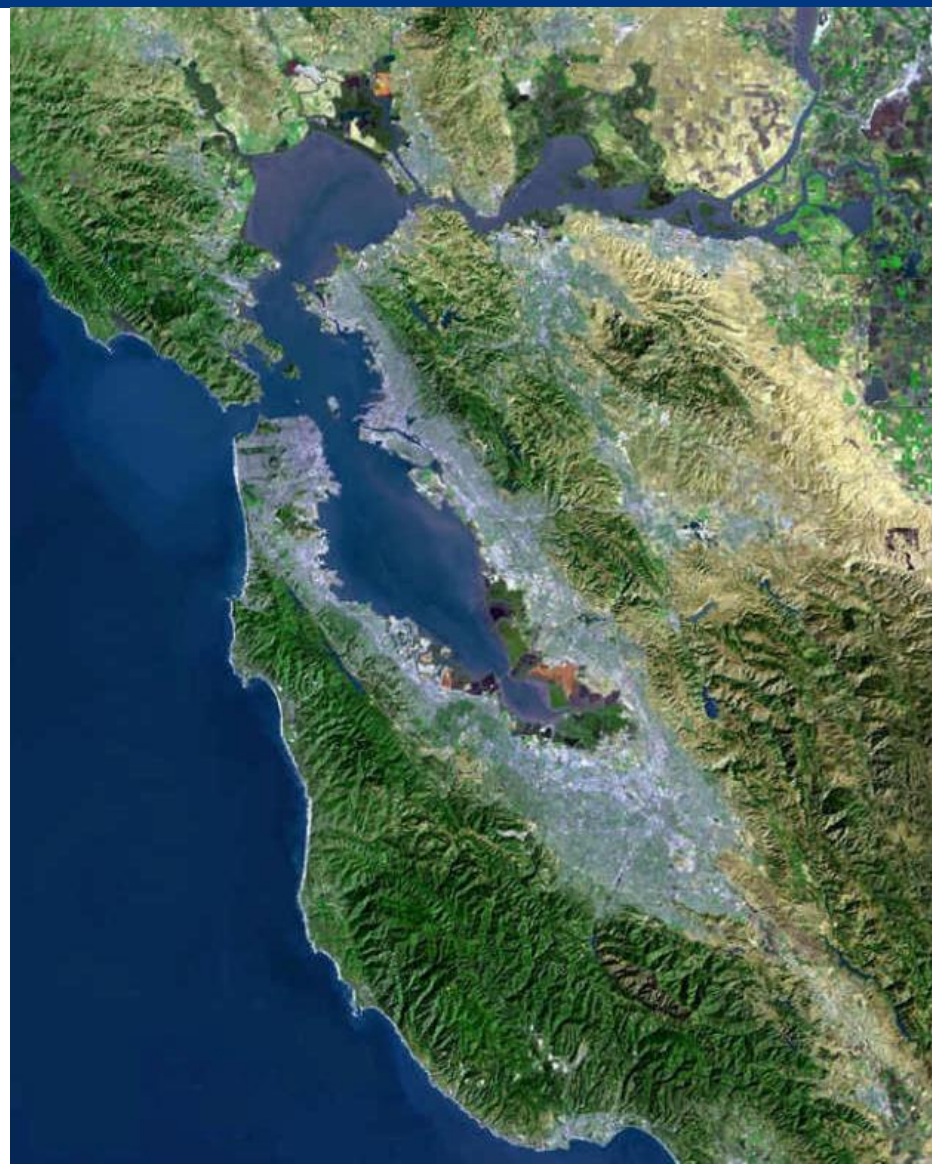

The Business Council on Climate Change

We are a membership nonprofit dedicated to incubating, scaling and sharing climate solutions.

Why SunShares?

Work with pre-vetted, quality solar installers to make the **best decision for you**

15% discount on Turnkey Solar Installs, and **10%** discount on Battery Storage

Compare up to three **no-commitment** solar proposals - **for free!**

Since 2016, SunShares has helped 900+ homes install 4.5 Megawatts of solar energy and 100+ battery storage units!

SunShares in Palo Alto

Since 2016, Palo Alto has consistently led all cities in SunShares participation

- Through Sunshares, 85 Palo Alto households have installed
  - over 480 kW of solar
  - 10 battery storage systems
- Currently, 5 contracts already signed

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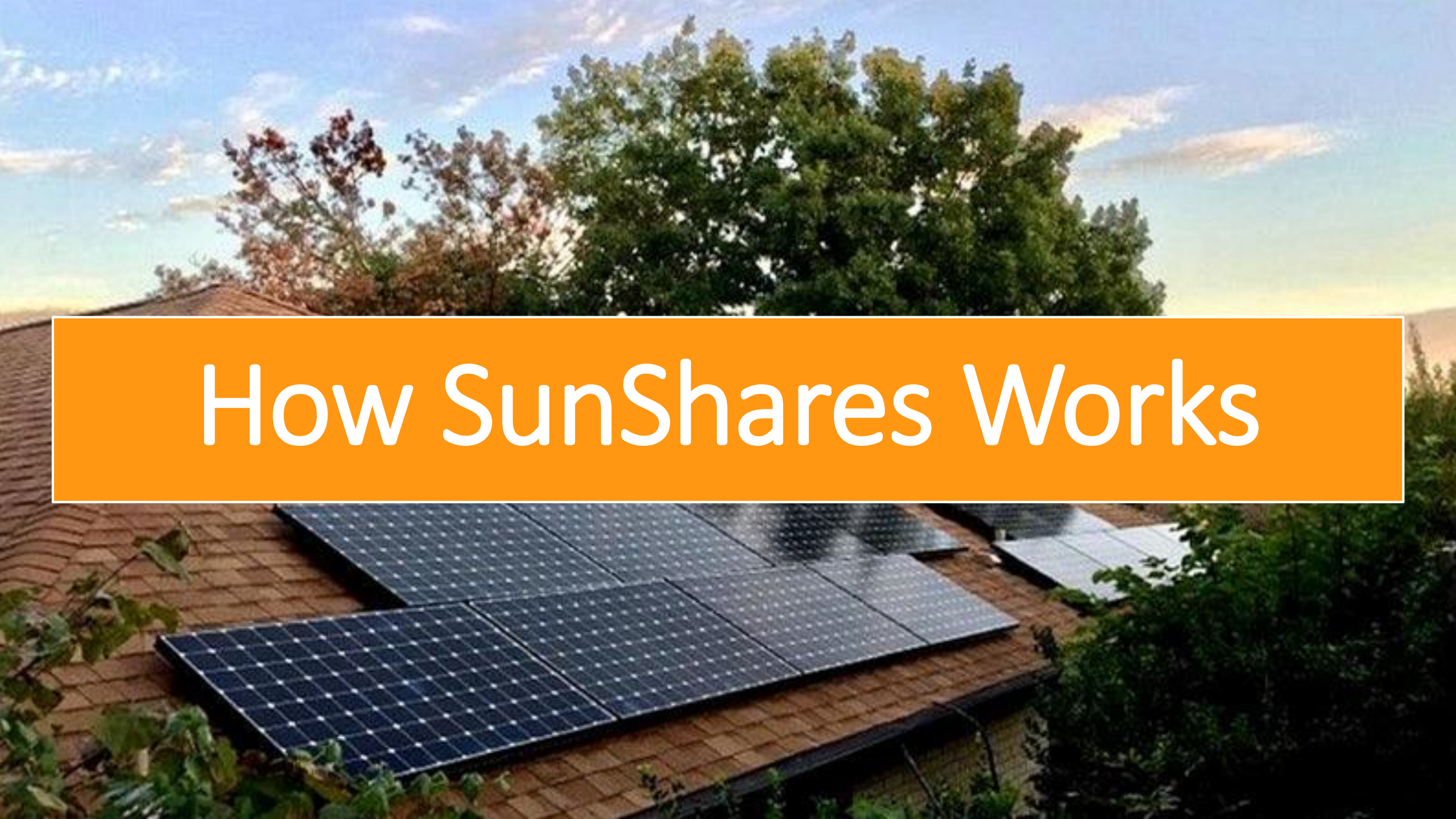
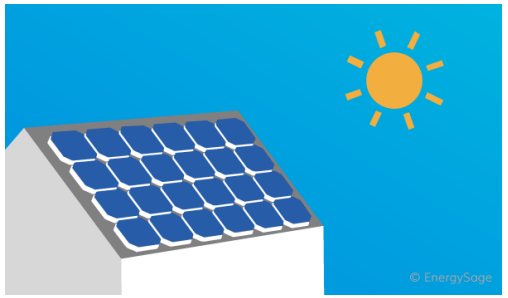
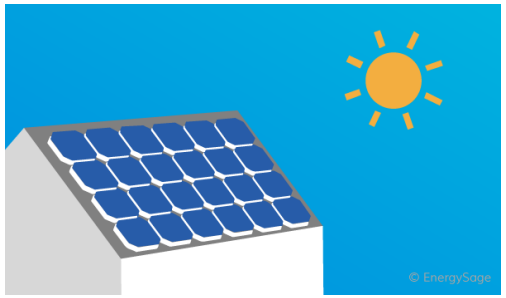


How SunShares Works

Your Options with SunShares





+

Already have Solar

+

Which option are you most interested in learning more about?

Our Selected Installers

infinity energy

SOLAR TECHNOLOGIES

skytech solar

The SunShares Process

What happens when you sign up?

1. Hear from selected installer(s) within 5-7 days
2. Installer conducts virtual roof evaluation, and a socially distant/ contactless site-visit
3. Receive and review your solar proposals
4. Sign a contract **by December 31, 2021**

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Solar Discounts

- All prices reflect the **15% SunShares discount**
- Prices include system design, permits, warranties, equipment, labor, and monitoring.

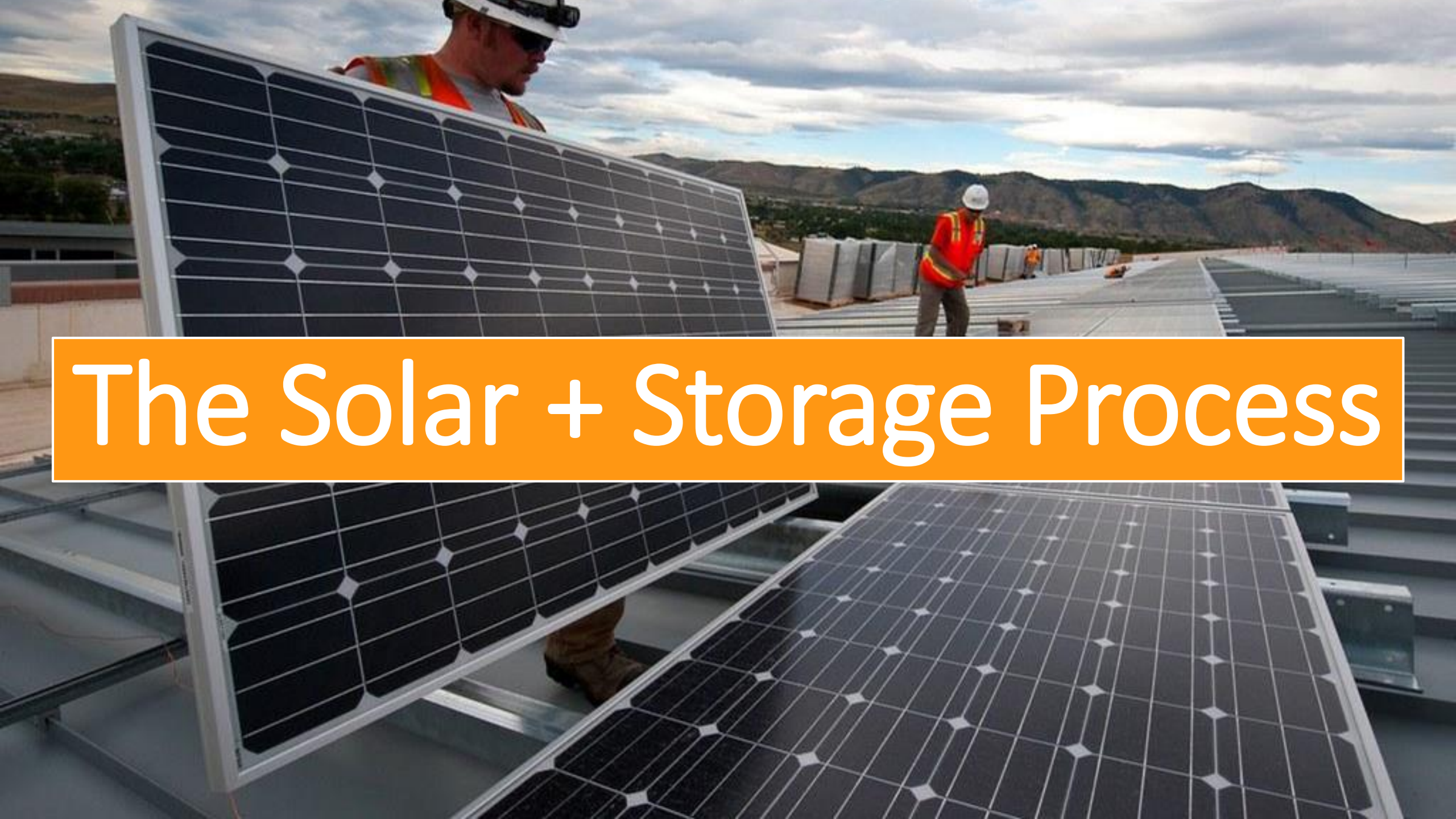
Selected Installer	Module	Wattage	SunShares Price ($/W)
infinity energy	Misson Solar	345	$2.95/W
	Hanwha Q.Cel Q.Peak-Duo-L-G8.2-430	430	$2.97/W
skytech solar	Solaria Power XT-400R-PM (Black on Black)	400	$3.30/W
	LG All Black 425	425	$3.50/W
	SunPower	410	$3.70/W
SOLAR TECHNOLOGIES	SunPower	335 Black Backsheet	$3.35/W
	SunPower	415 White Backsheet	$3.95/W

Battery Storage Discounts

- All prices reflect the **10% SunShares discount**
- Prices include battery unit, system design, permit, labor, and installation materials

Selected Installer	Module	Storage Capacity (kWh)	Paired with Solar Installation		Added to Existing Solar System	
			First unit price	Second unit price	First unit price	Second unit price
infinity energy	Electriq	15 kWh	$16,200	$16,200	$16,200	$16,200
	Enphase Encharge	10 kWh	$12,800	$12,800	Not available	$13,300*
skytech solar	LG Chem RESU16H**	16 kWh	$15,900	$14,900	$16,500	$15,500
	Tesla Powerwall 2	13.5 kWh	$14,500	$13,500	$15,500	$16,500
SOLAR TECHNOLOGIES	Tesla Powerwall 2	13.5 kWh	$14,880	$13,500	$14,880	$13,500

*Must purchase minimum of two Enphase Encharge batteries if adding storage to an existing solar system with Infinity Energy.
**The LG battery comes with a SolarEdge Energy Hub which has many added functions in addition to serving as an inverter.



The Solar + Storage Process

The Solar + Storage Proposal Process

Installers will evaluate...

- Roof exposure to sunlight
- Roof type, angle, and condition
- Energy usage
- Essential Loads (for battery storage)

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Evaluating your Storage Options

- **Maximum usable capacity:** The total amount of electricity that your battery can store.
- **Power rating:** The amount of electricity that can be discharged at any one time.
- **Round trip efficiency:** The percentage of the electricity fed into your battery that can be discharged out of it.

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Storage Timeline

Batteries are in high demand, and low supply.

- Timeline varies based on the model that you choose
- Solar system can be installed before batteries arrive
- Ask our installers about your options.

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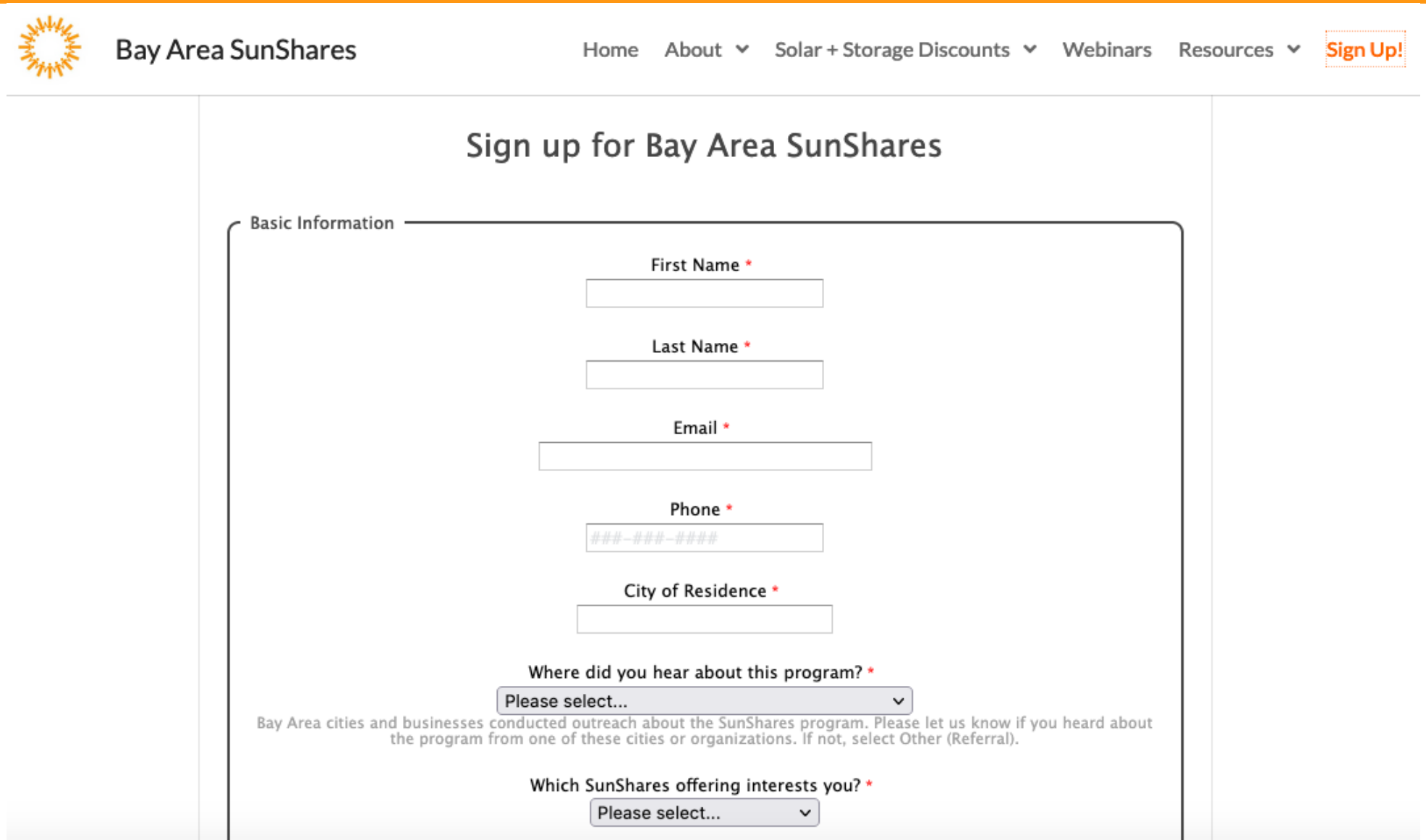
Sign Up at bayareasunshares.org by November 30!

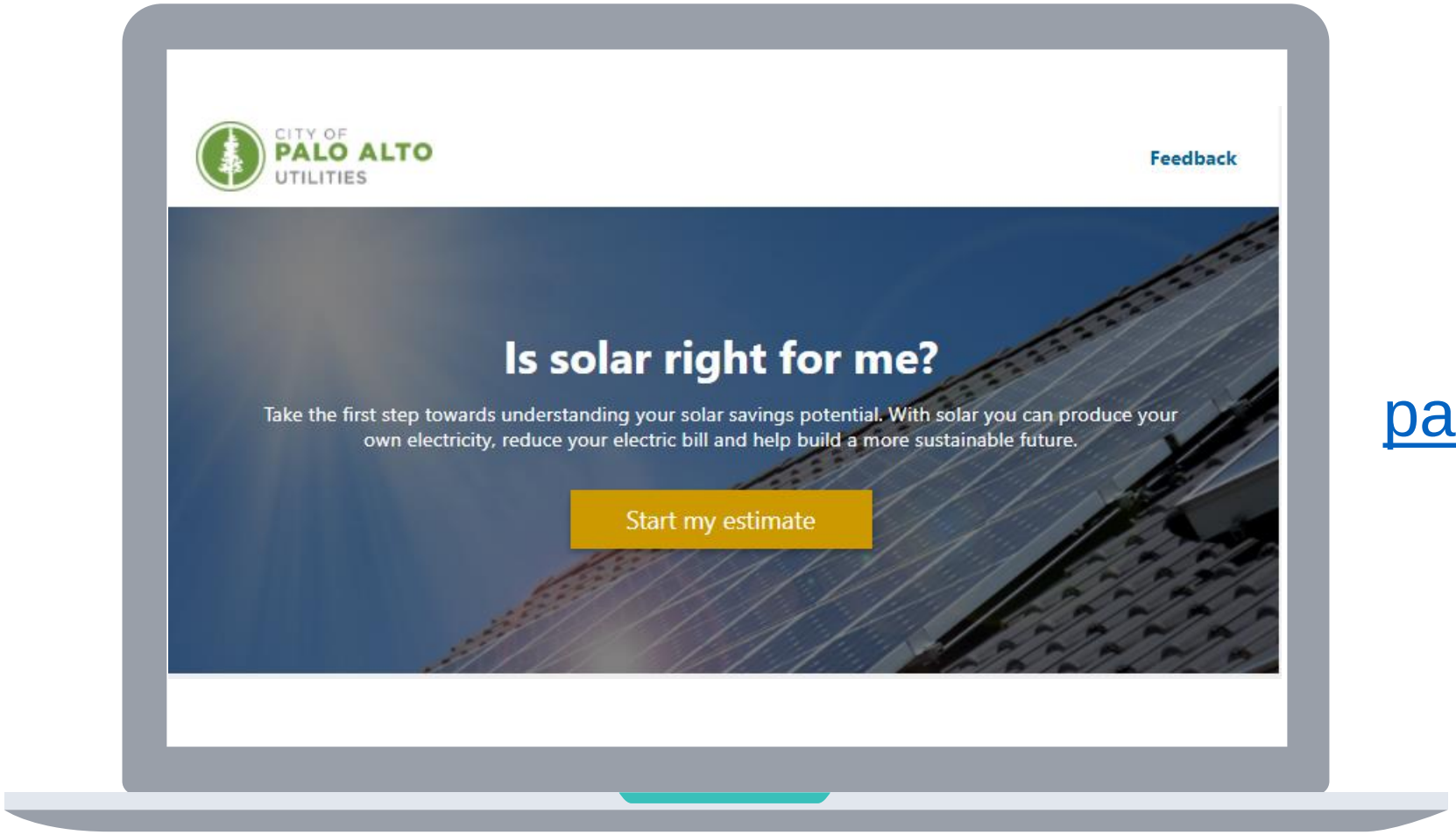


Resources and Tools

Solar Resources

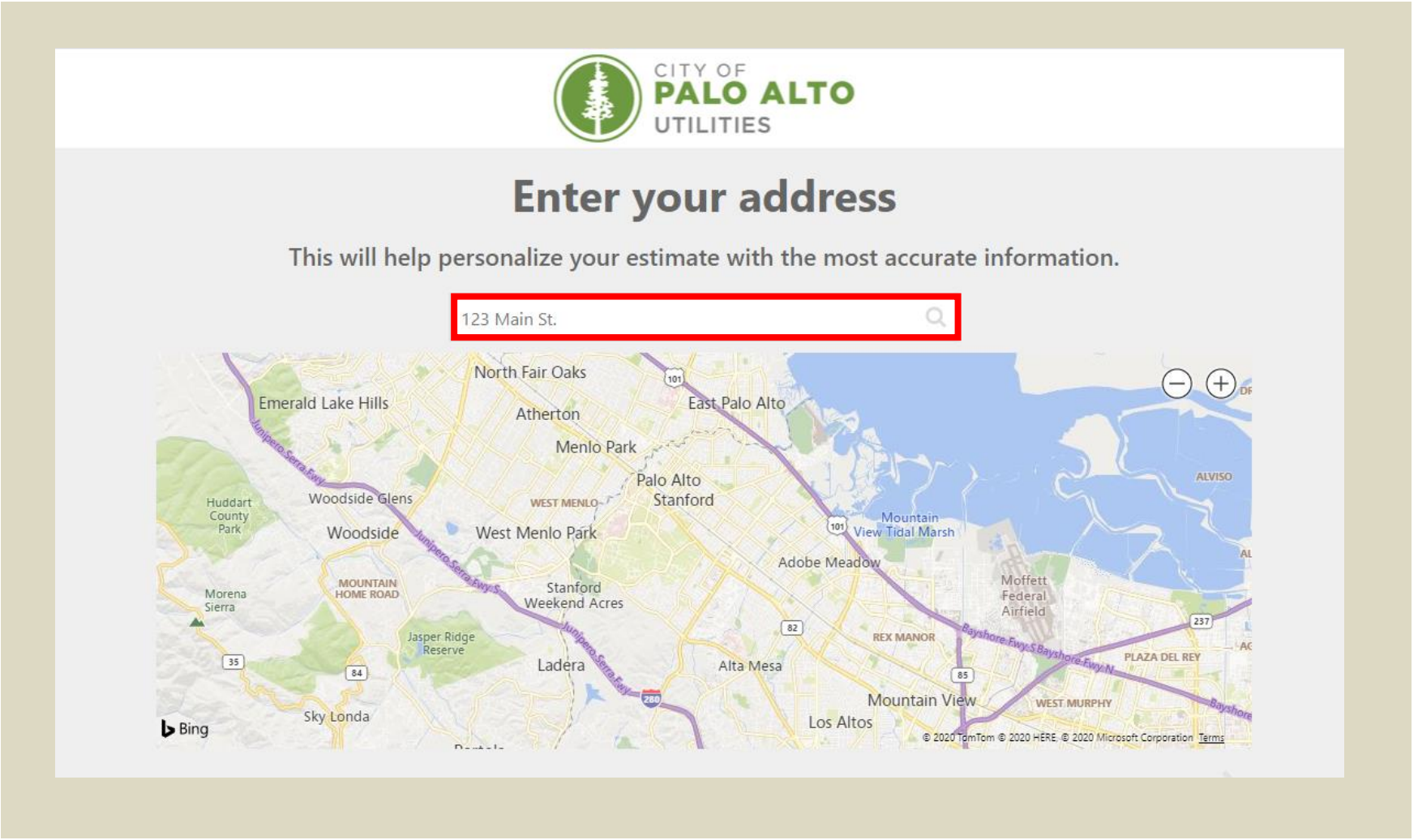
cityofpaloalto.org/solar

Solar Calculator Tool

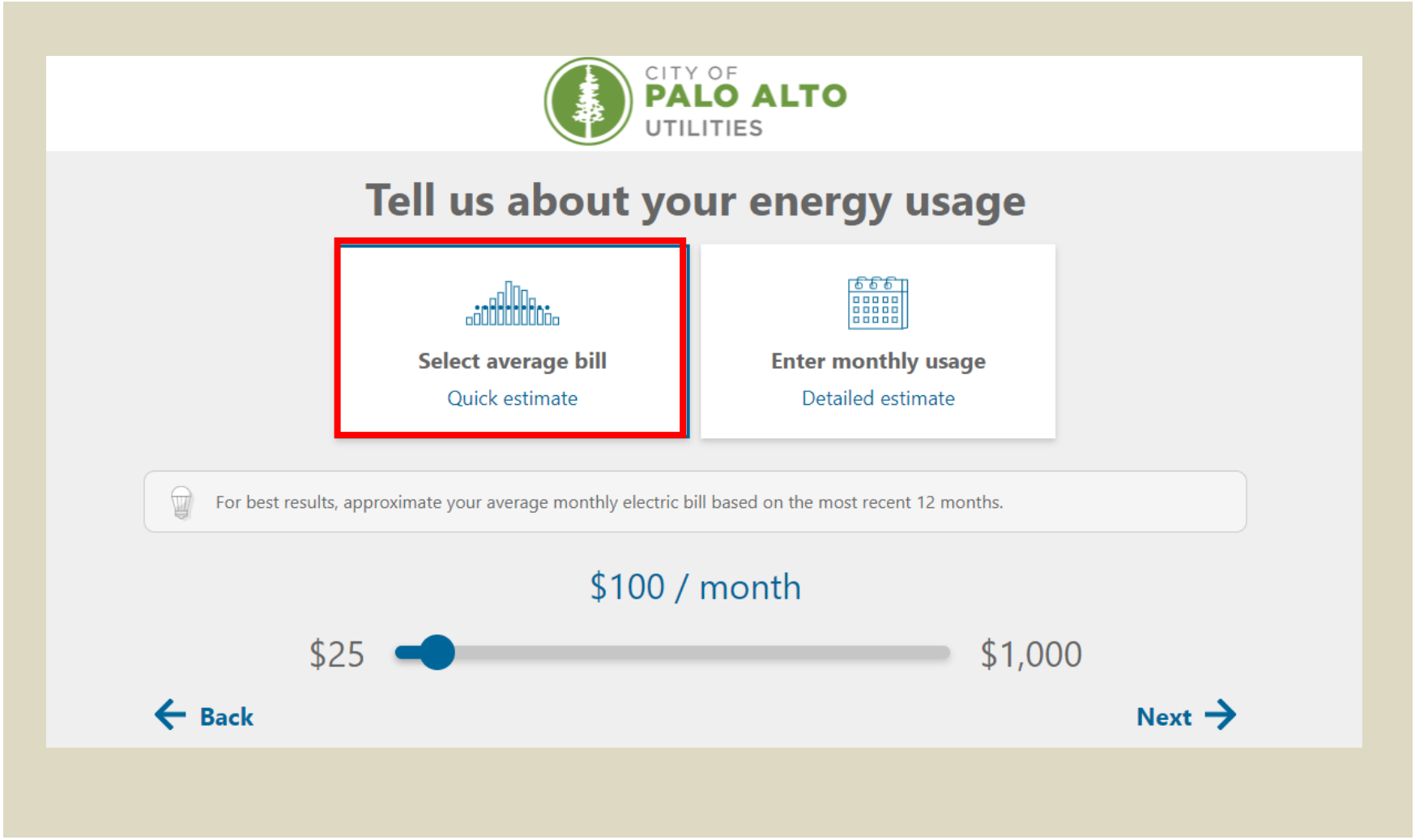


paloalto.wattplan.com/pv

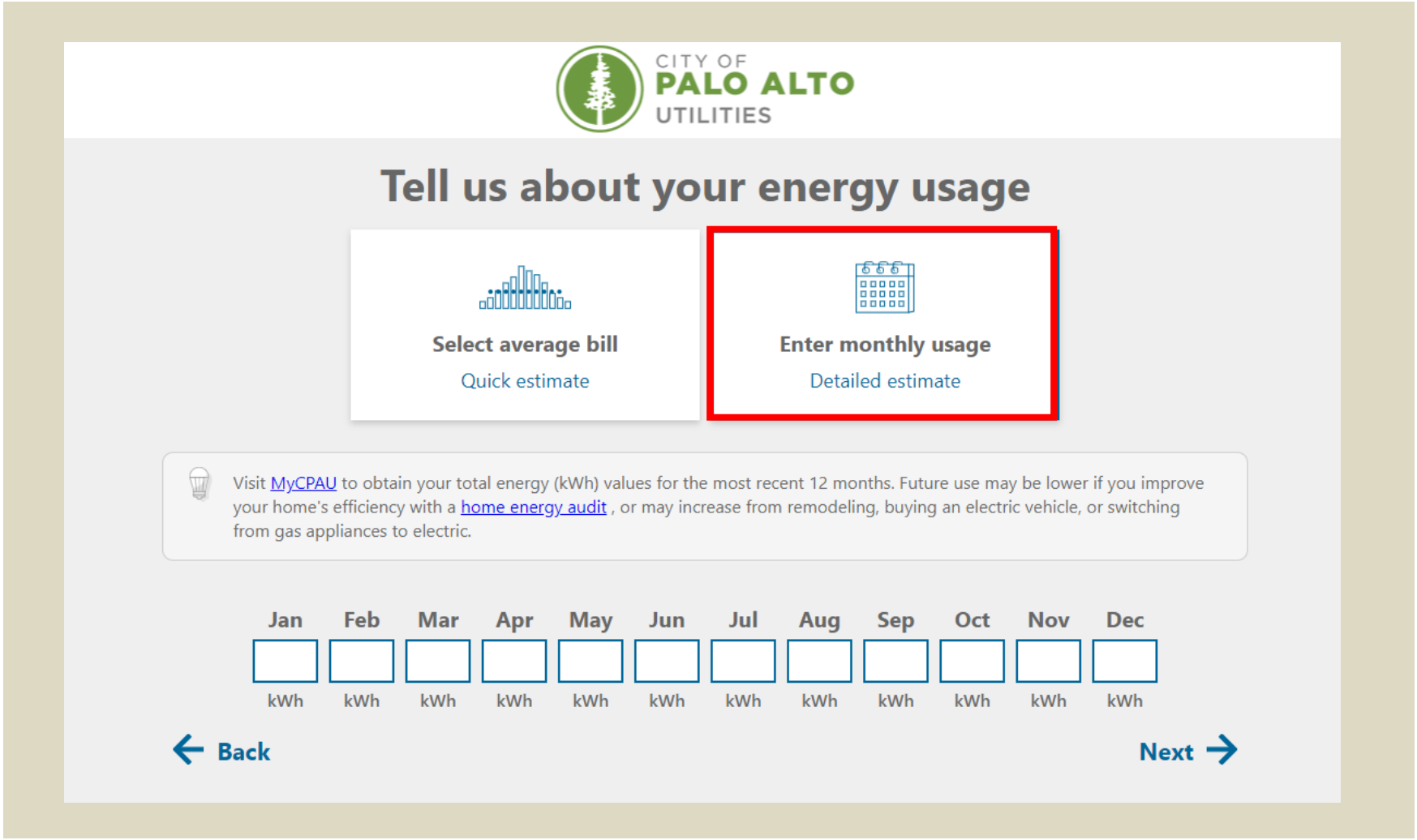
Enter Address



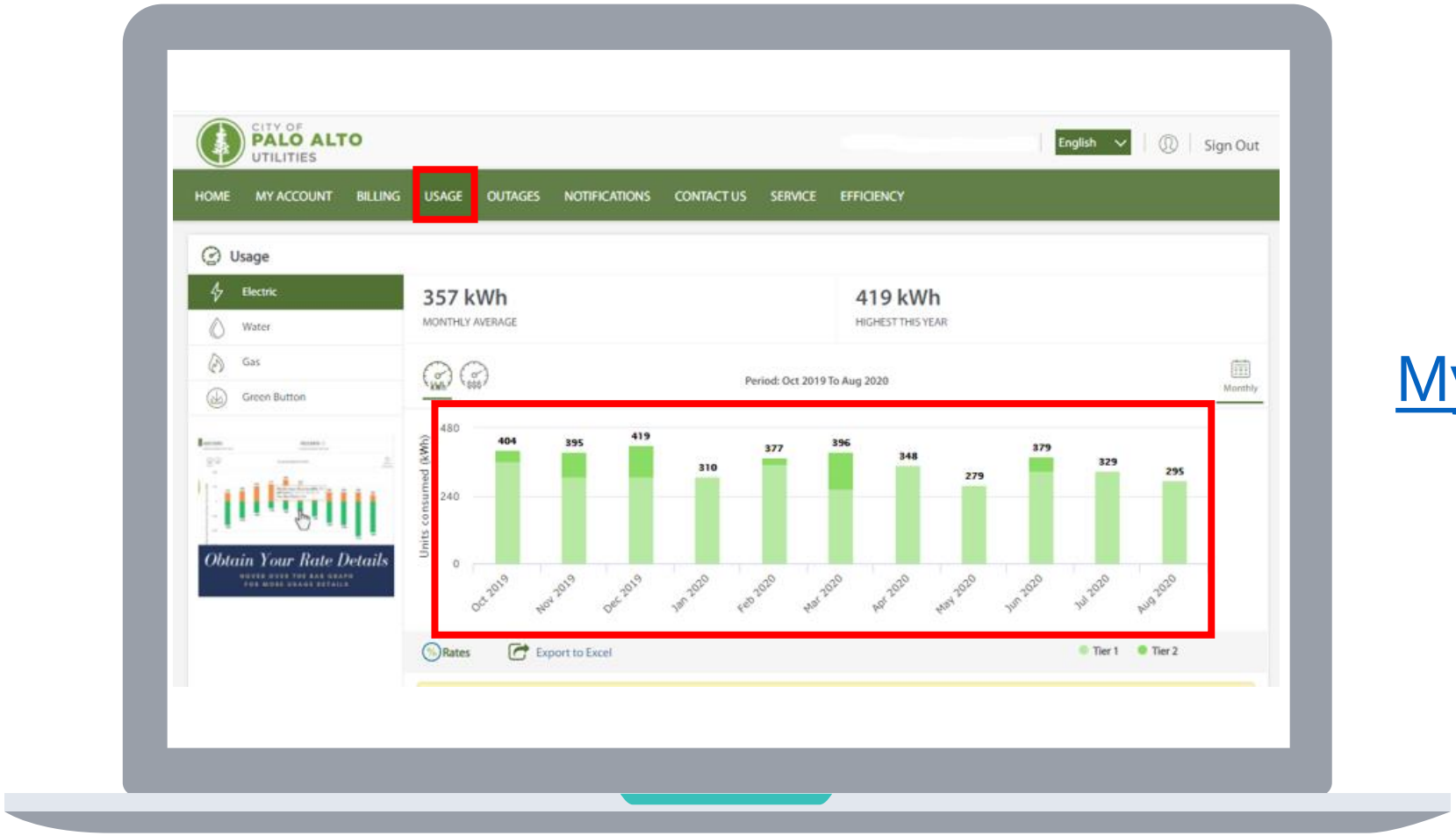
Enter Electricity Usage: Quick or Detailed



Enter Detailed Monthly Usage

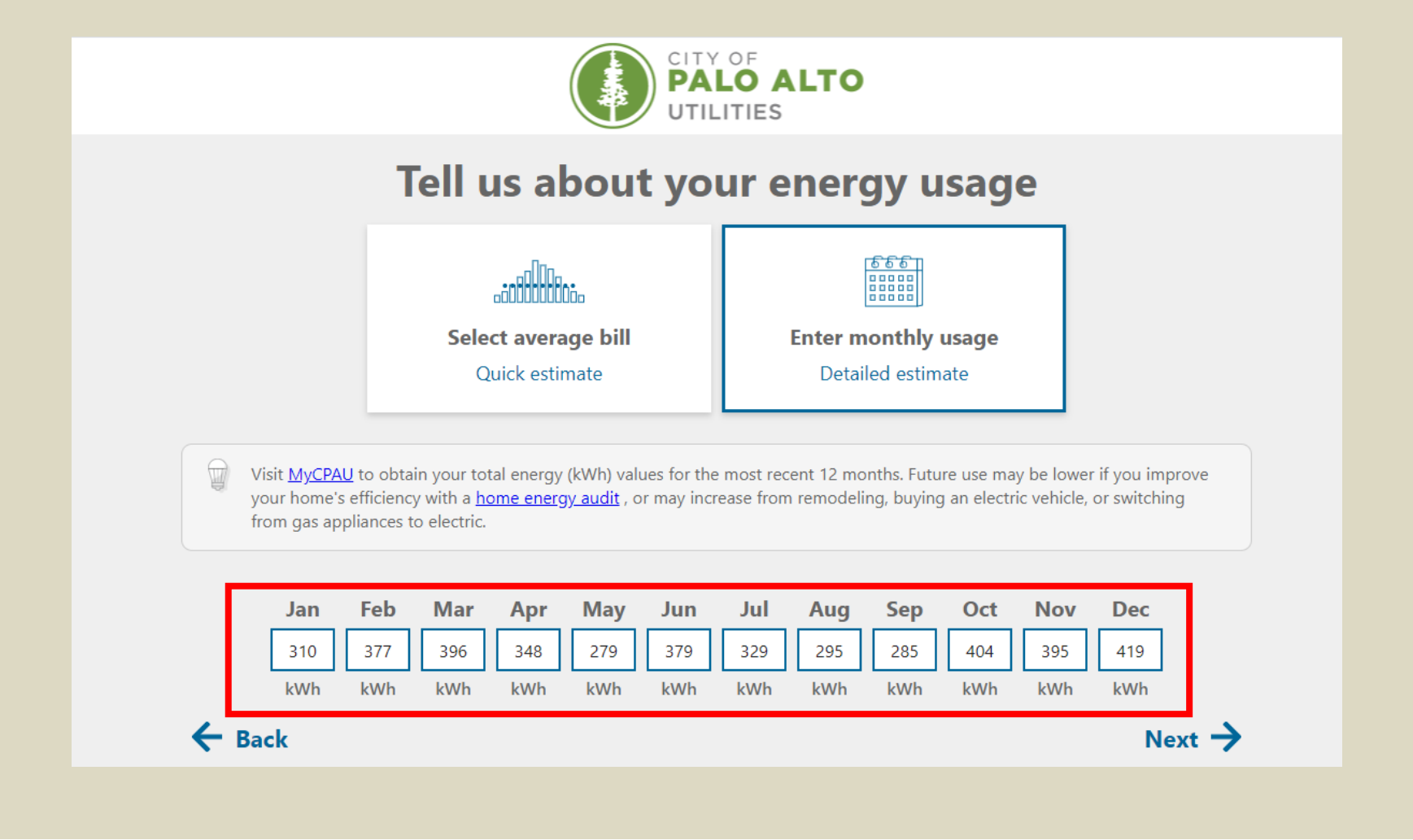


Calculate Monthly Usage for Detailed Estimate

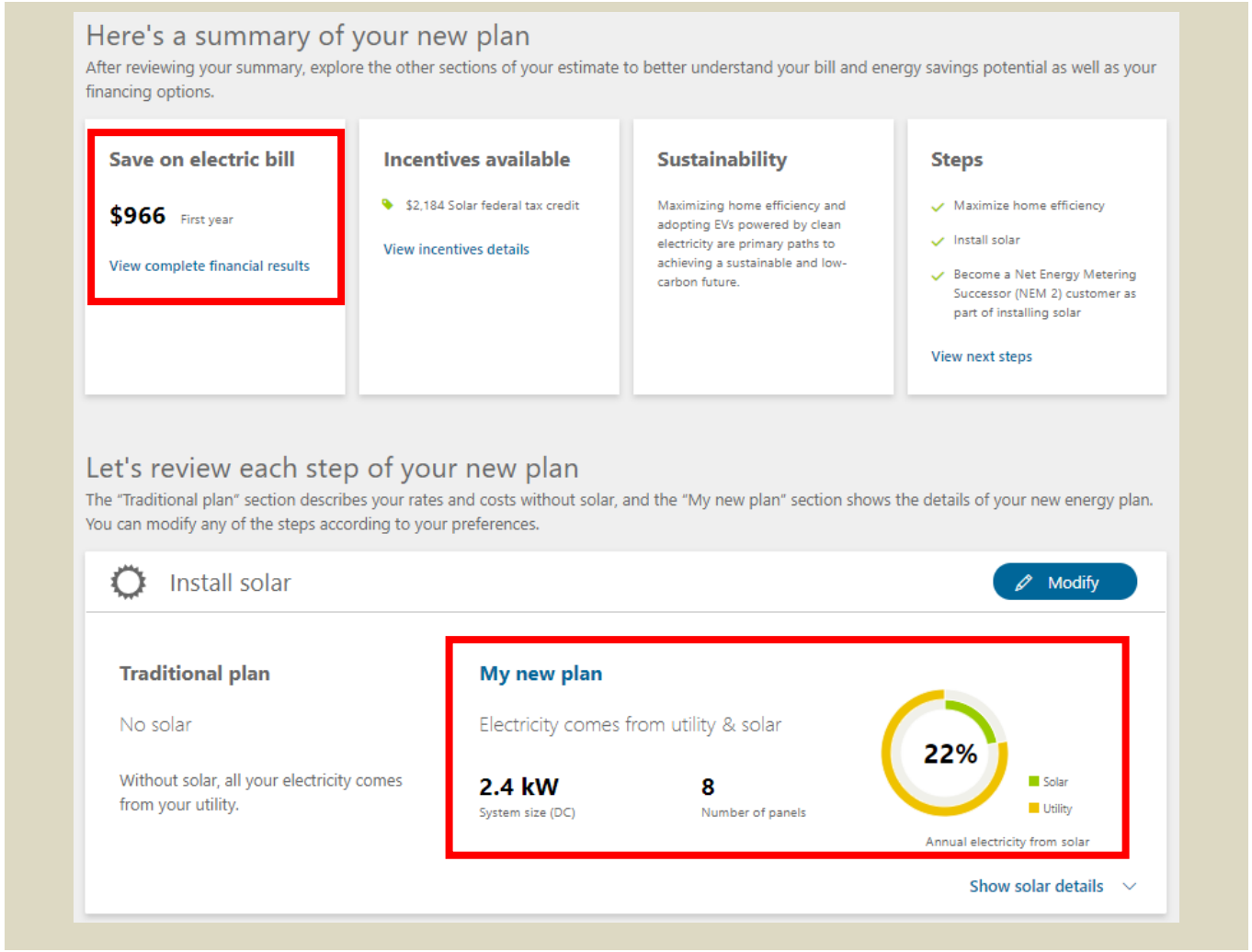


MyCPAU.cityofpaloalto.org

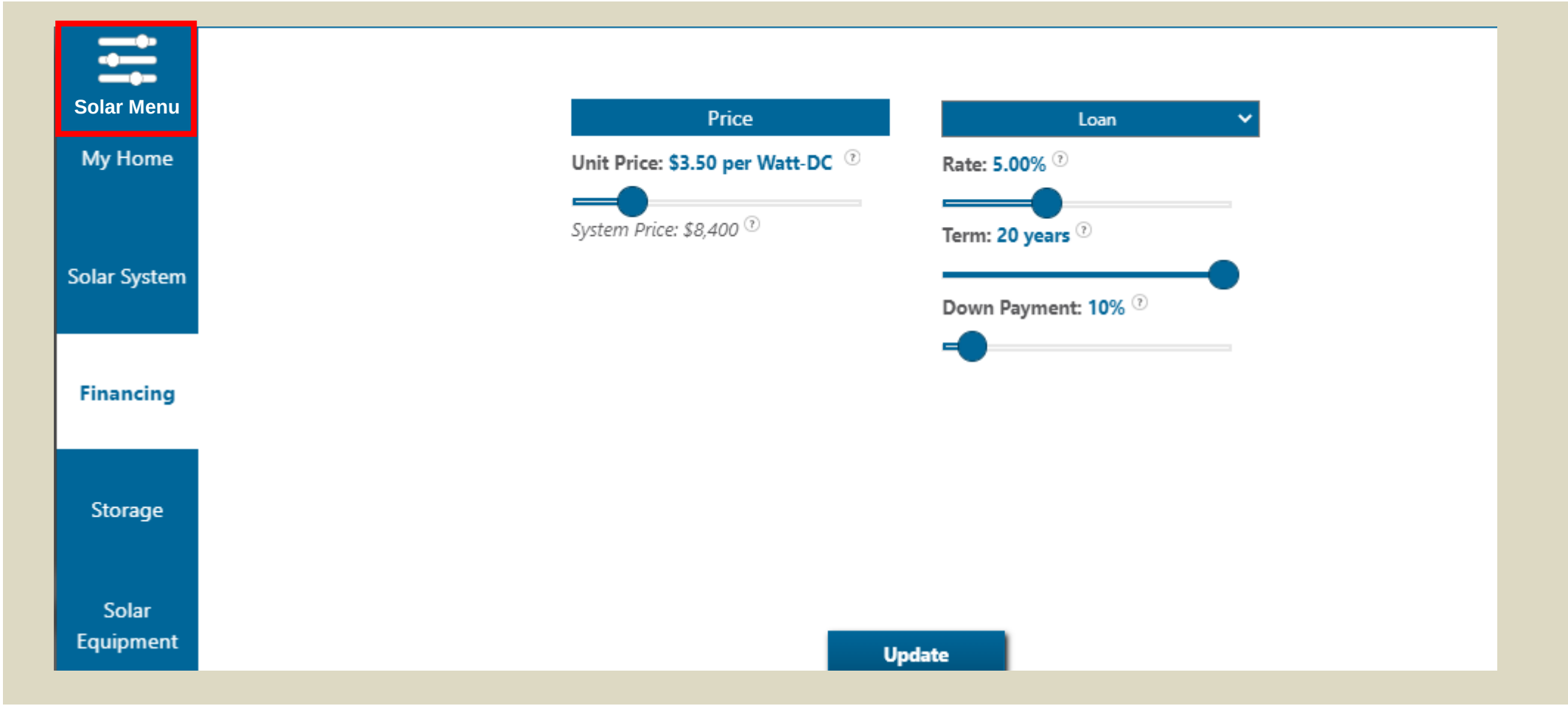
Enter Detailed Monthly Usage Data



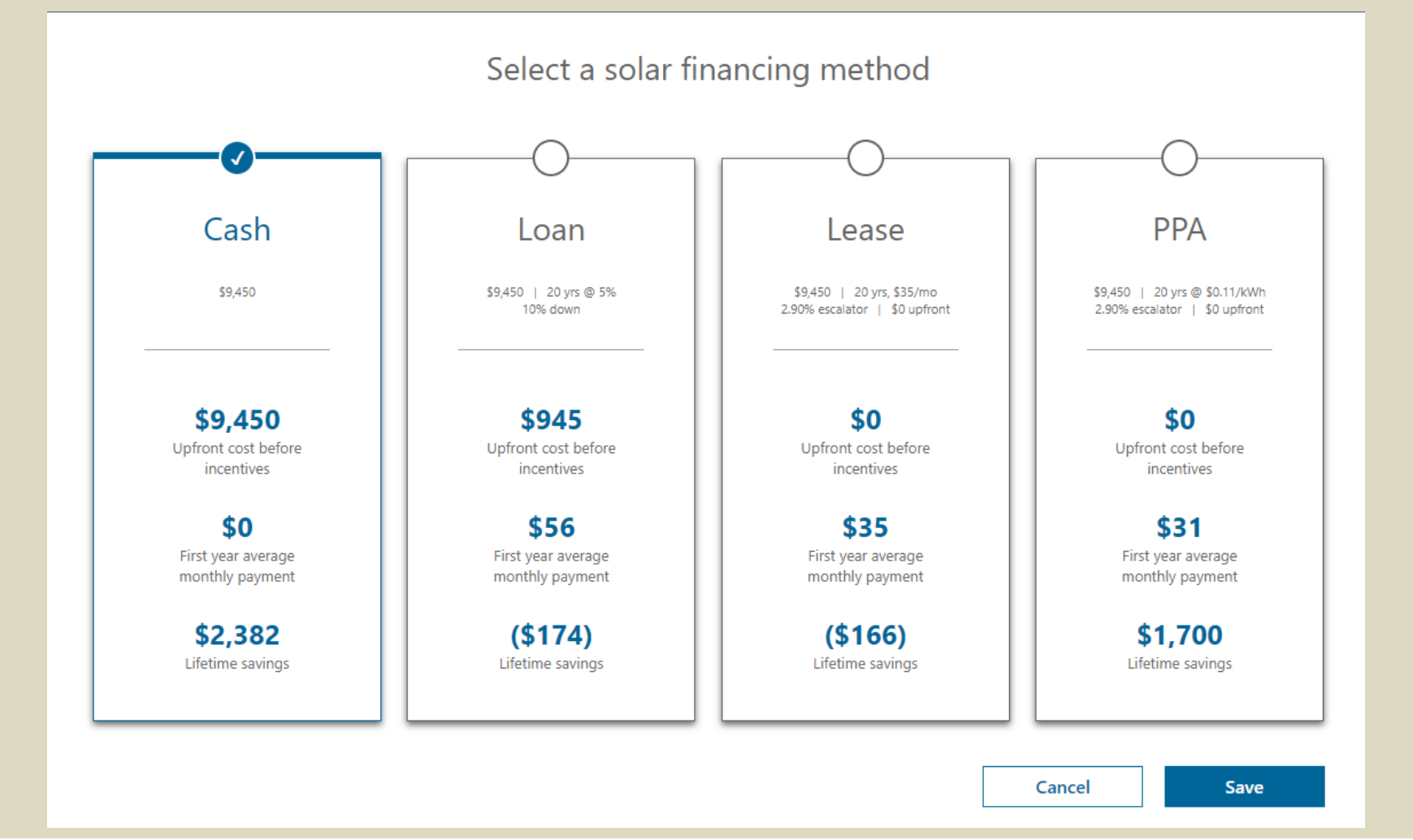
Tool Suggests System Size and Estimates Savings



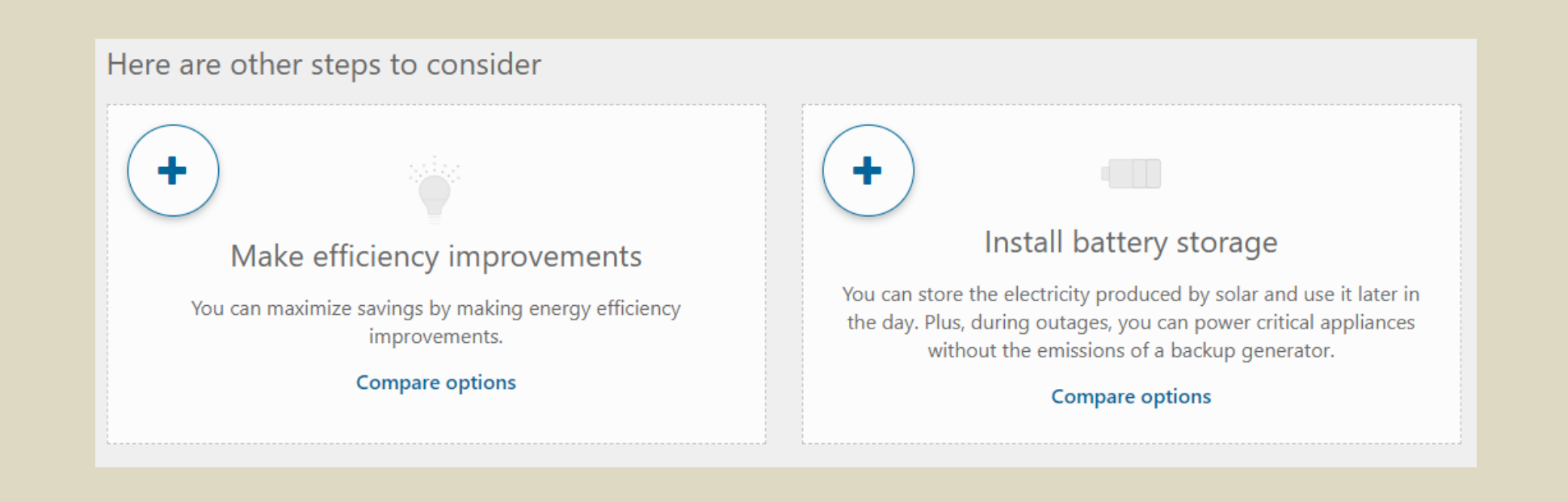
Customize Parameters and Compare Bids



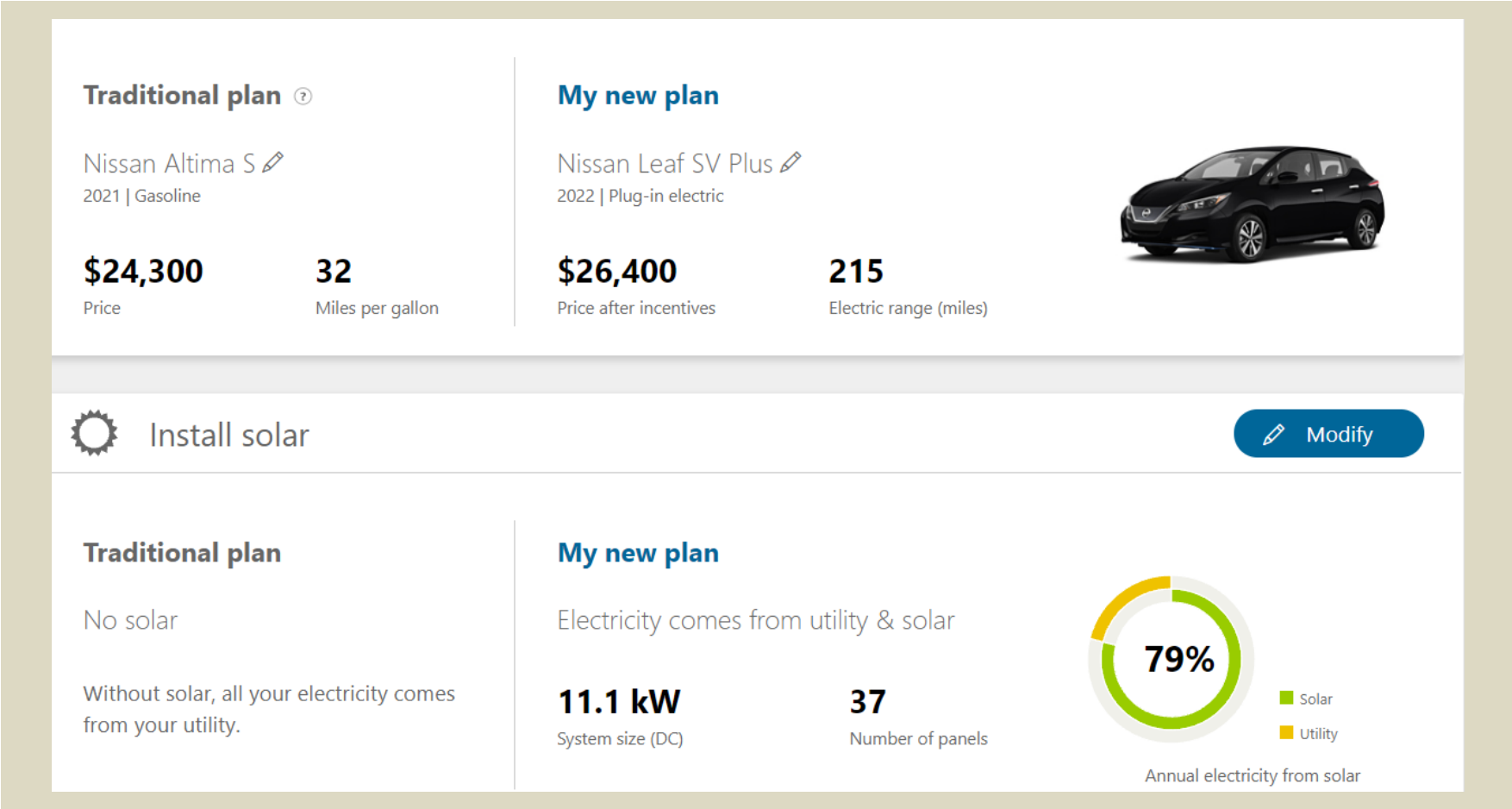
Side-by-Side Comparison of Financing Options



Add Options – Efficiency & Battery Storage

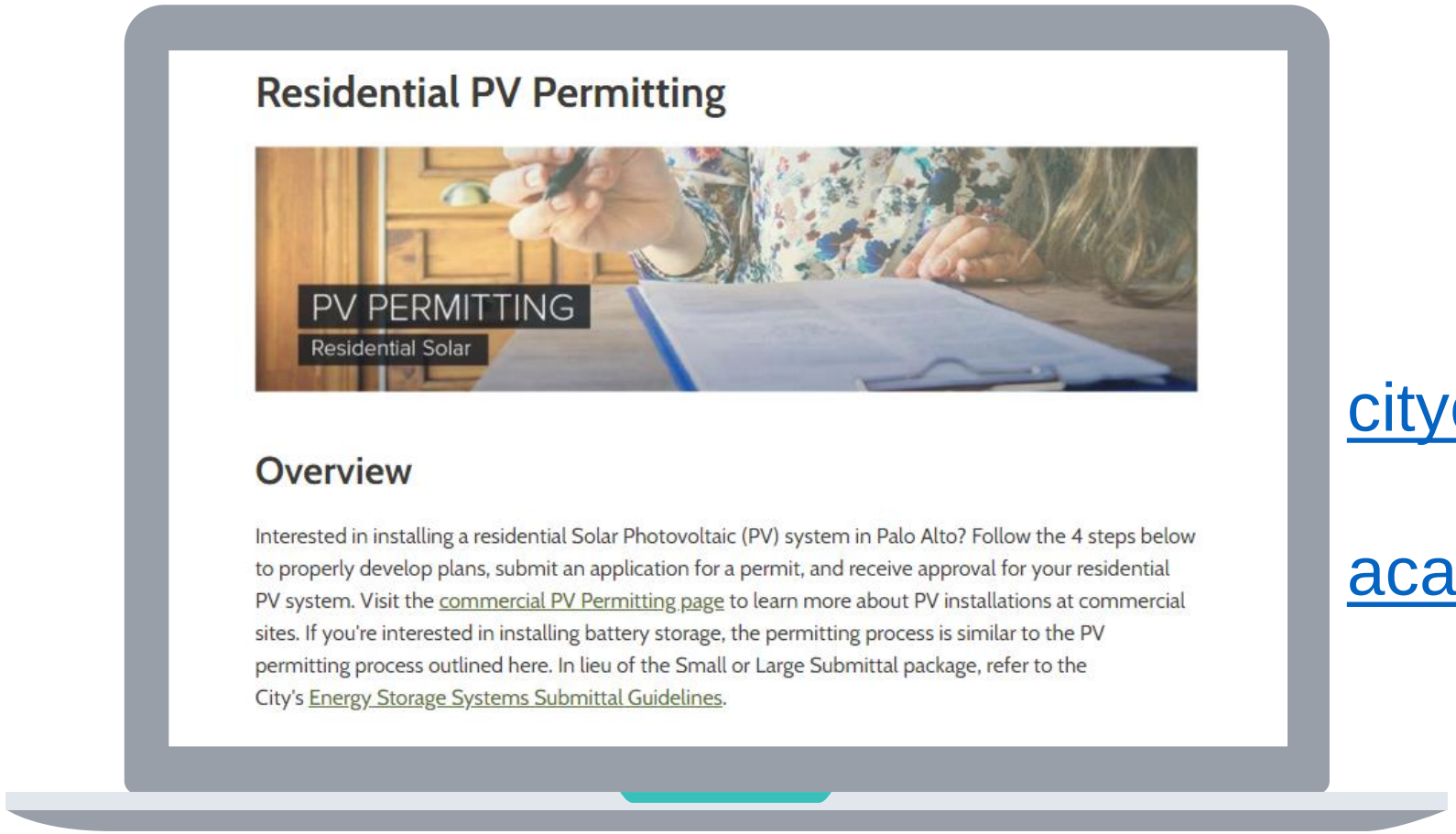


EV Calculator Tool



paloalto.wattplan.com/ev

Solar Permitting in Palo Alto



cityofpaloalto.org/PVpermitting

aca-prod.accela.com/PaloAlto

Planning & Optimizing Your Solar System

Sizing Your Solar System for Current & Future Needs

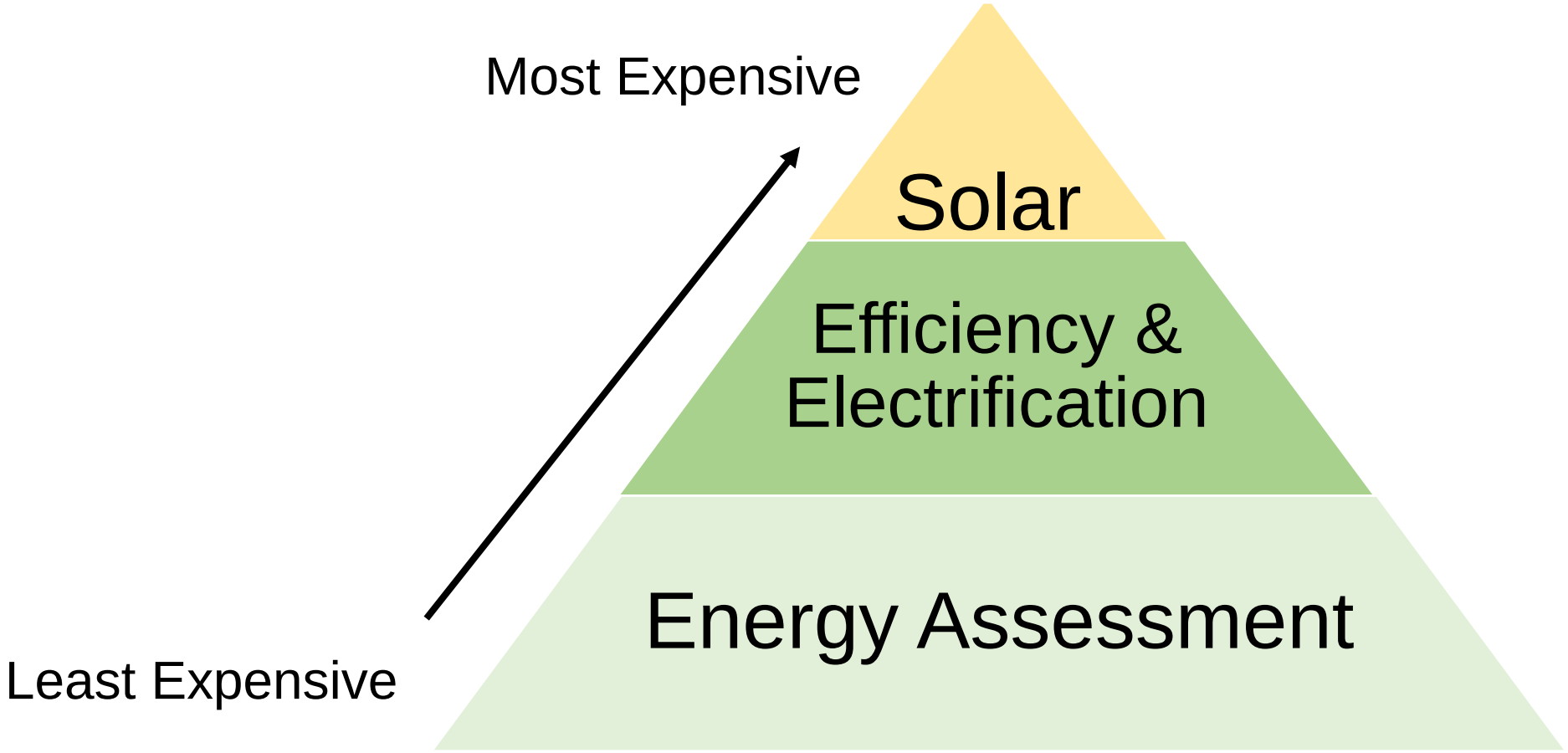
Future decreases in energy consumption:

- Increase in home efficiency *Call the Genie! (650) 713-3411*

Future increases in electricity consumption with electrification:

- Electric vehicle *EV cost calculator, rebates & incentives: cityofpaloalto.org/ev*
- Heat pump water heater *Up to $1,500 rebate. Apply now: cityofpaloalto.org/hpwh*
- Heat pump space heater (air source heat pump)
- Induction cooktop
- Heat pump clothes dryer

Where do I start?



Call the Home Efficiency Genie for an Assessment to Start

Energy & Water Phone Consultation (Free)	Genie Home Efficiency Assessment ($49-$149)	Home Electrification Readiness Assessment (included)
• Third-party unbiased advice • Utility bill review • Information on rebates & programs • Discuss energy goals and home concerns	• Virtual or in-person home evaluation with expert • Uncover energy waste • Electrification opportunities • Comprehensive report	• Expert evaluation of electric panel capacity • Determine if old appliances are ready to be replaced • Home Electrification Readiness Report

(650) 713-3411 or advisor@efficiencygenie.com
cityofpaloalto.org/efficiencygenie

Why Should I Consider Efficiency Before Solar?

- Most cost-effective energy upgrade
- Improved insulation reduces heating/cooling needs
- Ensure year-round comfort with less drafts & uneven temperatures
- Well-sealed homes reduce outdoor particle pollution (wildfires, allergens, etc.)

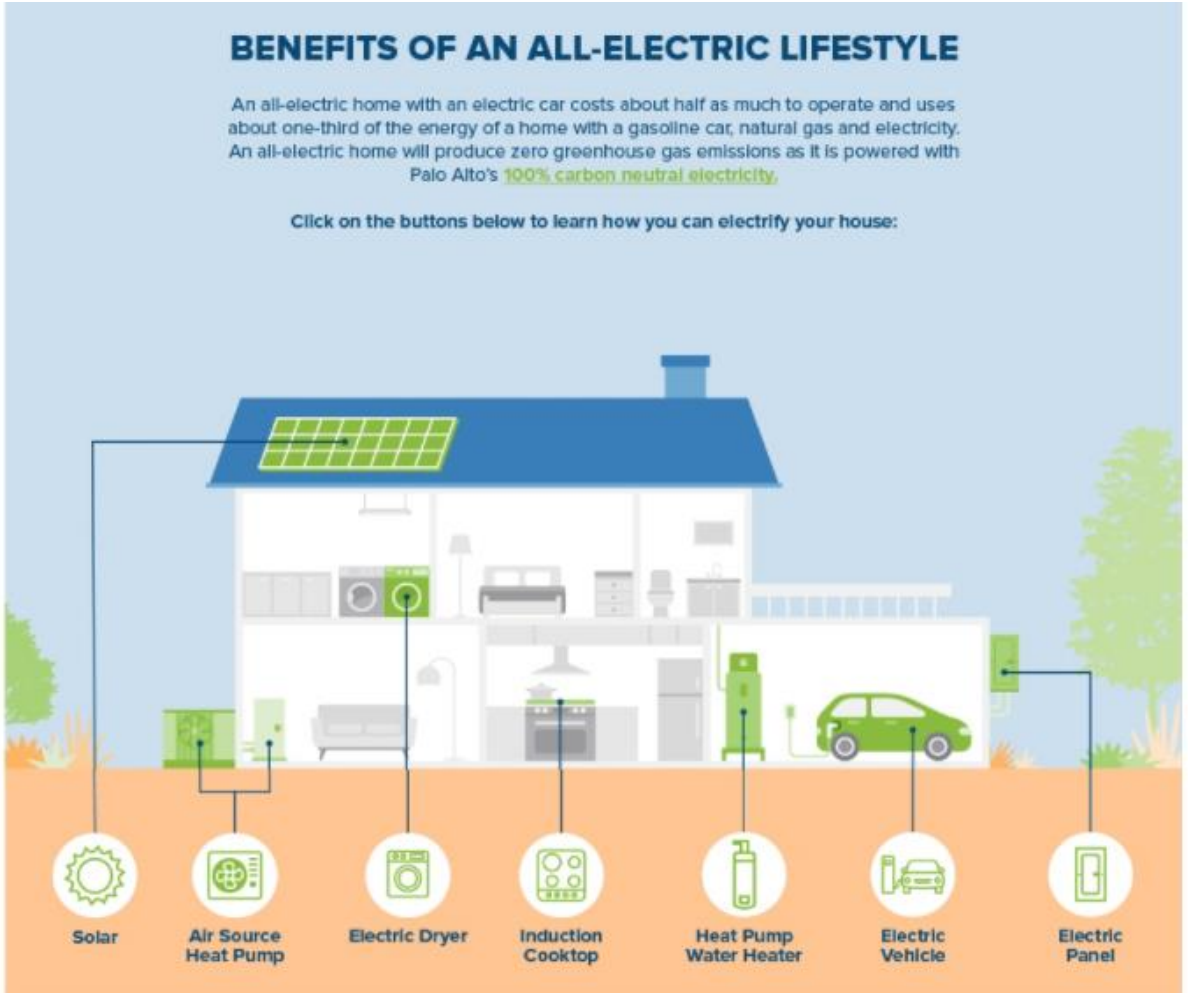
Attic, floor, wall insulation

Duct insulation or sealing

Air sealing

Right-sized HVAC system

Why Should I Electrify My Home?



Improving home efficiency and switching from natural gas to clean electricity:

- Reduces harmful pollutants (CO, NOx, etc.) in and out of your home
- Allows you to power electric appliances with solar electricity*
- Helps meet Palo Alto's climate goals

cityofpaloalto.org/electrification

** Your solar system alone will not provide power during a blackout since it is connected to the grid. Consider adding battery storage for backup power.*

Do I Need an Electrical Panel Upgrade if I Electrify?

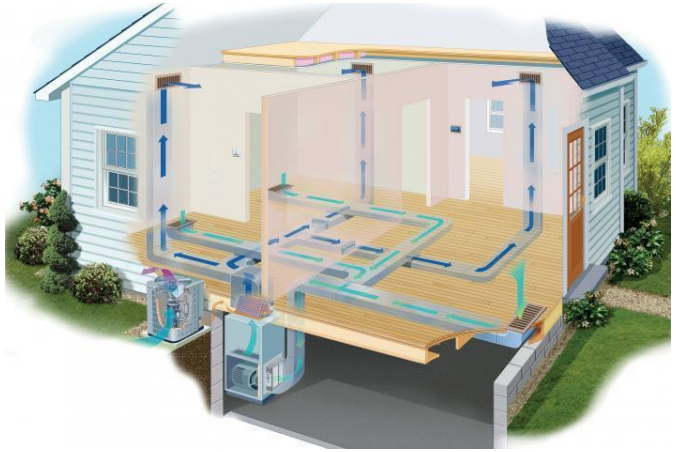
- *Possibly*, especially if you go solar or EV
- Get a **Home Electrification Readiness Assessment** with the Genie
- Reasons to upgrade:
  - Keep your home safe from electrical fires
  - Protect electrical system and new appliances
  - Future-proof your home

For permits steps and FAQs:
cityofpaloalto.org/electricpanelupgrade

Heat Pumps - Efficient Electric Alternatives to Natural Gas

- Works by moving ambient heat from one place to another
  - Most common heat pump is a refrigerator or AC unit (moves hot air outside and cold air inside)
- Can be used for:

Water Heating

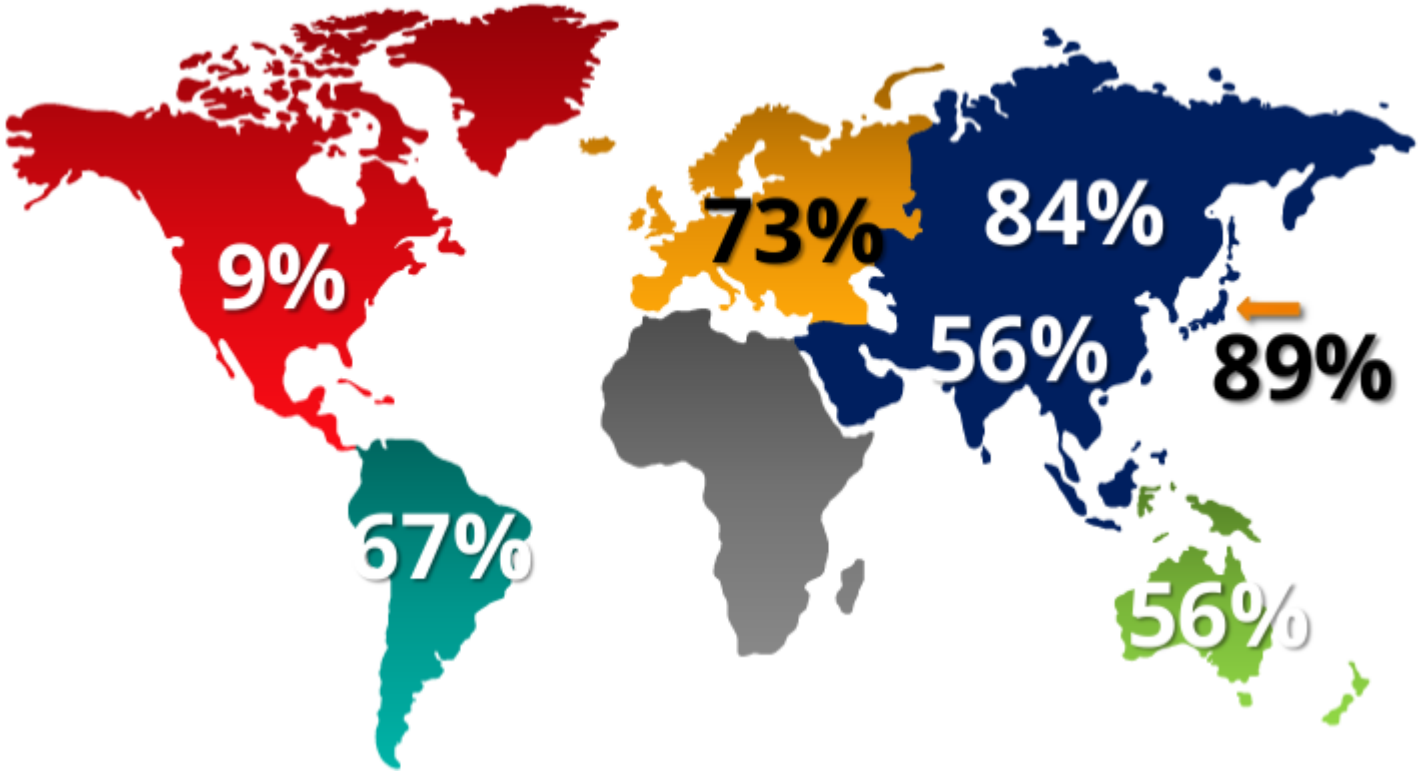


Space Heating/Cooling

Clothes Drying

Heat Pumps - Efficient Electric Alternative to Natural Gas

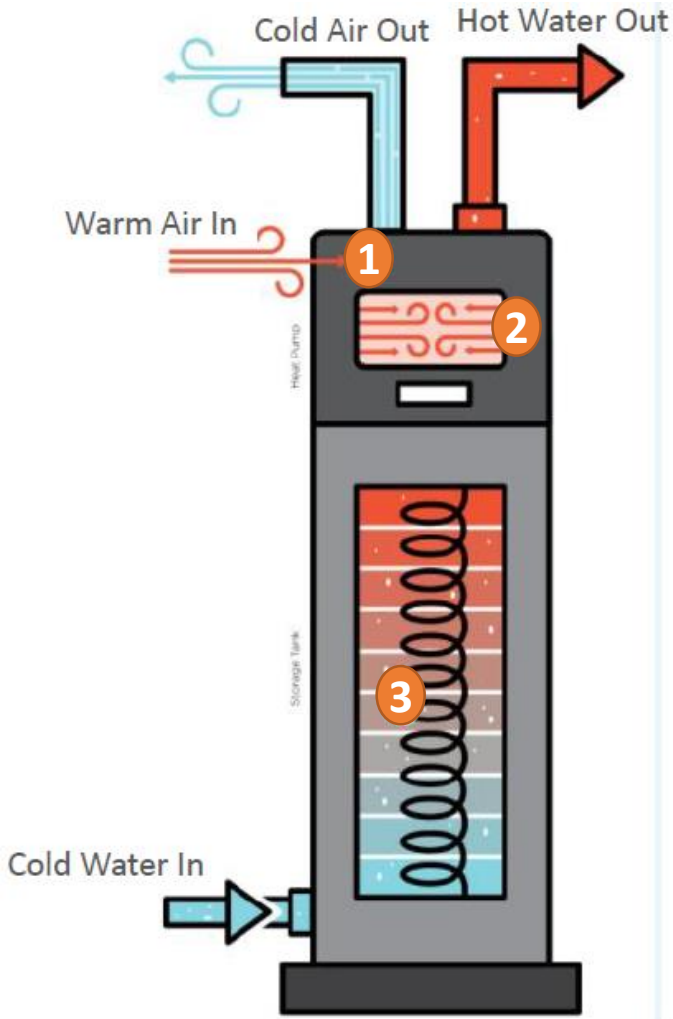
- Highly efficient, proven technology used worldwide



International Adoption of Heat Pumps

Electric Heat Pump Water Heater (HPWH)

- 3 times more efficient than natural gas water heater
- Runs like a refrigerator in reverse
- Ideally located in garage or basement for air flow



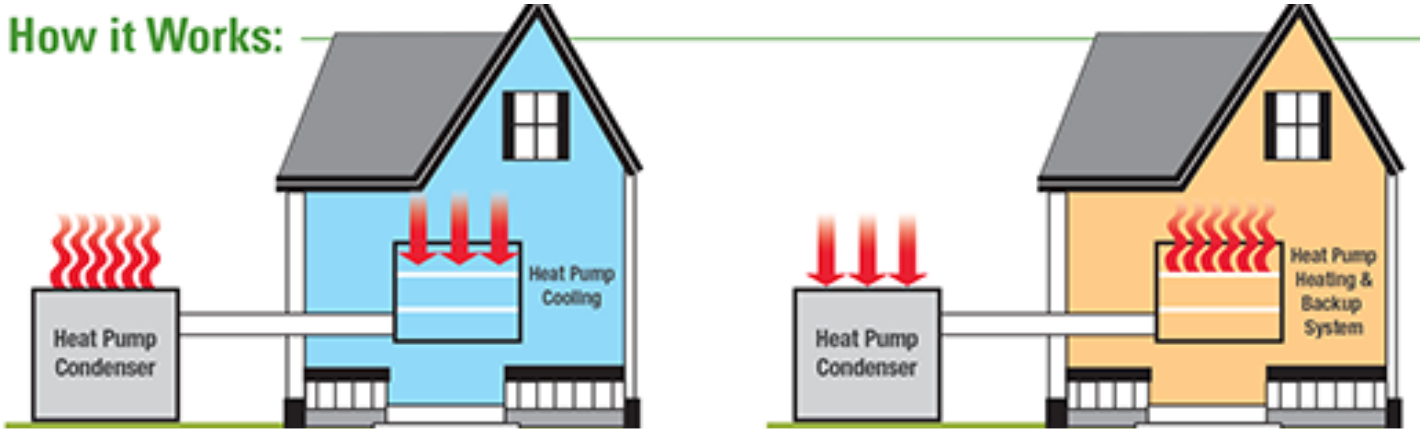
1. Heat pump pulls heat from the air
2. Refrigerant is compressed, increasing its temperature
3. Condenser coils transfer heat to the water

Electric Heat Pump Water Heater (HPWH) Rebate

- When paired with solar, HPWHs can save solar energy as hot water
- Check the age of your water heater
- May need to increase solar system by 1 kW
- May require panel upgrade as HPWH needs 15-30 amp breaker
- Receive up to **$1,500** to replace an existing water heater. Apply online at cityofpaloalto.org/hpwh

Heat Pump HVAC – rebate planned for 2022

- Runs like AC unit, but you get both heating and cooling
- Can be ducted or ductless (central or mini-split system)
- Good solution for Eichlers



During the summer: A heat pump pulls heat from inside your home and moves it outside to provide air conditioning.

During the winter: A heat pump pulls heat from outside and moves it into your home. Heat pumps work in temperatures as low as 30°F and below.

Sign up for the **Utilities Newsletter** to be first to know about the rebate!

Solar & Your Utility Bill

Net Energy Metering (NEM 2)

- All new rooftop solar customers will be served as NEM 2 customers
- Receive a bill credit for exported solar to the grid
- Charged for electricity consumed from the grid

Energy You Produce (Export)

–

Energy You Consume (Import)

=

Net Energy

cityofpaloalto.org/NEM2

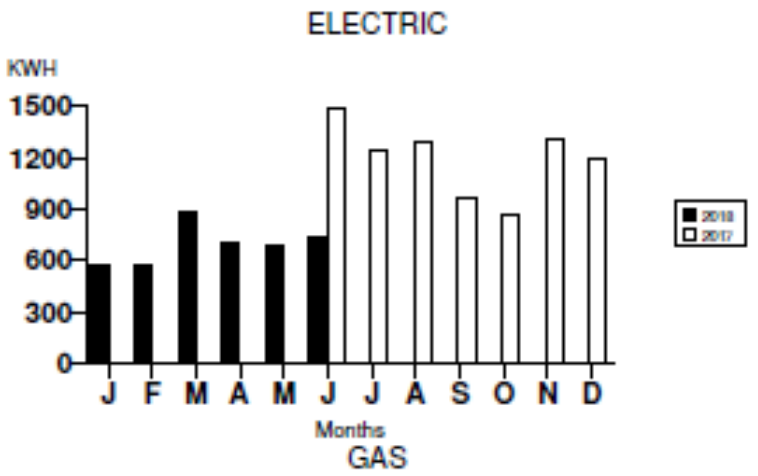
NEM 2 Solar Customer Utility Bill

Billing Details for Current Period

Meter Reading Information (A = Actual Read E = Estimate Read)						
Service	Meter Number	Meter Reads Current - Prior	Reading Difference	Meter Multiplier	Therm Factor	Units
ELECTRIC		3497A - 2769A	728	1		728 KWH
ELECTRIC - Export		3626A - 2571A	1055	1		1,055 KWH
GAS		1250E - 1238A	12	1.017	1.025	12.509 THM
GAS		1274A - 1250E	24	1.017	1.025	25.018 THM
WATER		202A - 189A	13	1		13 CCF

ELECTRIC	
E1 COMMODITY	58.13
E1 DISTRIBUTION	42.97
E1 PUBLIC BENEFITS	2.56
EEC-1 SOLAR EXPORT CREDIT	-78.97
STATE ENERGY SURCHARGE	0.21

GAS	
CARBON OFFSET CHARGE	1.50
G1 COMMODITY CHARGE SUMMER	11.30
G1 DISTRIBUTION SUMMER	24.19
GAS CAP AND TRADE COMPLIANCE	0.98
MONTHLY SERVICE CHARGE	10.32
TRANSPORTATION CHARGE	4.66



Residential Electricity Rates

Energy Produced (Exported)

- Customers are compensated at the **Export Electricity Compensation (EEC-1) rate**
- Current rate: 10.78 ¢/kWh

Energy Consumed (Imported)

- Customers are charged **Electric Service (E1) rate**
- Current two-tiered rates:*
  - 13.76 ¢/kWh for up to 330 kWh
  - 19.37 ¢/kWh for more than 330 kWh

* Based on 30 day billing period and 11 kWh for Tier 1 per day

How to Maximize Your Solar Savings

- Best value comes from maximizing solar used on-site and minimizing the amount exported (i.e. consume energy when you generate it)
- Therefore, shift usage to middle of the day where possible

Next Steps

1. Schedule consultation with The Genie and mention “Sunshares” for the $50 discount at (650) 713-3411 or advisor@efficiencygenie.com **ASAP**

2. Register for discounts at BayAreaSunShares.org by **November 30, 2021**

3. Schedule consultations with SunShares and other solar installers

4. Compare bids using the Solar Calculator Tool: paloalto.wattplan.com/pv

5. Select SunShares installer and sign contract by **December 31, 2021**

6. Install system by **December 31, 2022** to receive 26% Federal Tax Incentive

Additional Resources

Current Programs and Rebates

- City of Palo Alto Energy and Water Programs

Tax Incentive Guides

- Homeowner's Guide to the Federal Tax Credit for Solar Photovoltaics
- Equipment Tax Credits for Primary Residences

All-Electric Home Construction Guides

- Pocket Guide to All-Electric Retrofits of Single-Family Retrofits
- Zero Emissions All-Electric Single Family Construction

Next Webinar – Lawn Conversion, Native Trees and Plants

Wednesday, November 17
6 - 7:30 PM

Register for this webinar to learn how converting your lawn to native trees and plants can help you save money while benefiting the planet. Plus, learn about landscape rebates to help convert your lawn.

Contact Us – Program Administrators

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Leanna Huynh
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Scott Mellberg
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Contact Us – Solar & Storage Installers

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Colin Swan
Website
415-826-2503

Kyle Severns
Website
831-200-8763

Thank you!

Please submit questions using Q&A button