



Local Governments Empowering Our Communities

Resources for Residential Energy Efficiency

November 8, 2018



Bay Area Regional Energy Network

- Collaboration of 9 counties local governments



What's Changing?

- Clean Energy Mandates



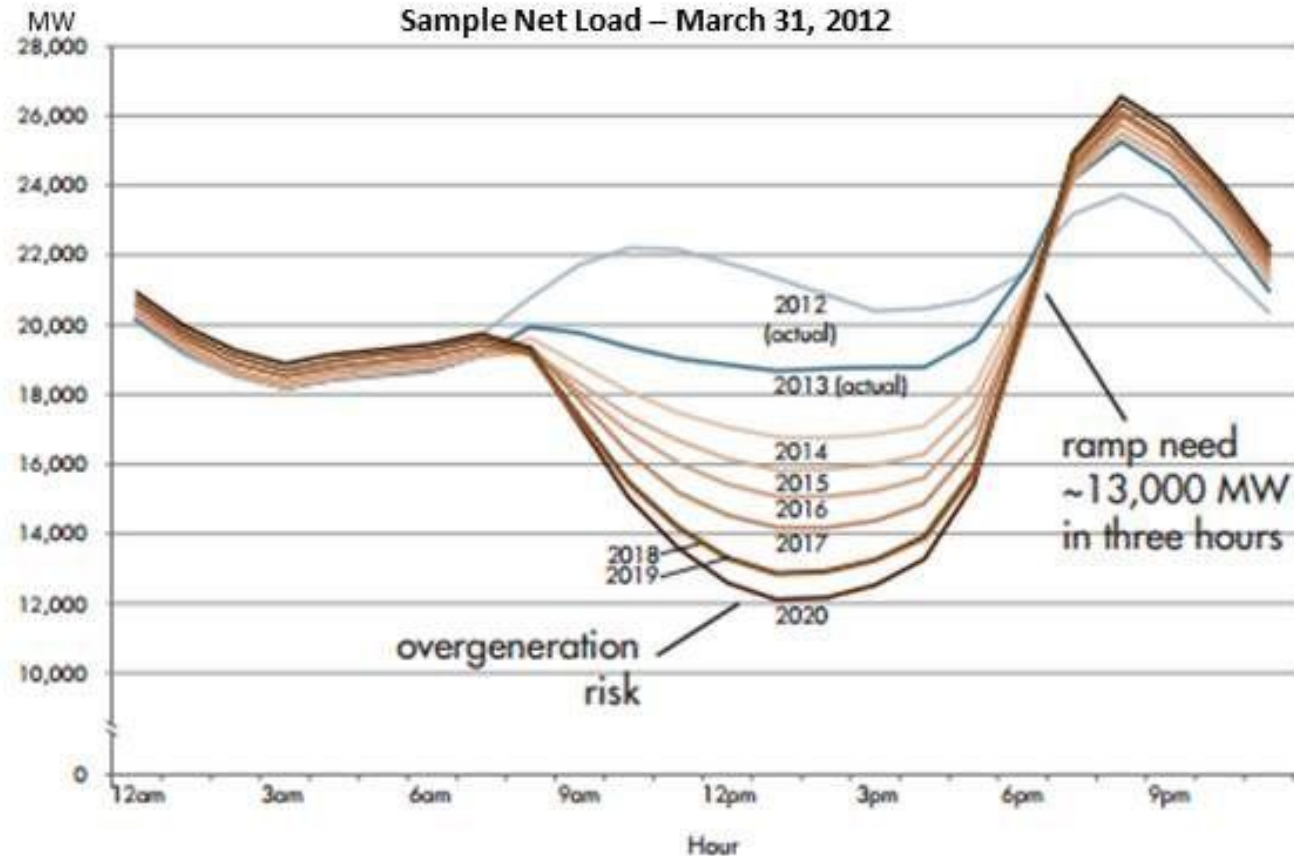
What's Changing?

- Clean Energy Mandates
- Rise of Renewables



Energy Usage Over Time

The duck curve shows steep ramping needs and overgeneration risk



(from the California Independent System Operator)

What Does This Mean for Me?

- Time of Use Rates in 2020
- Rewards for shifting electricity use
- Incentivizing storage



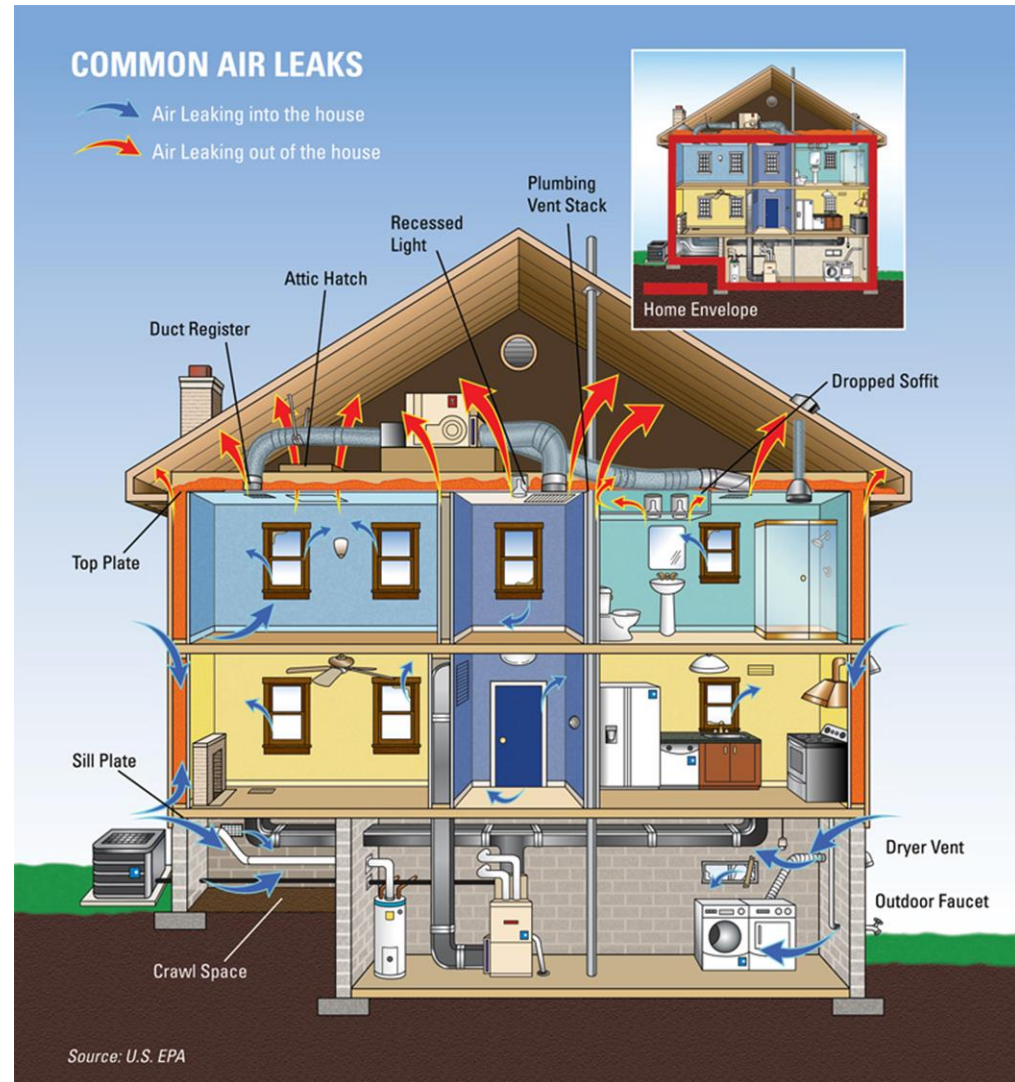
What's Changing?

- Clean Energy Mandates
- Rise of Renewables
- Transition to Electricity



Opportunities for Natural Gas Reduction

- Inefficiencies
 - Drafty homes
 - Incomplete or no insulation
 - Leaky ducts



Examples of Building Issues

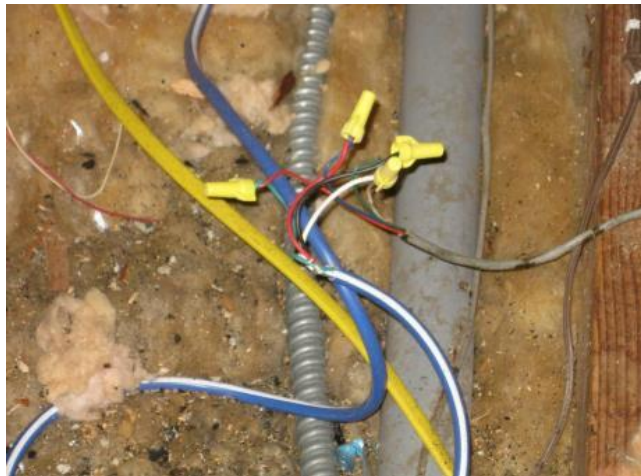
Improper
Insulation



Pest Infestation



Fire Hazards



Exposed Wiring

Leaky Ducts



Common Problems Inside the Home

Moisture in Attic
or Crawl Space

Drafty Rooms

Hot/Cold Rooms

Excessive Dust



Condensation on
Windows

Mold & Mildew

Unsafe Carbon
Monoxide Levels

Old & Inefficient
Furnace or A/C

Every Home Is Different



Home Energy Score



Nutrition Facts	
Serving Size 172 g	
Amount Per Serving	
Calories 200	Calories from Fat 8
% Daily Value*	
Total Fat 1g	1%
Saturated Fat 0g	1%
Trans Fat	
Cholesterol 0mg	0%
Sodium 7mg	0%
Total Carbohydrate 36g	12%
Dietary Fiber 11g	45%
Sugars 6g	
Protein 13g	
Vitamin A 1%	Vitamin C 1%
Calcium 4%	Iron 24%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

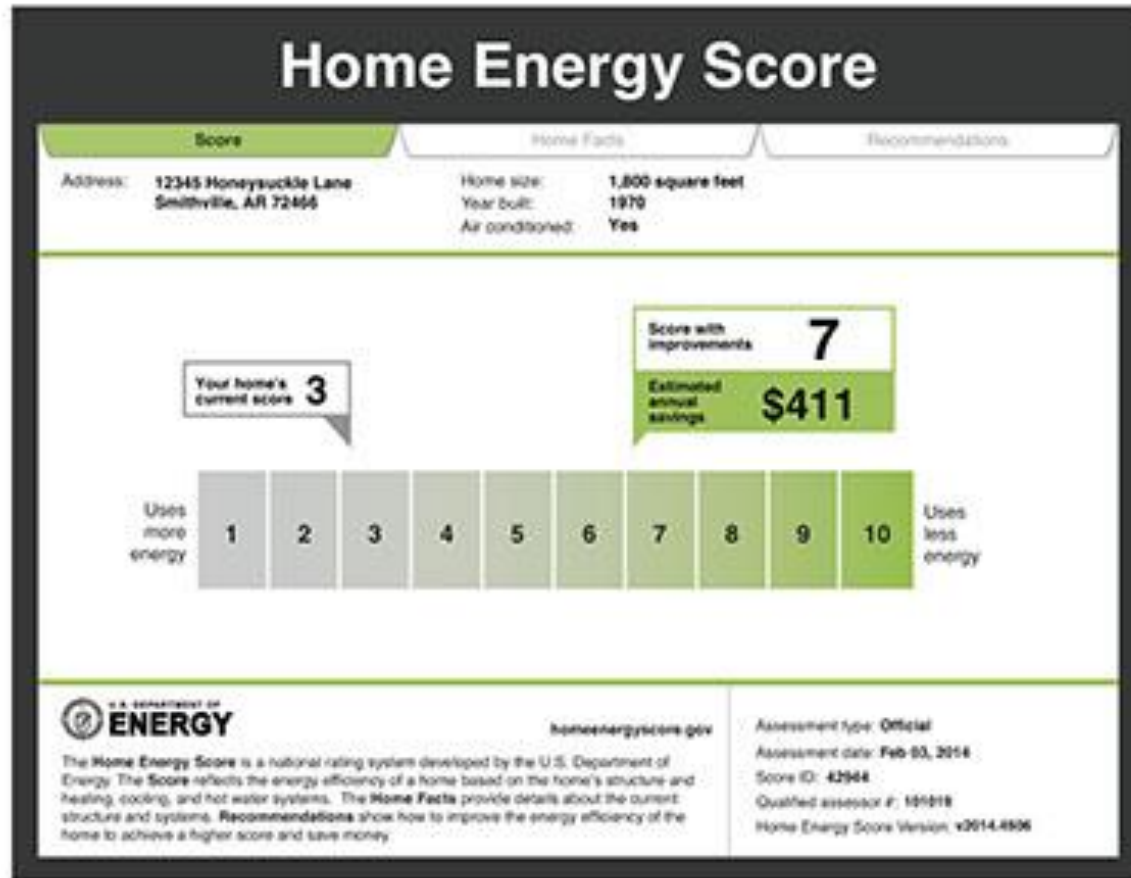
An illustration of a neighborhood of houses on a green lawn. Most houses are light blue and have a number on their roof representing an energy score: 6, 7, 3, 4, 6, 8, 5, 6, 6. One house is highlighted in green and has a white box with a large black question mark above it, indicating an unknown score.

What's your Home Energy Score?
Score yourself a more comfortable home.

U.S. DEPARTMENT OF ENERGY
Home Energy Score

SAN FRANCISCO BAY AREA

Home Energy Score



Score includes

- Scale of 1 to 10
- Home Facts
- Recommendations

\$250 Assessment
Rebate

www.HomeScoreCA.org

BAYREN

Recommendations

RECOMMENDED HOME ENERGY IMPROVEMENTS

BUILDING & CUSTOMER INFORMATION			
CUSTOMER NAME	BUYER or SELLER	PHONE NUMBER	EMAIL
PRIMARY BUILDING ADDRESS		CITY/STATE/ZIP	
# ATTACHED DWELLING UNITS (1-4)	UNIT #/NAME (IF MULTIPLE UNITS)	CONDITIONED FLOOR AREA (SQ.FT)	HISTORIC STRUCTURE (Y/N)
HOME ENERGY SCORE INFORMATION			
SCORE ID	CURRENT HOME ENERGY SCORE (1-10)	HOME ENERGY SCORE ASSESSOR NAME	
ASSESSMENT DATE	ASSESSMENT COST (EXCLUDING FILING FEE)	HOME ENERGY SCORE ASSESSOR NUMBER	

RECOMMENDED MEASURE	RECOMMENDATION DETAILS	GENERALLY RECOMMENDED IF
Attic Insulation & Air Sealing	Insulation \geq R-30 (\geq R-38 in climate zones 1 & 11-16)	Existing average \leq R-11 and accessible attic exists
Wall Insulation	Insulate \geq R-13	Existing =R-0
Floor Insulation	Insulate \geq R-19	Existing =R-0 and accessible crawlspace exists
Whole Building Air Sealing	\geq 15% leakage reduction from vintage table defaults	Homeowner experiences drafts
Duct Repair	Repair may include sealing, insulating, or replacement. See Additional Comments for more information.	Visual inspection reveals duct leakage
Central Gas Furnace	\geq 92% AFUE	Unit \geq 15 years old and AFUE \leq 80%
Central Air Conditioner	\geq 15 SEER / 12.7 EER	Unit \geq 15 years old and SEER \leq 10
Gas Storage Water Heater	EF \geq 0.67	Natural gas unit \geq 10 years old
Gas On-Demand Water Heater	EF \geq 0.82	Customer requests tankless
Natural Gas Wall Heater or Ductless Heat Pump	\geq 70% AFUE (wall heater) \geq 8.5 HSPF / \geq 15 SEER (heat pump)	Unit \geq 15 years old
Fireplace Door and/or Damper	Sealing fireplace	Not existing
Pool Pump	Variable speed	Single speed



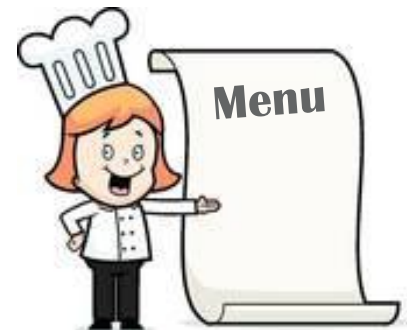
Energy Upgrade California® Home Upgrade?

- Rebate program for homeowners who want to increase the energy efficiency of their home
- Save energy and improve home comfort & performance
- Program funded by utility rate payers (YOU!)
- Help California reach it's climate goals!



Option 1: Home Upgrade

- Pick minimum 3 upgrades from a **menu** of options
- Rebate is based on a point system (\$10/point)
- Incentives from \$1,500 - \$3,000



Example HVAC Package

<i>MEASURE</i>	<i>POINTS</i>
Duct Replacement	65
Attic Insulation & Air Sealing	65
Furnace	70
Air Conditioner	75
	Total 275

275 points =
\$2,750 rebate



Option 1: Home Upgrade

- List of eligible measures (13 total)
- Rebate amount based on measure
- Incentives from \$100 - \$5,000

Measure	2019 Rebate Amount
Operations and Maintenance Measures	
Smart Thermostat (must be listed on the ENERGY STAR qualified product list for Smart Communicating Thermostat)	\$150
Duct sealing \leq 5% total leakage	\$400
Building Shell Measures	
Attic insulation \geq R-44 (includes attic air sealing)	\$0.75 / ft ² (not to exceed \$1,000 per home)
Wall insulation \geq R-13 (2x4 framing) or \geq R-19 (2x6 framing)	\$2.00 / ft ² (not to exceed \$1,000 per home)
Building air sealing \geq 30% total leakage reduction	\$300
Heating and Cooling Measures	
High efficiency central gas furnace \geq 95% AFUE (must replace existing central gas furnace)	\$850
High efficiency central air conditioner \geq 17 SEER (must replace existing central air conditioner)	\$500
High efficiency heat pump \geq 17 SEER / 9.4 HSPF (must replace entire load associated with existing central air conditioner or electric heating system or heat pump)	\$1,000
Water Heating Measures	
High efficiency gas water heater \geq 0.70 EF (must replace existing gas water heater)	\$400
Heat pump water heater \geq 3.24 EF (must replace existing electric or heat pump water heater)	\$1,500
Bonus Rebates	
Combine one or more Building Shell measures with a heating or cooling measure	\$500
Downsize heating and/or cooling system compared to existing system	\$100
Combustion Appliance Safety (CAS) test-out	\$150



Option 2: Advanced Home Upgrade

- Customized based on an energy assessment
- Rebate is based on percent of energy saved
- Incentive \$1,500 - \$5,500
(reduced in 2019)
- Assessment Incentive rebate up to \$300 after upgrade
(no longer available in 2019)



Measure

Measuring Building Performance

Duct Blaster



Blower Door Test



Combustion Safety Test



Air Sealing



Source: U.S. Department of Energy

Insulation



Ducts



Studies of comprehensive energy, health, and safety retrofit programs found that for children with asthma, hospital admissions fell by nearly 85 percent and emergency visits by 68 percent a year after the upgrade.

Appliances



Source: U.S. Department of Energy



Source: U.S. Department of Energy



Participating Contractors



Specially trained in building performance



Vetted through program requirements



Those not meeting program guidelines and best practices are removed



Handle all the paperwork



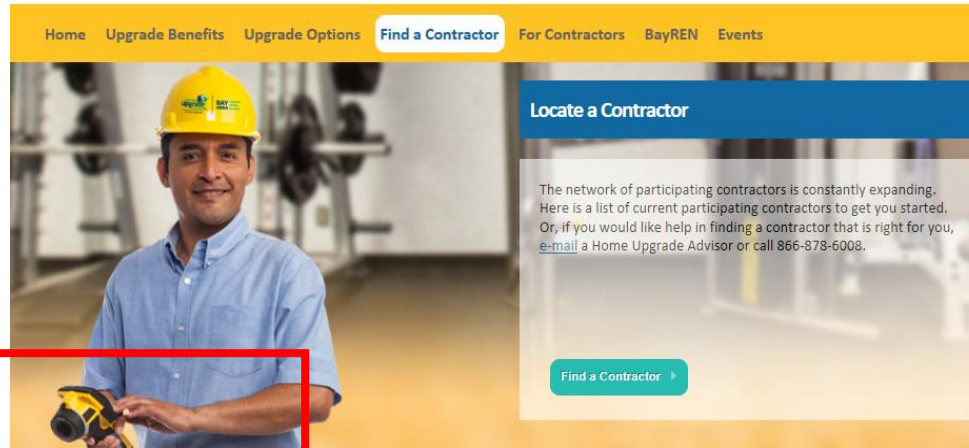
Quality control checks



Safety testing required

Choosing a Contractor

BayAreaEnergyUpgrade.org



The screenshot shows the top navigation bar with links for Home, Upgrade Benefits, Upgrade Options, Find a Contractor (highlighted), For Contractors, BayREN, and Events. Below the navigation is a large image of a smiling contractor in a blue shirt and yellow hard hat. To the right of the image is a blue box titled 'Locate a Contractor' containing text about the expanding network of contractors and a 'Find a Contractor' button.

Search Criteria

Contractor Name

County Served
- Any -

Participating Program
- Any -

Languages spoken (Other than English)
- Any -

Services Provided
- Any -

Locate a Contractor

Independent participating contractors throughout the Bay Area have been specially trained to conduct comprehensive home energy assessments and complete the installations required for Home Upgrade and Advanced Home Upgrade projects. They have received extensive training in building science, combustion safety, and energy modeling through the Building Performance Institute (BPI). BPI is the nation's premier standards development and credentialing organization for residential energy efficiency retrofit work. Participating contractors use advanced diagnostic tools—such as a blower door, duct leakage tester, manometer, and infrared camera—to ensure the upgrade work done in your home will help you maximize energy savings, health and safety, and comfort. Raters may work with Participating Contractors to help a homeowner complete an energy upgrade and receive incentives; however, Home Energy Ratings are not required in order to receive incentives. A Home Upgrade Advisor can assist in choosing a rater or a contractor, or choose from a list of [Participating Raters](#).

Your participating contractor also will help you take advantage of all the rebates you are eligible for and will submit the rebate applications on your behalf. Typically, you can expect to receive your rebate within 4–6 weeks of application approval. Have questions about rebate payments? Call a Home Upgrade Advisor at 866-878-6008.

Displaying 1 - 20 of 118

Different ways to search



Understanding your Financing Options



CREDIT CARDS

High variable interest rates.
Acceptable for short term.
Quick and easy to qualify.

APPROVED
LENDER



REEL: Residential
Energy Efficiency
Loan Program

REEL

Low fixed rates.
Longer loan terms.
No home equity needed.
No fees.



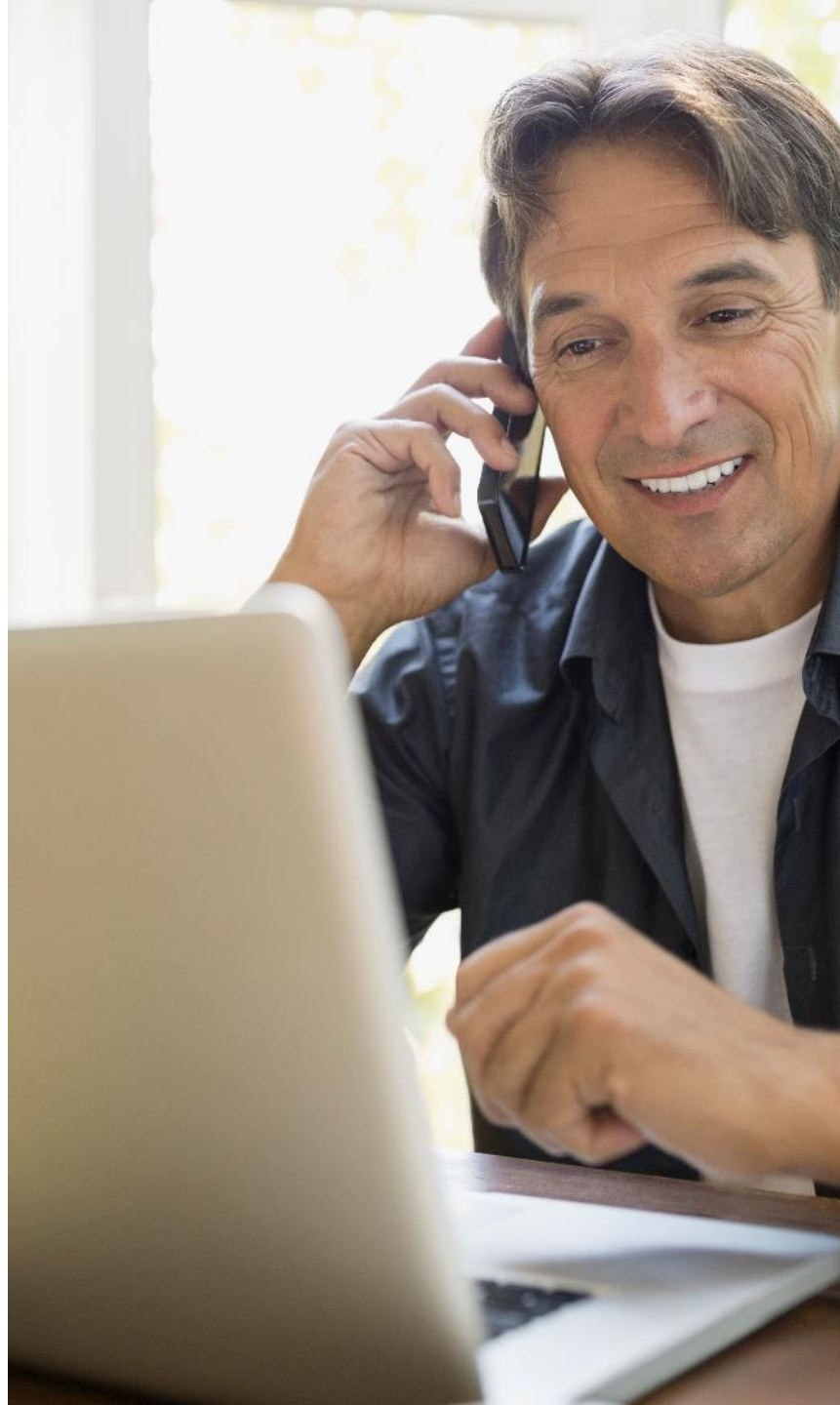
PACE

Longer loan terms
One annual payment.
Payment transfers at sale.
Can finance solar.



MORTGAGE PRODUCTS

Home Equity Line of Credit,
Energy Efficient Mortgages,
and Rehab Loans.



Home Upgrade Advisor

- Free, independent advice for completing your Home Upgrade
- Technical and programmatic experts
- Assistance finding a Participating Contractor
- Refers to complementary programs

(866) 878-6008
www.bayareaenergyupgrade.org

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Where do I start?



Call an Advisor
866-878-6008



Find a Contractor



Visit the website
bayareaenergyupgrade.org

Bay Area SunShares

- Discounts
- Pre-vetted providers
- 3rd party technical support
- Community-wide effort!!



How to Sign Up

If you sign up for more information on:

Solar - The pre-vetted provider that you select will contact you to start your no-cost, no-obligation solar proposal

The EV discount - We'll send you the discount code which you take into the participating dealership.

Your local CCA program - We'll send you educational information along with how to opt up to the 100% renewable energy option.

www.bayareasunshares.org

Sign up by November 15th!

Christina Armor
sunshares@bc3sfbay.org



Thank You!

Feedback

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BayAreaEnergyUpgrade.org

(866) 878-6008

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