



Home Upgrades

Increase comfort and decrease costs

Greening your life



A house is much **more than four walls and a roof** – it's an interactive system made up of many components that influence each other. Just as you take your car in for regular oil changes and tune-ups, maintaining your home's energy performance should be a priority. A top-performing house is healthy, comfortable, and saves you energy and money.

Five Steps: Get Started with Home Upgrades

1 GET TO KNOW YOUR HOME

By looking at your home's performance, you'll be evaluating the weakest links in your home and setting priorities to get the most bang for your buck. Start by looking for any problems or concerns with your home. Is it drafty in the winter or stuffy in the summer? Are particular rooms too hot or too cold? Does a family member suffer from allergies? Are your electric or gas bills too high? Determine which issues need to be addressed first.

2 SELECT A LOCAL CONTRACTOR

Before you dive into making improvements to your home, select a local contractor who is certified to rate or audit your building's performance (see details inside) and arrange for a home performance evaluation. Using tools like blower door tests and infrared cameras, a professional auditor can give you a list of recommended upgrades for your home, including how much energy you can expect to save.

3 SET A BUDGET FOR MAKING HOME IMPROVEMENTS

Now that you've seen the big-picture problems with your house, figure out how much you're willing to spend to improve things. Be sure to factor in utility rebates, incentives for installing solar panels, low-income loan programs, and other financing opportunities (see CEC's flyer *Get Started with Rebates and Incentives*). Calculate the pay-back period for big-ticket improvements by estimating how much you'll save annually on your utility bills.

4 MAKE UPGRADES TO IMPROVE PERFORMANCE

Once you've decided which improvements to make first, hire professionals to do the job. In some cases, the home performance contractor who conducted your energy audit can make actual home improvements—and can then test those improvements to make sure your home is now more efficient. In other cases, you may work with one person to conduct the audit and then several contractors to perform different services.

5 ENJOY YOUR HEALTHY HOME

Enjoy lower utility bills and increased comfort and safety. Expect reduced maintenance costs and a higher resale value. Breathe easier knowing that your home has improved air quality and fewer allergens. Best of all, know that you're no longer wasting energy and you've substantially reduced your carbon footprint.

Features of a high performance home

If you're considering making improvements to your home to lower your energy bills or fix comfort problems, it is important to first understand how the many aspects of your home work together. Home performance is a comprehensive, whole-house approach that addresses energy efficiency and comfort, as well as environmental protection and reduction of your carbon footprint. Home performance looks at how improvements throughout your home can work together to obtain the best results at the lowest cost.

AIR SEALING AND INSULATION

Sealing air leaks is a critical first step to improving the efficiency of your home. Your contractor will typically use a 'blower door test' to identify the leaky spots in your home. Main problem areas tend to be attics and basements – specifically around joists, pipes, chimneys or recessed lights. Leaks can be sealed with caulk or expanding foam.

The second step is to make sure you have the proper amount of insulation. In the attic, insulation should be at least 8 inches (using cellulose fill) to 12 inches (using fiberglass batting). If you have a basement or crawlspace, you may want to insulate the walls or install a moisture barrier (plastic sheeting) to prevent drawing moist air into your home. Insulation must be properly installed to be effective - without gaps, voids, or compression and in full contact with the interior surface. Also be sure to seal around doors and windows in the main living areas of your home to eliminate drafts.

HEATING AND COOLING

If your heating or cooling systems are more than ten years old, or sized too large for your home, upgrading to a more efficient or smaller system is a guaranteed way to save energy and money. Look for high efficiency ratings (AFUE 90+ for furnaces and SEER 14+ for AC) and the Energy Star label. Energy Star is a partnership between the U.S. Environmental Protection Agency and the Department of Energy that qualifies both efficient appliances and efficient buildings. Check out energystar.gov for more information.

A programmable thermostat will also help keep heated or cooled rooms at the proper temperature in a more efficient manner. Again, look for the Energy Star label.

DUCTS

If you have forced heat or air conditioning, ducts deliver treated air from those systems to the rooms where you live. If your ducts have holes, gaps or tears, you may notice that some rooms never feel comfortable no matter at what temperature you set the thermostat. In this case, much of that treated air may be escaping into the attic or walls, and taking your money with it! Your rater or contractor can perform a 'duct pressure test' to determine where leaks are occurring. They can also make recommendations on sealing and insulating ducts with the proper materials. Another option is to condition the space around the ducts (i.e. the attic).

APPLIANCES AND LIGHTING

Large appliances such as refrigerators and dishwashers, as well as electronics and lighting, account for most of the energy consumed in Santa Barbara's homes. Your contractor can help you identify old and inefficient appliances that are in need of replacement or repair. In general, appliances over ten years old should be replaced. When purchasing new appliances, electronics, light bulbs or fixtures, look for the Energy Star label and be sure to apply for rebates from your local utility. Check out CEC's brochures, *Get Started with Better Lighting*, *Get Started with Saving Energy*, and *Get Started with Rebates and Incentives*.

WHEN TO GO SOLAR

After you've upgraded your home with measures that will reduce your energy demand and save the most money on your utility bills, your contractor may run another set of tests to see the differences made and to ensure quality installation. Only after you've reduced the amount of energy consumed by your home to the maximum extent should you begin to think about adding solar panels. Keep in mind that the less energy your home uses, the smaller the solar array needs to be. When you are ready, check out CEC's brochure *Get Started with Going Solar*.

Qualified professionals

Several qualified home performance professionals are located in the tri-counties area. Be sure to do your homework, shop around, get references, and know what services you are looking for before allowing any professional into your home.

ENERGY AUDITORS

Many consultants offer energy auditing or eco-auditing services. The services offered by these professionals vary greatly, and unless they are accredited through one of the certifying bodies listed below, services may vary.

Contractors Association (cbpca.org), CalCerts (calcerts.com), or the California Home Energy Efficiency Rating Services (cheers.org). Nationally certified raters typically go through Residential Energy Services Network (natresnet.org). These certifying bodies list qualified raters on their webpages.

HOME PERFORMANCE CONTRACTORS

These professionals can perform testing services, provide detailed efficiency reports, and perform the suggested upgrades. Look for someone who has obtained certification through the California Building Performance Contractors Association (CBPCA) or an affiliate of the Building Performance Institute (BPI). Certified home performance contractors undergo third-party quality assurance testing to ensure they aren't suggesting unnecessary efficiency upgrades.



HERS RATERS

Home Energy Rating System (HERS) raters can provide testing services and a detailed list of suggested efficiency measures, but they don't typically perform the upgrades. In California, HERS raters are certified through the California Building Performance

In the Central Coast region, the following **local building performance contractors and HERS raters** are familiar with the Community Environmental Council's mission and are available to assist you:

Company	Certifications/Services	Phone	Website	Location
Advanced Home Inspection Services	CalCerts HERS	805.934.8486	advhminspection.com/home.htm	Santa Maria
Allen Associates	CBPCA Home Performance CHEERS HERS	805.884.8777	dennisallenassociates.com	Santa Barbara
Breathe-Right-Air	CalCerts HERS	800.400.2118	breathe-rite.com	Newbury Park
Central Coast Green Homes	PG&E Home Performance	805.704.6030	centralcoastgreenhouse.com	San Luis Obispo
Complete Green Solutions	CBPCA Home Performance	909.609.6620	cgsenergy.com	Santa Barbara
DeVries Building Consultants	CHEERS HERS	805.898.1123		Santa Barbara
Energy Code Compliance	CHEERS HERS	805.969.1301	energycodecompliance.com	Santa Barbara

Financing your home performance upgrades

Many financing opportunities and incentives are available to help offset the upfront costs associated with improving your home's energy performance.

ENERGY EFFICIENT MORTGAGE

An energy efficient mortgage (EEM) is a type of loan that allows a homebuyer to borrow money to help pay for energy efficiency improvements or upgrades. EEMs can be used to purchase an existing home that is already energy efficient, or to make energy efficiency improvements when buying or refinancing a non-efficient home. The cost of the improvements can be spread out over the period of the mortgage or loan.

In some cases, energy efficient loans offer a lower interest rate or lower down payment requirements. In order to qualify for an EEM, you must obtain a HERS rating and detailed inspection report, or a green building certification. The financed upgrades must prove to be cost-effective; in other words, the monthly utility bill savings realized from the efficiency upgrades must be greater than the added monthly cost of the EEM. Total savings over the life of the loan must also be greater than the project's total costs. EEMs can typically be secured through national lenders like Fannie Mae or HUD. Locally, try Central Coast Lending for more information. Contact them at centralcoastlending.com or **805.543.LOAN**.

ENERGY UPGRADE CALIFORNIA

Home performance upgrades are now more affordable with rebates from Energy Upgrade California (EUC), a program offered by the state of California and investor owned utilities.

The Basic Upgrade Package includes seven required measures that together can reduce your energy consumption by an average of 10%. The fixed incentive is \$1,000. Measures include air sealing, attic insulation, duct sealing, hot water pipe insulation, thermostatic shower controls, combustion safety testing, and smoke detector/ carbon monoxide detector testing.

The Advanced Upgrade Package is a customized solution for your home, based on a Home Performance Assessment. Incentives range from \$1,250 - \$4,500. Eligible measures include installation of a high efficiency furnace, air conditioner or water heater, new energy efficient windows, wall insulation, variable speed pool pumps, and cool roofs.

You must work with a participating contractor to take advantage of these rebates. Check out energyupgradeca.org for more information.

EMPOWER

EmPower is a financing program that brings together local lending partners to offer home upgrade loans in Santa Barbara, Ventura and San Luis Obispo Counties to help you improve the comfort, health and efficiency of your home. EmPower is a partner with Energy Upgrade California, which allows homeowners to take advantage of high-dollar utility rebates and use qualified participating contractors to install eligible improvements. EmPower takes the ease of upgrading your home one step further, by offering home upgrade loans on top of the rebates provided through EUC.

The program offers unsecured loans that do not affect home equity, with interest rates as low as 5.90%, and flexible terms to help you spread the cost of your project over a period up to 15 years. Homeowners are able to select a Basic or Advanced upgrade package, which corresponds with the EUC program packages. Homeowners also have the option of adding in solar as part of the program package.

As with EUC, you must work with a participating contractor to take advantage of the emPower program.

Check out empowersbc.org for more information.

PACE

Property Assessed Clean Energy, or PACE, is a public-private partnership that can help homeowners finance energy efficiency energy efficiency, water conservation and renewable energy generation improvements through a voluntary assessment. This voluntary assessment creates a lien on the property which is then repaid over time through the homeowner's property tax bill.

Two companies offering PACE financing in California are CaliforniaFIRST and HERO. PACE financing is not available in all California cities and counties. Check energycenter.org/policy/property-assessed-clean-energy-pace to see if PACE is an option in your neighborhood.



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