

Additional solar resources



Federal initiative: Million Solar Roofs

The U.S. Department of Energy has set a goal of seeing solar energy systems installed on one million roofs in the U.S. by 2010. The Community Environmental Council is facilitating the construction and installation of at least 750 of these systems by coordinating a Million Solar Roofs Partnership, which brings together business, government, the energy industry, and community organizations to further solar initiatives in our region. The City of Santa Barbara participates in the partnership, and this brochure is one of the partnership's products. Review other materials -- including a detailed report on overcoming local barriers to solar installations -- at www.FossilFreeBy33.org.



Statewide initiative: Go Solar California

The state of California has set a goal of creating 3,000 megawatts of new, solar-produced electricity by 2017. For a complete list of resources for homes, schools, businesses and government buildings, visit www.gosolarcalifornia.ca.gov.

City of Santa Barbara solar publications

- ✓ *Solar Energy System Design Guidelines and Recognition Program*
- ✓ *Passive Solar Design Guidelines and Recognition Program*
- ✓ *Solar References and Resources*
- ✓ *Which Solar Energy System Projects are Subject to Design Review?*

City of Santa Barbara solar recognition program

Projects that follow the City of Santa Barbara's Solar Design Guidelines are eligible for a Solar Energy System Recognition Award. Each year, award recipients receive a certificate and sun-shaped plaque at a City Council hearing held in June.

Energy efficiency resources

Most solar installers will agree that, to maximize the benefit of a solar installation, you should first trim down the building's energy use and make the building as efficient as possible. The City of Santa Barbara and the Community Environmental Council are helping local residents and businesses become more energy efficient through a partnership between local government agencies and Southern California Edison. For details visit www.southcoastenergywise.org



Community Environmental Council

CEC is one of the oldest and most established environmental organizations in southern California, having been founded in 1970 as a result of the oil spill off Santa Barbara's shores. Over the last three decades, CEC has pioneered real-life solutions for the community in the areas of pesticide reduction, organic agriculture, green building, hazardous waste collection and recycling.

Today CEC is largely focused on eliminating the use of fossil fuels in our region within the next generation. Promoting solar installations is one of 10 strategies that CEC has outlined to reach this aggressive goal. For information on the campaign or to get involved, visit www.FossilFreeBy33.org.

Community Environmental Council • (805) 963-0583 • www.FossilFreeBy33.org
 City of Santa Barbara • (805) 564-5578 • www.santabarbaraca.gov

Get started with solar!

Solar photovoltaics and solar thermal systems are great options for the environment and potentially for your pocketbook. Rebates and tax credits can help bring down the initial cost of a system significantly and in many cases make it possible to start saving money with your new system right away.

10 steps to getting started



1 Learn about solar technologies.

For general information about the different solar technologies, visit the Energy Efficiency and Renewable Energy office of the U.S. Department of Energy at: www.eere.energy.gov/solar/. Or visit the California Solar Center for more hands-on information: www.californiasolarcenter.org.

2 Look at your utility bills.

There are many reasons to go solar, but from a purely economical standpoint, it can often pencil out if your electricity bill is over \$65 a month, or if you consistently use more than the baseline amount of electricity and pay second, third or fourth tier rates. (If your electricity

bills are low but your natural gas bills are high, you may benefit from adding solar and converting to electrical appliances, or installing a solar thermal system to heat water.) Using your customer number on your electric bill, log on to www.sce.com and request a history of your electrical usage.



3 Assess the most efficient location for panels.

Figure on needing 100 square feet of panels per kilowatt (kW). A typical home installation is 2.5 or 3 kW AC, so you would need about 300 square feet for panels. You will need unshaded roof or ground space facing South, West or East, with the panels angled between 5 and 30 degrees.



4 Consider the aesthetics.

While a state mandate prevents architectural boards and homeowners associations from restricting the installation of solar panels based solely on aesthetics, we strongly encourage you to consider your system's visibility to the neighborhood and visual integration with existing buildings. Consider installing "building integrated technologies" (such as thin panels that act as roof tiles) or using framing and mounting techniques that maximize a system's visual integration. To review the City of Santa Barbara's Solar Energy System Design Guidelines, visit www.santabarbaraca.gov/Resident/Home/Forms/design_guidelines.htm. Also consider designing a system that is eligible for a City Council recognition award.

Community Environmental Council • (805) 963-0583 • www.FossilFreeBy33.org
 City of Santa Barbara • (805) 564-5578 • www.santabarbaraca.gov

5 Talk to a contractor who specializes in solar. Installers will assess your location and suggest the size and type of system that is best for you. We recommend getting bids from at least two established local contractors with proven track records. Some things to look for: local affiliations and memberships (such as the Santa Barbara Contractors Association and Better Business Bureau), proper licensing (go to www.cslb.ca.gov/ to check on a specific contractor) and certification from the North American Board of Certified Energy Practitioners. Domestic hot water systems need to be certified by the Solar Rating and Certification Corporation (SRCC) – the national ratings lab for all hot water systems.

6 “Reserve” your rebate funding from the state. As soon as you’ve decided to proceed, fill out a form applying for the state rebate program. Because the pool of rebates is limited to an annual cap, this allows the state to earmark your money. This reservation process can take four to six weeks or longer and is handled by most local installers. You will receive a reservation notice, which will guarantee your rebate as long as the system is installed within nine months.

7 Install the solar system and get your permits. Photovoltaic systems and hot water systems require a building permit, which would be handled by your contractor. Systems that are mounted on the ground

rather than the roof may require a land use permit and may need to be approved by the county or city architectural review board.

8 Claim your state rebate. After the building permit has been signed off, claim your reserved rebate. Getting your check can take up to three months, however many installers will handle this application process for you and float the rebate, automatically deducting the rebate from your final bill.

9 Complete interconnection with the utility. Once you’ve received signoff on the building permit, the utility interconnection process can be finalized. Within five to ten business days after the utility company receives a completed application, you get permission to operate your solar system. Your solar electric installer will handle this process.

10 Apply for your tax credits. Tax incentives change from year to year. Under current tax code, when you file your federal income tax return you will receive a tax credit of 30 percent of your out-of-pocket, after-rebate costs for any solar system installed in 2006 or 2007. The tax credit is capped at \$2,000 for homeowners, but businesses (including home-based businesses) can take the full 30 percent. You are also eligible for an exemption on your state property tax.

Finding a solar installer

Installers can provide you with complete information about current costs and the details of installation. We suggest you talk to at least two installers.

Above the Waterline
(specializes in marine systems)
(805) 455-8444
www.abovethewaterline.net

Advanced Solar Electric
(818) 889-9033
www.advancedsolarelectric.com

California Solar
(805) 522-2747
www.californiasolar.com

California Solar Electric Company
(805) 640-7903
www.californiasolarelectric.com

Cooperative Community Energy Corporation
(805) 636-6086
www.ccenergy.com

Deventec
(805) 544-6786
www.deventec.com

Dexter’s Solar Radiant Energy Services
(805) 884-5188

Mac’s Solar
(805) 682-3386

REC Solar
(805) 528-9705
www.recsolar.com

R&M Technologies *(specialize in battery back-up and off-grid systems)*
(805) 563-2434
www.rmtec.net

Solar 101
(805) 969-1301
www.solar101.com

The Solar Energy Company
(805) 962-8898
www.thesolarenergycompany.com

Solar Power Systems
(805) 346-1766
www.solarpower-sys.com

Solforce
(805) 695-0015
www.solforce.com

SunRay Solar Electric
(805) 689-1479
www.sunraysb.com *(coming soon)*

URS Corporation
(specialize in large systems)
(805) 964-6010
www.urscorp.com

Financing your solar installation

State rebate for small systems

As of October 2006, the California Energy Commission is offering a rebate of \$2.50 per watt for photovoltaic systems sized below 30kW through its Emerging Renewables Rebate Program. Rebates are available for systems installed within the Southern California Edison, Pacific Gas & Electric, and San Diego Gas & Electric service areas and may be reduced or increased for special situations such as affordable housing projects. Go to www.gosolarcalifornia.ca.gov for details.

	Type	Incentive	Cap	Incentive Period	Eligible Technologies
Federal Tax Credit	Residential	30%	\$2,000	Jan 2006 - Dec 2007	Photovoltaics, solar water heating (excluding pool heating), concentrating solar power
	Commercial	30%	None	Jan 2006 - Dec 2007 Credit reduces to 10% in 2008	Photovoltaics, solar water heating (excluding pool heating)
State Rebate	Any system <30kW	\$2.50/Watt	30 kW	Uncertain	Photovoltaics, solar water heating (amount to be determined)
State Rebate	Any system >30kW	\$2.50/Watt	1 MW	Uncertain	Photovoltaics, solar water heating (amount to be determined)

State rebate for large systems

As of October 2006, the California Public Utilities Commission offers a rebate of \$2.50 per watt for photovoltaic systems sized above 30kW through its Self-Generation Program. The rebate is subject to change. Go to www.gosolarcalifornia.ca.gov for details.

Federal tax credit

The federal Energy Policy Act of 2005 provides incentives for homeowners and businesses to install solar by providing a federal tax credit. Between January 2006 and December 2007, homeowners can receive a 30% tax credit, capped at \$2,000, for installing photovoltaic or solar domestic water heating projects. Businesses can receive a 30% tax credit on photovoltaic, solar thermal, concentrating solar power, and solar hybrid lighting projects with no cap on the tax credit.

Estimating the payback period

You will often hear the word “payback period” in relation to solar power. This is the length of time it takes to pay for your solar system through your energy bill savings. Calculate it with the following formula:

$$\text{Payback} = \frac{\text{System cost}}{(\text{monthly energy bill savings} \times 12)}$$

For example, if your system cost \$20,000 and it saves \$200 off your electricity bill each month:

$$\text{Payback} = \frac{\$20,000}{(\$200 \text{ a month} \times 12)} = 8.3 \text{ years}$$

This is an oversimplified calculation and does not include financing costs or escalating electricity costs from your utility, or other important considerations. A more complete calculation can be performed at www.consumerenergycenter.org/renewables/estimator.

Solar loans

Santa Barbara County Federal Credit Union provides a solar financing option to its members through its no hassle solar loan program. The program provides a home equity line of credit up to \$15,000 at an APR currently as low as 7.00% (as of October 2006, and subject to change.) To become a member of the credit union, you must be an employee (or a relative of an employee) of a business or organization that is a membership qualified employer. Any business can apply for membership at www.sbcreditunion.com.

Design review

In the City of Santa Barbara, projects that could be subject to design review tend to be those that have the potential for visual or historic significant impacts, ie:

- ✓ The system is proposed on a site with a historically significant structure.
- ✓ The project has more than 1,000 sq. ft. of panels, with placement and design that may create potentially significant visual impacts.
- ✓ The system is proposed in a Special Design District, with placement and design that may create potentially significant visual impacts.
- ✓ Design Review has been triggered for some other aspect of a larger project, which includes the solar energy system.