

How to Go Solar in Las Cruces

How to Go Solar in Las Cruces provides information on solar energy and how to take advantage of southern New Mexico's abundant sunshine. This publication provides residents, business owners, solar developers, and installers with a complete list of solar essentials. Here you can learn about solar technologies, financing, rebates, incentives, selecting contractors and your rights.

Considering Solar — overview

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Many people are interested in integrating solar technology into their homes and/or businesses but don't know where to begin. Here are some factors to consider before deciding to install solar.

1. Decide what you will use solar for: hot water, electricity, or pool heating. Each of these has a different kind of solar "panel," although you can use the PV (electric) panels to power an electric water heater. Separate solar water heating panels are used with both gas and electric water heaters, since you still need a backup system.

2. Consider energy efficiency improvements first. Have you had an energy audit to tell you what improvements will save you the most energy? With this information, and appropriate home improvements, you can reduce your electric and water heating load so the solar you do install can be smaller...and cheaper!

3. Where will the solar panels go? You will need to decide if the panels should go on the ground, on a pole or on your roof. This will depend on the layout of your property, cost, aesthetics, etc. You need

to have an unshaded location where PV panels face south or southwest to maximize the electricity produced. Pool heating mats or coils have more flexibility for locating.



Solar Location

Since many solar installations are on your roof, and it's often the sunniest place, you need to think about a few roof issues before going solar. Solar panels are guaranteed for 25 to 30 years and would need to be removed for a complete roof replacement, so if you think your roof will need to be replaced in the next 10 years, it's a good idea to replace it BEFORE you install solar. If

your flat roof is sound and you only anticipate having to recoat it periodically, this can be done with the panels in place. Solar installers are careful about filling in any holes they need to drill in the roof to mount solar panels so there should not be any leaks. If you are concerned about a roof warranty being affected by installing solar panels, you should contact your roof

company before installing the panels. Solar panels must be installed to meet local wind codes and thus are anchored to the roof beams of the house, shed, garage, or other building, so they will not blow away or damage the roof. The inspection of the installation by the city will assure that all local codes are being complied with.



City of Las Cruces
MOUNTAINS OF OPPORTUNITY

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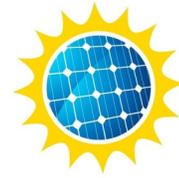
Size and costs of a solar installation

1. Review your electric bills to determine the potential size of a PV system to discuss with a solar installation company. You may want to look at one of the many online solar calculators to get some idea of how much solar you could put on your property and what it could produce.
2. Research financing options. You now have many choices, including leases, loans with various initial payments, home equity loans, etc.
3. Contact local solar installers for free quotes. Be sure to get all your

questions answered, especially concerning warranties, maintenance, and all financing options they offer. Remember, if you hire an installer from Albuquerque or Tucson, they will be that much further away if you need service on your system. Be sure the installer gets a permit, too!



Additional Resources:
[Consumer Solar Checklist](#)



Solar-Estimate

Solar-Estimate.org is one of the first web-based solar cost and savings estimator in the U.S. This site offers consumers with a financial analysis so that they might get an idea of the cost of installing solar panels and likely savings before speaking with solar companies.

Choosing a Solar Contractor

**IT'S IMPORTANT TO
MAKE SURE YOUR SOLAR
CONTRACTOR IS
PROPERLY LICENSED!**

With approximately 310 days of sunshine annually, New Mexico has established itself as a leader in the solar industry. Since many local, state, and federal government entities provide incentives to home and business owners to install solar, it is important to

hire a licensed contractor who understands both the technical aspects of solar systems installation, as well as incentives available to the home or business owner.

The New Mexico Regulation and Licensing Department

The [New Mexico Regulation and Licensing Department](#) plays a very important role in ensuring that all contractors who conduct business in the solar industry are properly licensed. The Registrar also ensures that contractors meet all regulatory, experience, and training requirements necessary to protect the public from poor workmanship or other unscrupulous activities. It's best to have a licensed, professional solar contractor install the system.

The New Mexico Regulation and Licensing Department includes these among its tips for consumers:

- Review a contractor's license at http://www.rld.state.nm.us/look_up_a_license.aspx
- Ask for references and check them out.
- Obtain written estimates from at least three contractors.
- Obtain a detailed list of the work to be performed.
- Obtain necessary permits, which are the homeowner's responsibility.
- Don't pay for a job in cash.

Additional solar licensing information for New Mexico and the rest of the U.S. is available in the [Solar Licensing Database](#) maintained by the Interstate Renewable Energy Council (IREC). In the database, licensing requirements for installing photovoltaic and solar thermal systems are documented for each state.

North American Board of Certified Energy Practitioners



The [North American Board of Certified Energy Practitioners](#) (NABCEP) is a volunteer board of renewable energy stakeholders made up of representatives from the solar industry, NABCEP certificate holders, renewable energy organizations, state policy makers, education institutions, and trade organizations. NABCEP's mission is to support and work with the

renewable energy and energy efficiency industries, professionals, and stakeholders. Board members have significant experience in the solar energy industry. NABCEP looks to develop and implement quality credentialing and certification programs for solar installer.

The NABCEP [PV Installation Professional Certification](#) is a voluntary program that provides a set of national standards through which PV installers can distinguish themselves from competition. NABCEP PV installer certification gives the public a measure of protection by providing another set of

criteria to judge solar installer competency. It is not intended to prevent qualified individuals from installing PV systems nor to replace state licensing requirements. The NABCEP [Solar Heating Installer Certification](#) program is a voluntary program that provides a set of national standards through which solar thermal installers can distinguish themselves from competition. NABCEP solar thermal installer certification gives the public a measure of protection by providing another set of criteria to judge local installer competency. It is not intended to prevent qualified individuals from installing solar thermal systems nor to replace state licensing requirements.

Finding a Solar Company

It is recommended that customers talk to at least three licensed solar installers. Evaluate each installer's experience since experienced installers know the costs involved to install your system correctly and they know local code and permitting requirements.

Here are six must-ask questions:

1. How long have you been in business? How much solar has your company installed to date? Consider selecting a company that has been actively installing solar for at least three years.
2. Are you NABCEP certified? Ask for proof.
3. Are you licensed and insured as a solar installer or electrician in my state? Ask to see the installer's license and proof of insurance.
4. What are the names of the module and inverter manufacturers whose products you use? What are their warranties? Can we go over the racking, mounts and fasteners that will be used? Research the information provided to you.
5. Can I have the names and contact information of three references? Check them out.
6. Can I see some photos of systems you have installed that are like the ones you will be installing on my house? If they can't show you any photos, chances are they haven't done much in the way of actual work.

Consumer Protection

The [Office of the Attorney General's Consumer and Environmental Protection Division](#) is responsible for protecting New Mexico's residents, economy, environment, and natural resources.

The Solar Energy Industries Association (SEIA) is the voice of the solar industry at the federal and state level, advocating for the protection and expansion of the U.S. market for all solar technologies. They represent the entire solar industry, and in an effort

to protect consumers and develop best practices, they created guiding principles in a booklet entitled [SEIA Solar Business Code](#). The Code is voluntary, but it has been agreed to by all SEIA members.

In addition, any complaints about fraudulent or deceptive acts by solar installers should be reported to the [Better Business Bureau](#), the [New Mexico Register of Contractors](#), or the [New Mexico Attorney General's Consumer Fraud unit](#).



ADDITIONAL RESOURCES

[The Solar Foundation - A Beautiful Day in the Neighborhood:](#)

[Encouraging Solar Development Through Community Association Policies and Processes](#)

[Clean Energy Consumer Bill of Rights](#)

Tax Credits, Incentives, and Rebates

FEDERAL TAX CREDITS

The [Investment Tax Credit](#) (ITC) is a 30 % federal tax credit for solar systems on residential and commercial properties that is in effect through 2019, after which it will fall to 26 % in 2020, 22 % in 2021 and 10 % in 2022. The ITC allows any homeowner or commercial entity which purchases (not leases) a solar system or other solar device to reduce their federal income tax liability by 30% of the documented costs of the system. This is a tax CREDIT, not a deduction. The payment is received separately from any tax returns you might be expecting.

NM SOLAR MARKET DEVELOPMENT TAX CREDIT, or Solar Tax Credit (STC), ended December 31, 2016.

SUSTAINABLE BUILDING TAX CREDIT or [SBTC](#) is an income tax credit to encourage private sector de-

sign and construction of energy efficient, sustainable buildings for commercial and residential use. The tax credit is based on third-party validation of the building's level of sustainability.

NM NET METERING - When you put solar panels on your roof, you want to make sure you get credit for the power your system generates. New Mexico has a net metering policy that credits you for the extra electricity your system produces and allows you to use those credits when your system doesn't generate enough power. The rates change monthly and can be found in [EPE's Rate No. 16 Purchased Power Service](#).

PROPERTY TAX EXEMPTION

[Property tax exemption for solar](#) - Even though solar increases the value of your home, that extra value is exempt from property taxes in New Mexico. That's great news for homeowners who go solar – you get the financial benefits of

generating your own power, without having to worry about a higher tax bill.

UTILITY REBATES AND INCENTIVES

If you're a customer of El Paso Electric Company, you can earn extra income from your solar panel system by participating in their Renewable Energy Certificate (RECs or SRECs) Purchase Program. El Paso Electric will pay you \$0.02 per kilowatt-hour of electricity generated by your solar panels for [small](#) (>10KW) and [median](#) (10-100KW) systems until 2020.

NATIONAL DATABASE OF STATE INCENTIVES

[DSIREUSA.org](#) is a national database supported by the U.S. Department of Energy. It is a comprehensive and current source of information on local, utility, state, and federal rebates, including incentives and policies that promote the adoption of solar technologies and energy efficiency.

Financing a Home Solar System

For most residential solar consumers, the choices are buy, loan or less commonly, lease. When looking for contractors for installation, be sure to get several quotes and references and verify the validity of the contractor licenses of any solar installer you deal with. Likewise, be sure to research the background of any solar financing entity you are referred to or deal with to ensure they are legitimate and will be around to assist you if any problems arise.



[A Homeowners Guide to Solar Financing: Leases, Loans, and PPA's](#), published by the Clean Energy States Alliance (CESA). This guide covers all forms of financing solar projects. It includes a checklist of the most important items, but it does not fully cover negatives of lease escalation clauses or potential issues with sales of homes with solar leases.

[Solar Power for Your Home: A Consumer's Guide](#), by LSU Ag Center. If you want additional details, this is your guide. It includes a 60-question checklist for all potential solar buyers/lessees, a full section comparing buying versus leasing and a focus on "predicted savings," often the key to anticipated return on investment.

[Homeowner's Guide to Leasing a Solar Electric System](#) by the National Renewable Energy Laboratory (NREL). It is a short but helpful guide to leases with terms defined.

Financing a Commercial Solar System

SOLAR INSTALLERS AND THEIR SUPPLIERS ARE FREQUENTLY THE MOST LIKELY SOURCE FOR FINANCING COMMERCIAL SOLAR.

Much like the residential solar market, financing solar projects in the business world can take any one of several paths. These are primarily buying outright with cash, financing with a loan, signing a lease, or entering into a PPA/SSA (Power Purchase Agreement/Solar Services Agreement). Arranging for solar financing is now not much different than purchasing or leasing other business equipment, with many financial institutions available for such projects, including banks and credit unions.

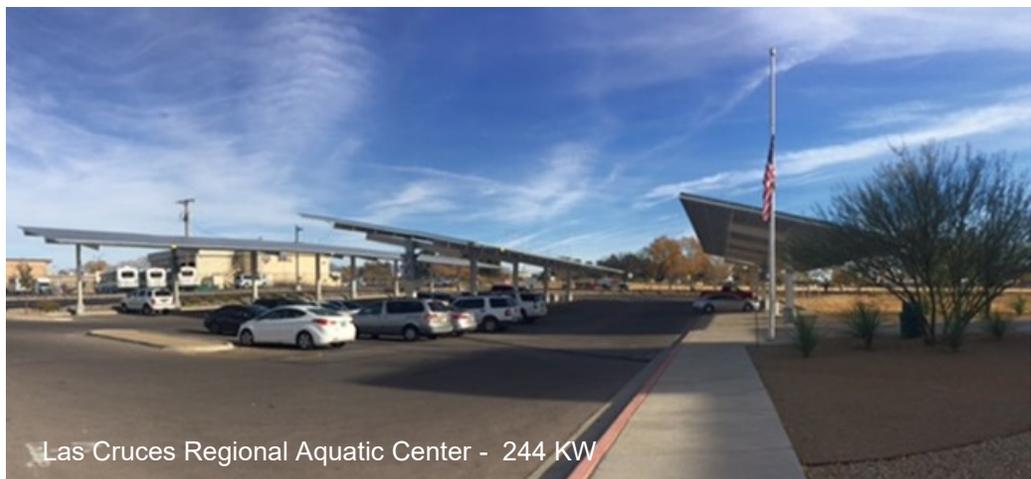
In many states, PACE (Property Assessed Clean Energy) allows solar (and other projects like energy efficiency or water savings) to be financed and repaid along with taxes. While New Mexico has passed legislation to allow businesses to finance solar through an addition to property taxes, there are currently no PACE programs in our area.



ADDITIONAL RESOURCES

[To Lease or To Own: Simplified Solar Calculator](#)

[Solar Financing Options for Homeowners - An Infographic](#)



Las Cruces Regional Aquatic Center - 244 KW

School Curricula

Dona Ana Community College Solar Energy Technology Program

The [Solar Installer Certificate](#) courses offered through Pima Community College are designed for individuals with building trades experience to learn the skills necessary to become a successful Solar Installer. The program provides Photovoltaic Installer preparation training for the North American Board of Certified Energy Practitioners (NABCEP) Photovoltaic Installer Certification exam and the Photovoltaic Installer Advanced Certification exam. Complete this program by taking a combination of day, evening and weekend classes.

National Renewable Energy Lab

The [National Renewable Energy Lab's \(NREL\)](#) Education Programs capture student interest and promote science, mathematics, and technology through renewable energy education. Students engaged in science and engineering activities will have education and career opportunities in these disciplines later in life.

Environmental Education Exchange

The [Exchange](#) was founded in the spring of 1991 in response to the growing demand for environmental education programs in schools K-12 nationwide. There are a variety of programs the organization has developed and is working on to promote solar energy education.

TEP Bright Students: The Conservation Generation

[Bright Students](#) is an interactive program that teachers can use to help teach students about solar energy and energy efficiency. The program is a three-part energy education program for middle school students with lessons that include The Importance of the Sun, Photovoltaic Solar Energy, and Passive Solar Design.

Powering Our Future

[Powering Our Future](#) offers teachers a rich collection of interactive learning experiences that can help prepare students to address energy issues throughout their lives. The three modules (one for grades 4 to 6, one for 6 to 8, and one for High School) were developed with input from 70 classroom and district educators. The lessons address New Mexico Department of Education academic standards in science and social studies as well as mathematics and language arts.

