



Safely Exploring Solar: A Guide for Austin Energy Customers

Rachel Jenkins

Pecan Street, Inc.

NREL Technical Monitor: Sara Farrar

**NREL is a national laboratory of the U.S. Department of Energy
Office of Energy Efficiency & Renewable Energy
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Safely Exploring Solar

A Guide for Austin Energy Customers

pecanstreet.org

INFORMATION TO HELP YOU SAFELY EXPLORE YOUR SOLAR OPTIONS IN AUSTIN ENERGY'S SERVICE TERRITORY

SUMMARY

It's easy to get overwhelmed as you start to explore your solar options. There is a wealth of information available out there, particularly online, and it can be hard to know who to trust. This informational guide has been adapted from Austin Energy's Solar Education Course and other national best practice resources, as of May 1, 2023. It will help you understand some of the key concepts and resources available to help you on your solar journey if you have a home in Austin Energy's service territory and are considering installing solar. This document includes:

1. Austin Energy Programs and Services Related to Solar
2. Tips for Spotting a Solar Scam
3. Things to Know When Designing Your System
4. Key Considerations When Shopping for a Solar Contractor
5. Final Takeaways

One of the most important things as you begin your solar journey is to be clear about your goals. Why are you considering solar – to save money? To go green? To make sure the power stays on? Being able to answer these questions will help you be sure that this is the right time to install solar and what kind of system you will need. For example, if you are trying to lower your electric bill, you will need to consider monthly costs to pay for the solar panels in addition to potential savings from solar generation. If you want to have power when Austin Energy's grid goes down (when your home loses power service), you will need to add a battery to your system, which increases costs. Another critical consideration is whether your home is solar-ready. Do you have enough shade-free roof space? Is your roof in good condition (you won't want to remove and reinstall panels to make repairs). Is your electric service panel rated to handle the energy that a solar system will produce? Have you made improvements to weatherize and improve the energy efficiency of your home? Getting an energy audit and making recommended upgrades before you install solar can save you money.

Austin Energy Programs and Services Related to Solar

Austin Energy provides electricity to the Austin metro area. As a municipally-owned utility, Austin Energy is governed by the City Council and accountable to its customers. Homes with solar panels are connected to Austin Energy's power lines and you will still receive power

from the grid, ensuring you have power at night and on cloudy days. Energy produced by your system also goes back onto the grid. You are billed for the energy you use, and you get credits for the energy you produce (see Value of Solar on pg 10). Your bill will likely be lower than it was before you had solar panels, but you will still receive a monthly energy bill from Austin Energy.

Energy Efficiency and Weatherization Programs

A successful solar journey often starts with home improvements that reduce energy use, save money, and help the environment. Upgrades to make your home solar-ready might include installing more efficient windows, lights, appliances, and smart thermostats. It also might make sense to add insulation, seal ductwork, fix gaps in walls, ceilings, and around doors, add solar window screens, and tune up heating/cooling systems. Austin Energy offers programs that can help make these improvements easier and more affordable. Review these resources before installing solar.

- <https://savings.austinenergy.com/home>
- <https://savings.austinenergy.com/residential/offerings/home-improvements/weatherization>

Solar Services

Austin Energy offers many services to help customers “go solar.” Austin Energy provides education to help you prepare to shop for solar, as well as rebates and incentives to help with the costs of purchase. They also enforce guidelines for participating solar contractors and inspect all solar system installations for safety. However, some services are not part of Austin Energy’s offerings. Separate from Austin Energy, you will select the solar company to install your system. You will purchase solar panels from that company and coordinate with other City of Austin departments to manage the required permits. You will also be solely responsible for maintaining your solar system unless operation and maintenance is part of your contract with your solar company.

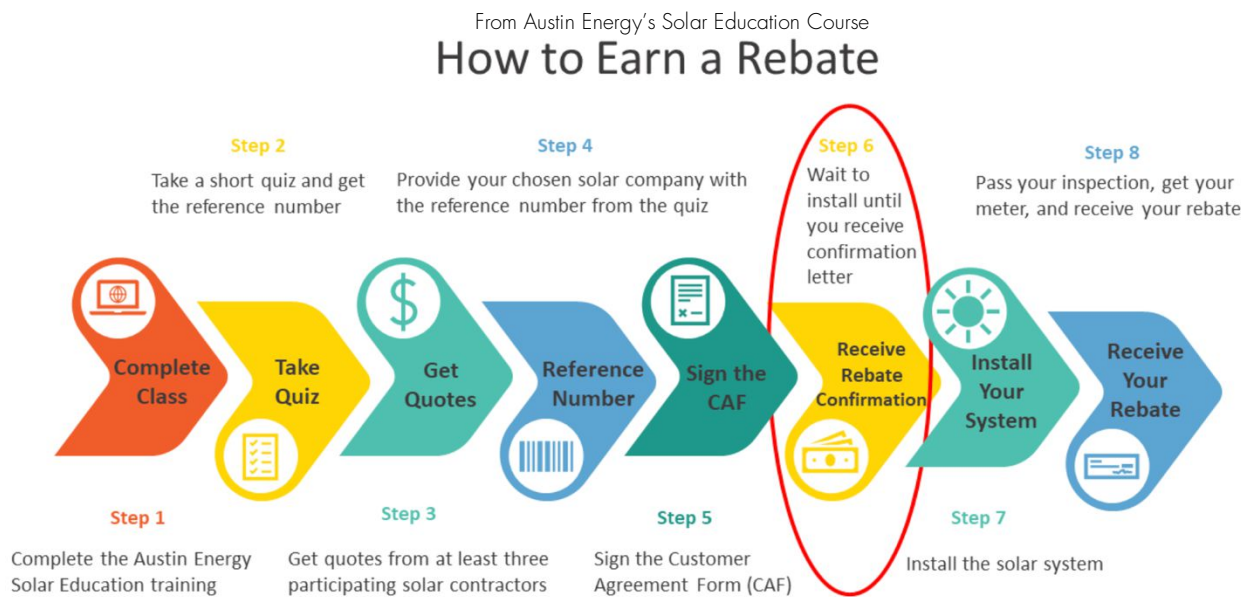
| Service Offered By Austin Energy | Services Not Offered by Austin Energy* |
|--|--|
| Education and training | Install solar systems |
| Enforce program guidelines for participating solar contractors | Sell solar systems |
| Offer rebates and incentives | Maintain solar systems |
| Inspect solar systems | Turn on solar systems |

***If someone claims that Austin Energy offers any of these services it is likely a scam. Please report it to 3-1-1 or solar@austinenergy.com**

Solar Rebates

As of May 2023, Austin Energy offers a \$2,500 rebate to customers who install a qualifying solar system (i.e., at least 3kW, Total Solar Resource Fraction (TSRF) % at or above 75%) on their home. To be eligible to receive a rebate, you must be an Austin Energy Customer, meet program guidelines, and use one of the solar contractors on Austin Energy's Participating Solar Contractor list: <https://austinenrgy.com/green-power/solar-solutions/participating-solar-contractors>.

Customers may choose to use a solar contractor that is not on Austin Energy's list, but they cannot offer you a solar rebate or incentive from Austin Energy. It is strongly recommended that all customers check references and get at least three quotes from different solar contractors. You also must complete the solar education course on Austin Energy's website (<https://austinenrgy.com/green-power/solar-solutions/for-your-home/solar-photovoltaic-rebates-incentives>) and take a short quiz to receive your rebate. The course is a great way to learn about solar (and is available in English and Spanish). The course is self-paced, although once you begin the quiz, you will need to complete it and start your rebate application in a single session.



After completing steps 1-5 described in the chart above, your solar contractor and Austin Energy will take care of the rest:

- Austin Energy will issue a Solar Rebate Confirmation Letter to secure the funds for your solar rebate.
- Your solar contractor will pull the required permits and install your system.
- Austin Energy's solar team will inspect your system.
- Austin Energy's meter department will install a new meter for your system.
- Your solar contractor will turn on your system.

- Austin Energy will mail you a rebate check.

Your chosen solar contractor will apply for the Austin Energy rebate for you. After the solar company applies for the rebate, Austin Energy reviews the application to make sure that the project meets program guidelines. If the project is approved, you will receive a rebate confirmation letter. *If you have not received a confirmation letter from Austin Energy, you should ask your contractor for the enrollment number and then contact them to make sure your contractor has applied for the rebate.* The enrollment number is different from the number you receive after taking the solar education course.

TIPS FOR SPOTTING A SOLAR SCAM

As the solar industry in the Austin area has grown, there is also an increase in, aggressive, deceptive, and fraudulent sales tactics. A solar installation is a big investment, and you want to make sure you select a reputable solar contractor to complete your installation. Here are some behaviors that should make you suspicious:

- **Pushing you to sign a contract on the spot:** If someone comes to your door, says they can assess your roof that day to give you an estimate on solar panels, asks to come inside, shows you a contract on the spot, and/or claims you will miss out on a 1-day only deal if you wait, stop the conversation. Installing a solar system is a big decision, and anyone pushing you to make a quick decision is suspicious.
- **Claiming Austin Energy sells solar:** If someone selling solar tells you they work for Austin Energy, that they represent Austin Energy or they are a “preferred” company for Austin Energy, they are not telling you the truth. Austin Energy does not sell solar panels. Check Austin Energy’s [list of participating contractors](#) when you want to ensure the installer follows [Austin Energy’s Code of Conduct and Ethical Requirements](#).
- **Offering free electricity:** If someone says you can go off-grid by installing solar or that you will not receive electric bills anymore, they are trying to trick you. Your bill will likely be smaller, but every Austin Energy solar customer is part of the electric grid and receives electric bills.
- **Promising low or no-cost installations:** If someone says Austin Energy will pay for your solar, they are not telling you the facts. Austin Energy pays qualifying residential customers a \$2,500 rebate and credits solar customers [\(https://austinenergy.com/green-power/solar-solutions/for-your-home\)](https://austinenergy.com/green-power/solar-solutions/for-your-home) for the energy their home solar panels produce through the [Value of Solar](#) [\(https://austinenergy.com/green-power/solar-solutions/value-of-solar-rate\)](https://austinenergy.com/green-power/solar-solutions/value-of-solar-rate) reflected on the electric bill. There are currently federal tax incentives that can also help but

these funds do not pay the full cost of solar systems. Rarely, there may also be grant funding available to help residents who meet certain criteria but these programs are typically sponsored by a local nonprofit or government, rather than a solar company.

If someone calls or comes to your door and tries to sell you a solar installation, remember you are in control of the situation. If you are interested in solar and it is a good time to talk, go ahead and ask questions. Have them describe how they would design a system for your home to meet your goals, how they will determine the cost, what packages and financing programs they have available, and know how long installation would take, including the permitting and licensing process. Ask them about their company track record: how long they have been in business, whether they have done other installations in Austin, what training their installers receive, what licensing and certifications their company has, what their safety practices are, and how they guarantee their work. Find out what tasks they would be responsible for before during and, after installation. Will they handle the paperwork for available incentives? Do not sign a contract. Ask them to leave written information for you to consider and their contact information. Tell them when a good time would be for a follow-up conversation and ask them to provide references you can contact before you can talk again.

If it isn't a good time to talk, the salesperson seems aggressive, pressures you to sign an agreement on the spot, or otherwise makes you feel uncomfortable, stop the conversation:

- o Pause and ask for a business card
- o If you want to speak with them at another time, tell them you will follow up
- o Or, simply tell them you're not interested
- o Ask them to leave. If they continue to pressure you, be firm that you won't speak to them further.
- o Email or call Austin Energy if you have questions or concerns:
solar@austinenergy.com, 512-482-5346

If someone is representing themselves as an Austin Energy or a City of Austin employee or representative, you should always ask to see their identification badge. If they cannot produce their badge, ask for a business card or name and contact information. Verify identification by emailing solar@austinenergy.com or calling 512-482-5346.

THINGS TO KNOW WHEN DESIGNING YOUR SYSTEM

Knowing common terms used in the solar industry will help you ask the right questions, understand the answers, make sense of the paperwork, and make an informed decision about if and when installing solar is right for you. It's also important to understand factors about your home, shade, and batteries are critical for system design.

| Common Solar Terms | |
|-------------------------------|---|
| Term | Definition |
| Electric Grid or Utility Grid | An electric or utility grid, is an interconnected network that delivers electricity from producers to the customer. Parts of the network include power stations that produce the electricity, electrical substations responsible for stepping up the voltage for transmission, or stepping it down for distribution, high-voltage transmission lines which transport power from its sources to the demand centers, distribution lines for connecting individual customers |
| Energy Audit | An energy audit is a systematic way of assessing of a home's energy use, comfort, and safety. The building envelope, structure, systems, appliances, and lighting are examined to determine strategies to make a home more efficient, which can save the homeowner money. |
| Grid-Connected Solar System | A grid-connected solar system connects to an electrical grid, generally through power lines maintained by a local utility such as Austin Energy. |
| Interconnection Agreement | An Interconnection Agreement is the contract between the local utility company and the homeowner. The contract is meant to allow the homeowner to access the power grid by linking it to their solar system. |
| Inverter | The inverter is the part of a solar system that converts the DC electric current produced by solar panels create into AC power energy that can be used by the appliances, lighting, and other electronics in the home. In addition, inverters provide multiple levels of monitoring, long-term savings, and system efficiencies. |
| Kilowatt (kW) | Kilowatt is a measurement of the power of a solar system - 1 kW is 1,000 W (watts). |
| Kilowatt-hour (kWh) | Kilowatt-hour is the standard unit for measuring electrical energy. Electricals bills generally bill customers based on kWh of electricity used. The term is also used to refer to the measure of power generated per hour by the solar system. |
| Mounting Hardware | Mounting hardware is the equipment that is required to securely attach solar panels to a rooftop. |
| Net Metering | Net metering is a billing mechanism that credits solar energy system owners for the electricity they add to the grid. Austin Energy does not use net metering. |
| Orientation | Orientation of your solar array is important to determine how much sun it will get everyday and therefore how much energy it will produce. Orientation refers to the cardinal direction the solar panel is facing (north, south, east, west) |
| Photovoltaic (PV) | Photovoltaic (PV) is a technology that helps to convert sunlight into electrical power using semiconducting materials that absorb photons from the sun. Utilizing photovoltaic technology in solar panels generates solar power. Each solar module is comprised of multiple solar cells which are responsible for the electrical power generation. |
| Solar Array | Solar arrays are many solar panels connected to generate energy. |
| Solar Batteries/Storage | A solar storage or battery system is a high-capacity rechargeable battery bank that helps to store surplus energy that the solar panels produce. The batteries ensure that you can continue to deploy power even after nightfall, when sunlight is unavailable, and possibly when the electrical grid goes down. |
| Solar Installer | Solar installers are teams of specially trained workers who mount solar panels on the roof and wire them to the inverter and other sytem components after purchase. |

| Common Solar Terms | |
|-----------------------|---|
| Solar Contractors | Solar contractors are individuals or companies that plan and direct the installation projects of solar systems. Contractors manage the work crew and pull permits. |
| Solar Monitoring | Monitoring is the process of using software to track or manage the solar system's activities. These activities may include monitoring power production and usage. |
| Solar Panel or Module | A solar panel is a device that consists of multiple solar cells that connect to form a circuit. Its whole purpose is to absorb sunlight to generate power. |
| Solar Panel Cleaning | Solar panel cleaning removes build-up of materials that may accumulate on top of the solar panels and reduce their efficiency. Rain helps to keep panels free of dust and debris but period manual cleaning is still needed. |
| Solar Readiness | Solar readiness refers to the condition of the roof, electric panel energy efficiencies, and other factors that make a home a good candidate for solar. |
| Tilt | The tilt is the vertical angle of a solar panel. The tilt angle is important for maximizing the output of a solar system throughout the year. |
| Value of Solar | Value of solar is the monetary value of the electricity your solar array produces. Austin Energy separates the amount of energy that you use from the amount of energy that a solar system produces. For solar customers, each monthly bill includes a charge for the total energy usage of the home based on the tiered rate structure, just as it does for all residential customers. To calculate a solar credit, Austin Energy takes the solar PV read and multiplies it by the Value of Solar rate. As of May 2023, the Value of Solar Rate is 9.91 cents per kWh. The value of solar rate is subject to change. If the solar credit is larger than the energy bill, the remaining credit rolls over to the next month as long as the account remains open. Solar credits can only be applied towards the electric portion of the bill and cannot be cashed out. |

Property Considerations

- *What is the age of your roof?* Solar panels last a long time. If your roof needs to be replaced soon, this would mean removing and re-installing solar panels which can be expensive. If you think you will need to make roof repairs within the lifespan of the solar panels, you may want to replace or repair the roof before installing solar panels.
- *What is the condition of your electric panel?* Some homes require an electric panel upgrade to handle the energy that a solar system will produce. The solar company can work with Austin Energy to upgrade your system, but it may increase the cost of the installation.
- *Is your roof shaded by trees or neighboring buildings?* It is very important for solar panels to receive the highest amount of possible sunlight. Solar systems do not produce the same amount of power throughout the day or year. The power is constantly changing as the sun moves across the sky, as clouds block the sun, or as shadows are cast onto your solar panels. The National Renewable Energy Laboratory (NREL) has an online calculator called

[PV Watts \(https://pvwatts.nrel.gov/\)](https://pvwatts.nrel.gov/) that estimates the energy production of PV systems for specific locations throughout the world. A shade analysis is highly recommended before you decide to install a system. This can involve aerial photography, computer models and/or rooftop analysis tools that show the areas on the roof where there is shade. Skipping this important step may lead to a poorly designed system that will under-produce and have negative effects on your investment.

- *What is the orientation of the roof?* Another aspect to consider when thinking about how much energy your solar system will be able to produce is the orientation and tilt of your roof. Orientation and tilt are the solar industry’s way of describing the direction that your roof faces and its slant. In Austin, the best orientation is South and the best tilt is 30 degrees. The chart shows how the total solar resource fraction (TSRF), or available sunlight, changes as the roof direction changes. The lower on the list, the lower the available sunlight.

| TSRF | Orientation | Tilt | Level of Shading | Eligible for Austin Energy Rebate |
|------|---|------------|------------------|-----------------------------------|
| 100% | South | 30 degrees | Zero | Yes |
| 87% | West | 30 degrees | Zero | Yes |
| 84% | East | 30 degrees | Zero | Yes |
| 75% | All systems below 75% will not receive a solar rebate from Austin Energy | | | Yes |
| 64% | North | 30 degrees | Zero | No |

Battery Storage

Many people think that they will continue to have power in an outage if they have a solar system installed at their home. That is not true. If there is a power outage, you will not continue to have power at your home unless you connect your solar system to a battery.

Batteries require energy to charge. This Battery Storage for Homeowners Guide, which was created by Solar United Neighbors has information about how battery backup works, how to size a battery for your home, and other common questions.

- <https://www.solarunitedneighbors.org/wp-content/uploads/2023/01/Solar-United-Neighbors-Battery-Storage-Guide-1.pdf>

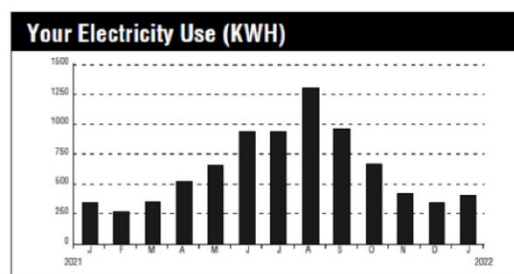
If you decide to install a battery, work with your solar company to match your battery backup to the solar system size.

Sizing Your Solar PV System

Once you have considered the solar readiness of your home and what components you are interested in installing (i.e. solar array, battery etc), you can work with your solar company to size your system. Usually, solar companies will base the size of your system on your historical usage. If you are an Austin Energy customer, you will find the graph on the image to the right on the left side of your electric bill. The bottom line represents the average monthly usage. To estimate your annual usage, multiply this number by 12.

If you are going to install a battery or expect your usage to increase, you may want to talk to your solar company about making the system larger. Remember, solar credits at Austin Energy cannot be cashed out. You will not want to produce extra solar credits that you will not use.

Austin Energy Bill

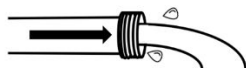


| | |
|-----------------------------------|--------|
| Days of service | 33 |
| kWh Used | 403 |
| Avg. kWh per day | 12.2 |
| Avg. cost per day | \$1.22 |
| 13 month avg. consumption: 625.85 | |

Electric Power vs Energy

Power

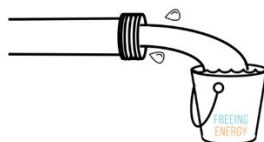
Watts or kilowatts



...is like the flow rate of the water

Energy

Watt-hours or kilowatt hours



...is like the amount of water that ends up in the bucket

Kilowatt (kW) and Kilowatt Hour (kWh) are two terms you will often hear related to the size of your system and your bill. kWh refers to the amount of energy your home produces or uses over a specific period such as a month. kW usually refers to the maximum power the system can produce.

SHOPPING FOR SOLAR

Separate from Austin Energy, you will need to select a solar company to install your system. Talk to multiple companies and choose the best fit for your needs and budget. You need to feel comfortable with your purchase so don't be afraid to ask questions and get references.

Comparing Proposals

Comparing the price of systems with different equipment and designs can be complicated. Dividing the total price (after discounts and before tax credits) by the amount of power a system can produce (capacity) to get a "price per watt" is one way to compare different packages. The price per watt in Austin is generally between \$2.00 and \$4.00 per watt.

| System Details | System A | System B | System C |
|---------------------------------|-------------|-------------|-------------|
| System Size kW-DC | 9 kW-DC | 7.5 kW-DC | 4.5 kW-DC |
| System Size (Watts) | 9,000 Watts | 7,500 Watts | 4,500 Watts |
| Total Price (before incentives) | \$22,500 | \$22,500 | \$22,500 |
| Price Per Watt | \$2.50/W-DC | \$3.00/W-DC | \$5.00/W-DC |

Solar production factor is another good way to compare proposals. It can help you have a realistic prediction of how much energy you can expect your solar system to produce. Every solar proposal should list the capacity of the system and an estimate of the total amount of energy that the solar system will produce in the first year. You can use this information to calculate the production factor, which is the estimated annual solar production (kWh) divided by the capacity of the system (kW). Production factors in Austin are generally between 1,100 kWh/kW (for partially shaded systems) or 1,500 kWh/kW (for unshaded southern exposure). A system with a production factor outside that range would be a red flag and signal the proposal isn't reasonable.

It's also important to understand what the **installation process** looks like when comparing proposals.

- *How long will installation take?* It may only take a couple of hours or days depending on the size of your system, but it is important to understand how different contractor's installation plans will impact you.
- *What else needs to be done before installation?* After signing the contract, next steps may include licensing, permitting, bonding, and insurance or other local or state requirements. Check to see who is responsible for these tasks. Generally, the contractor should be responsible for filing for these requirements, but it is important to confirm this, as well as check to see if there are additional costs associated with these steps.
- *How long after signing a contract will my solar panels be installed?* The paperwork may take some time, but make sure the estimated timeframe seems reasonable.
- *What training do your solar installers have and what safety practices and procedures will be followed during installation?* This will help you feel more confident in the contractor's work and safety while on your property.
- *What industry-recognized credentials does the organization have?* This can confirm that the installer adheres to industry standards and is certified. Credentials may include good standing with the North American Board of Certified Energy Practitioners

Understanding the Value of Solar

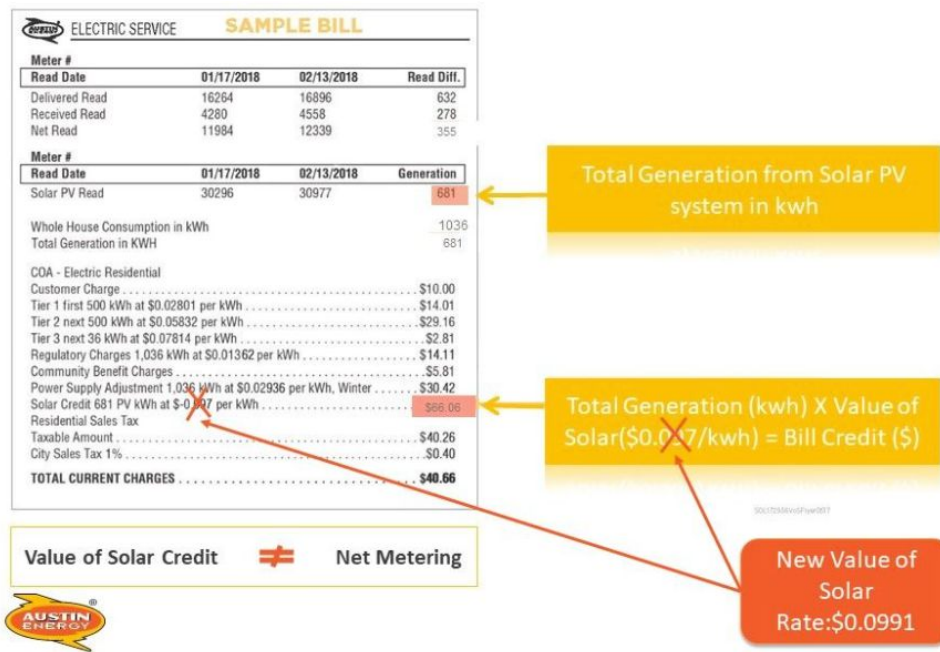
Electricity providers offer different ways to compensate solar customers for their solar energy production. Austin Energy uses a Value of Solar Approach that separates the amount of

energy that you use from the amount of energy that your system produces. Value of Solar is sometimes thought of as a “buy-all, sell-all” approach.

Each monthly bill will include a charge for the total energy usage of your home based on the tiered rate structure, just as it does for all residential customers. Customers with solar panels will have an additional line on the monthly electric bill for that month’s production. It is called the “Solar PV Read.” To calculate your solar credit, Austin Energy takes the solar PV read and multiplies it by the Value of Solar rate. The Value of Solar Rate is currently 9.91 cents per kWh. This rate is subject to change. If the solar credit is larger than the energy bill, the remaining credit rolls over to the next month as long as the account remains open. Solar credits can only applied toward the electric portion of the bill and cannot be cashed out.

Another common way that electric utilities credit solar customers for their solar energy is called net energy metering. Net metering subtracts the amount of energy you produced from the total amount of energy you used and you are charged for the difference between the two numbers. Austin Energy does not use net energy metering to credit customers for their solar production. If your proposal includes net energy metering in the payback analysis, request for the solar company to recalculate the payback based on the Value of Solar.

From Austin Energy’s Solar Education Course



Solar Investment Tax Credit

The solar investment tax credit (ITC) is a tax credit for solar systems that eligible homeowners can apply towards their personal income taxes. (Please see the table that is provided by [SEIA](#) for more information). Austin Energy does not automatically issue 1099s for its solar rebates. If

you have any doubt about how to access a tax credit for your system, consult a tax professional or visit [IRS.gov](https://www.irs.gov).

| | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Credit Prior to IRA | 26% | 22% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Credit Under IRA | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 26% | 22% | 0% |

Maintenance

Your solar journey doesn't end with installation. Solar energy systems do not require a lot of maintenance, but there are still a few tasks that you will want to factor into your costs. Regular upkeep can help keep your solar system working properly. When you sign your solar contract, make sure you understand who is responsible for maintenance throughout the life of the system. For instance, you may have a warranty on some components of your system for a limited time or the full lifetime of your system. Additionally, some solar contracts assure that the solar installer will take care of all maintenance throughout the life of the system. You will need to make sure your system continues to capture as much sunlight as possible by trimming trees and periodically washing the panels following manufacturer recommendations. Here are some additional maintenance factors you may want to consider:

Maintenance

Factoring maintenance into your cost

Solar System Documents

Keep important documents in case your system needs repair

Trimming Trees Regularly

Trim your trees to make sure they do not cover solar panels



Washing Panels

Wash your solar panels yearly to improve system production

Monitoring System App

Keep track of your system production! Install your own monitoring or you can also use the Austin Energy Free App

Keep Wiring Safe

Solar critter guards keep your solar panels safe from nesting birds, squirrels, and raccoons that could chew through your wires



From Austin Energy's Solar Education Course

If you keep the paperwork from your solar company in a safe place, especially the warranty, it will be easier to get repairs. Important documents to keep include:

- Warranties and Product Guides
- Contract and any Change Orders or Addendums
- Invoices and Receipts
- Proposals
- Permits
- System Design
- Contact information, including contingent contact if the company or product manufacturer ceases operations.

Financing

Loans are a common way of paying for a solar energy system. Like all loans, it is important to understand how the terms of your loan impact the cost of borrowing. Your solar contractor may offer financing packages but it is also a good idea to shop around for loans and make sure that you know the interest rates, hidden fees, payment schedules and other details that can impact the overall cost. Questions to ask include:

- *What will I pay upfront?* It is important to understand what you are expected to pay upon signing the contract.
- *What annual percentage rate will I pay?* It is also important to understand what you are expected to pay throughout the lifetime of the solar array.
- *How are the payments calculated?* After they tell you what you are expected to pay, make sure you understand how they calculated the payments to determine if their expectations seem fair to you.
- *Will the payments change during the financing term?* Make sure you understand the payment schedule throughout the whole lifecycle to avoid surprise changes. Predatory contractors may issue more substantial balloon payments at the end of a loan's term to make earlier reoccurring payments seem more affordable. Confirm that payments throughout the project life are affordable and consistent with your expectations.
- *For how long will I pay?* You should understand how long your panels will generate power and how long you will make payments before the system is paid off.
- *Will a lien be placed on my home or system?* In some financing schemes, solar costs are connected to property taxes. This can increase the homeowner's tax bill, and create a lien that may impact property resale or refinance.
- *Do I have a right to cancel this financing?* Some contracts allow you to change your mind within a couple of days of signing the contract. This protects consumers from high-pressure

situations. Confirm with the contractor how long after signing the contract you can cancel and at what cost.

Calculating Payback

A well-designed and properly-installed solar energy system will usually pay for itself, though it will take several years to reach this point. If the savings from solar generation is more than the costs of household electricity, then over time you will see a payback.

Costs: The solar equipment, installation, maintenance, and interest from solar loans all add up to the potential costs of your system.

Savings: Solar bill credits, rebates, and the federal tax credit all add up to the savings that your system can generate.

The Contract

It is important to understand and be comfortable with the contract before signing. If something does not make sense or meet your expectations, ask for clarifications and changes. Seek legal assistance if you are unsure. Get the contract in your native language. Look carefully at all costs and financing terms to ensure that it reflects what you discussed and agreed to. Pay attention to costs/terms that are variable or depend on the utility company or other factors outside of the contractor's control. Contracts should clearly define:

- Ownership terms
- Potential impacts on selling, modifying, or refinancing, including liens, filings, etc.
- Performance calculations that specify and include all relevant factors. If installation and/or equipment will be monitored, what kind of data will be collected, who has ownership and access to the data, and if the data will be available and/or sold to others.
- A reasonable period for rescinding the contract.
- Warranties for equipment and workmanship, and remediation terms for damage to the property from work.
- Verifiable minimum performance and remediation terms if not met.
- Start and end dates, if applicable.
- Contact information during installation and for the life of the system, including contingent contact if the company or product manufacturer ceases operations.
- Long-term maintenance plan and designated responsible party. You will be responsible for maintaining your solar system unless operation and maintenance are part of your contract.

FINAL TAKEAWAYS

- Consider an energy audit to check for weatherization and efficiency upgrades first.
- Make sure your home is a good site for solar by considering the condition of your roof, the exposure amount of shading on your roof, and the condition of your electrical panel.
- You can only get a rebate if you use a solar company that is listed on Austin Energy's participating contractor list. Review the rebate program guidelines at austinenenergy.com/go/solar.
 - There are other incentive programs like the federal solar investment tax credit that you should consider to see if you are eligible for even greater savings.
- When shopping for a solar company, take the proper steps to make sure you avoid solar scams and finance your system within your means. Only sign a contract if you feel comfortable and confident in your purchase.
- Designing your solar system requires making decisions about the amount of electricity you want to generate, the characteristics of your home, and the components you want to include such as a battery system. Make sure the system meets your needs and expectations.
- The value of solar is different from the amount of energy your panels will produce. Review Austin Energy's resources to make sure you understand what your new bill will look like after installing a solar array.
- After your solar panels are installed, you will be responsible making payments until the system is paid of, and ensuring it is maintained so that continues to produce energy for your home.

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