

## Residential New Construction Solar Energy Program FAQ

- **I am building a community that will feature standard solar on each home or solar is an option for each home. What do I need to do to assure system startup happens on time for my buyers?**  
At the earliest possible opportunity after your plans have been approved for construction by the City of Roseville building department complete and submit the RNCSEP Interconnection and Rebate Application. This document, once approved, will function as part one of a two part process for interconnection and (if applicable) rebate approval.
- **I am a BEST Homes builder which process do I need to follow for interconnection?**  
BEST Homes has its own multiple site interconnection process that must be completed as part of the overall BEST Homes reservation application package, please see the BEST Homes website for details.
- **How will I receive net energy meters on my homes with Solar?**  
Once the RNCSEP Application has been approved by Roseville Electric, Net meters will be installed. Without approved documentation the net meter will not be installed or the PV system will be locked off from interconnection with the electric grid until proper approval has been obtained.
- **The RNCSEP Application asks for EPBB for all system sizes? Does this mean I need a EPBB report for each lot?**  
No. We need to see documentation of the possible system sizes and PV production for the community as a whole. So if there are three AC Watt system sizes available we need a CSI EPBB report for each of those system sizes at their best possible orientation for reservation of funding.
- **There are a lot of documents required for this application process how may I submit them to Roseville Electric?**  
RE wants to make this easy for you as the applicant. You have a number of options for submittal from emailing documents to [rosevilleelectric@roseville.ca.us](mailto:rosevilleelectric@roseville.ca.us) to mailing them to our office. You may also submit in an electronic storage format such as CD or thumb drive, or online at a site such as box.net fileshearing.
- **How will I be notified of acknowledgements, approvals, or necessary corrections?**  
RE notifies applicants via email of acknowledgement, approvals, or necessary corrections. This is why it is key that the correct contact person and email address be included in the application documents.
- **How large of a system can I install?**  
You can install a system large enough to offset 100% of the estimated usage of the home.
- **What is the difference between a lease and a PPA?**  
A solar lease and PPA (Power Purchase Agreement) are similar in many ways, but have a few differences.
  - In a lease, the customer leases or “rents” the equipment and is entitled to the benefits of using the system. Some leasing companies will guarantee the minimum production of the system. If the system does not meet its production targets, the company agrees to compensate the property owner.

- In a PPA, the customer agrees to buy the power generated by the system at a set price per kWh. This price may be fixed over the length of the agreement or may include an “escalation schedule” where the price for the power generated increases at an agreed upon rate each year. The solar company estimates the production of the system installed at the residence, but only bills for the actual kilowatt hours (kWh) the system produces.

**Solar Lease**

**Solar Power Purchase Agreement (PPA)**

You “lease” or “rent” the equipment and are entitled to the benefits of using the system, i.e. the free power that the system generates.

You agree to buy the power generated by the system at a set price per kWh. This price could be fixed over the length of your agreement or the terms could include an “escalation schedule” where the price that you are paying for the power generated would increase at agreed upon rates each year.

Some leasing companies will guarantee the minimum production of the system. If the system does not meet its production targets, the company agrees to compensate the property owner.

The solar company estimates the production of the system installed at your property, but you are only required to pay for the actual kilowatt hours (kWh) the system produces.

Residential lease terms are generally for 20 years, but some leases can be shorter ranging between 10-20 years. Commercial leases also can be customized. They generally range from 7 to 15 years.

Terms are generally for 20 years, but some PPAs can be shorter ranging between 10-20 years

You have the option to buy the solar system at any time during the lease term and/or at the end of the term. The purchase prices will be predefined in your contract.

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The leasing company will monitor the system's performance for the duration of the lease. Because they own the system, they also are responsible for maintaining and repairing it, performing periodic maintenance, replacing inverters, etc.

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Most companies offer free online, smartphone, or tablet programs to track your system's performance. Many property owners choose to monitor their systems to track metrics such as energy produced, savings, SREC information, carbon avoided, etc. for their personal use or in the case of businesses, for marketing or other reporting purposes.

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The benefits of owning the system, such as purchase rebates, tax credits, the ability to take depreciation, or other incentives would belong to

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the leasing company.

If you have a prepaid lease or PPA, many leasing companies will allow you to benefit from the sale of Solar Renewable Energy Credits (SRECs) either directly or through a reduction in the lease amount even though they are the owner of the system.

Similar to applying for a loan, you will need to demonstrate that you have a good credit rating (>660) to qualify.

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Options for terminating the lease in the event you sell your property before the term ends are spelled out in the contract. These options generally include (1) transferring the remainder of the lease to the buyer or (2) you buying the system and selling it along with the property.

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At the end of the lease term, you can either (1) buy the system at the price predetermined in your contract, (2) have the leasing company remove the system at no cost to you, or (3) leave the system in place and renew the lease.

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- **Is a Permit Required?**

A permit is required to install a solar system and the system must pass a final inspection performed by the building department. For more information on permitting visit [www.roseville.ca.us/solar](http://www.roseville.ca.us/solar).

- **What is the Residential New Construction Solar Energy Program interconnection agreement's purpose?**

An interconnection Agreement is a legal document between the customer (In this case the builder) and Roseville Electric that gives permission to the customer to interconnect their solar system to Roseville Electric's grid. It is applied for prior to installing the solar system; and approval to interconnect is issued after the system has been completed, inspected, and the customer has read and agreed to all of the terms and conditions of interconnection.

- **How does annual solar billing work?**

Customers who install solar on their home are enrolled in annual billing. Customers receive a monthly utility bill showing the charges for all services, but they are eligible to delay payment of energy charges (kWh) to once every 12 months. All other charges, including the monthly electric basic service charge, and water, garbage and sewer, are due and payable every month. City of Roseville encourages customers to carefully read their bills and remain current to avoid a potentially large payment due at the end of 12 months. In fact, solar electric customers can continue to pay for energy charges monthly. Every month solar electric customers will see the "**Current Charges**" and the "**Amount Due**" on their monthly utility bill statement. **We encourage customers to pay the larger of the two to avoid a large amount due on the annual true-up bill.**

- **What happens if I produce more energy than I use?**

If a customer's solar electric system produces more power than is used during the 12 month billing cycle, the customer will be sent a check for the surplus electricity produced. The compensation rate is paid for each kWh over produced at the rate published in section 14.24.051 the municipal code <http://qcode.us/codes/roseville/>

The majority of solar electric systems in the City of Roseville are too small to generate a significant amount of electricity to offset the total amount of electricity used during that same 12-month time period. Most solar electric customers will not have a credit at the end of the 12 months.

- **Who gets the rebates or tax incentives?**

The Roseville Electric rebate can be directed to whomever the customer designates. The federal tax credit is available to the owner of the system. For more information on the federal tax credit, please refer to the Go Solar California website <http://www.gosolarcalifornia.ca.gov/consumers/taxcredits.php> or consult a tax professional.

- **What is a net meter?**

Net meters look very much like other outdoor meters with one notable exception – they spin both forwards and backwards recording both the power produced and power used. Net metering is a billing method that gives you credit for excess electricity your solar electric system produces.

- **Solar Terminology**

- Annual kWh – the amount of energy (kWh) used or produced during a one year period. When sizing a PV system, the PV system production must be lower than the previous 12 months of energy use. Ask to see the CSI EPBB reports showing how many kWh the system is estimated to produce when considering solar and doing your cost analysis.
- Array – several solar modules tied together to form a single structure or group
- Azimuth – solar system position with respect to the cardinal directions of north, south, east, west, measured in degrees; all references with PV are based on true, not magnetic, azimuth. This is an important factor in solar system energy production.
- BIPV – Building Integrated Photovoltaics, PV that is part of the building construction rather than being added to the structure later, such as a solar roof tile.
- CEC AC watts – the system wattage rebates are based on, includes PTC, inverter efficiencies, and installation characteristics of the array.
- CO<sub>2</sub> – Carbon Dioxide, a well-known Green House Gas, usually referred to when talking about your “Carbon Footprint”.
- CSI – California Solar Initiative authorized by the California Public Utility Commission is the key component of the Go Solar California campaign for California and rebate program for the Investor Owned Utilities. Roseville Electric's rebate program is separate from the CSI program but is based on the key components and calculators offered.
- Electric Panel – the electrical distribution board where the main breaker and branch breakers that feed the home are located.
- Electric Utility – means Roseville Electric
- EPBB (Expected Performance Based Buydown) – pays an upfront incentive for installing a business customers solar system of less than 10kW, or a residential solar system; payment is based on the CSI's CEC-AC watt rating.
- Grid-connected / Grid-tied – an energy producing PV system which is connected to the electric utility

- Inverter – a device that is installed to electronically convert Direct Current (DC) power into Alternating Current (AC) power required for your homes energy using equipment and for grid connected solar systems. These may be central inverters, string inverters, or micro inverters.
- Insolation – a measure of solar radiation energy, expressed in watt hours per square meter per day. Higher is better for solar system installation energy production.
- Interconnection – the link connecting the customer and Roseville Electric for electric power flow; an interconnection agreement with Roseville Electric is required by all solar customers.
- kWh – kilowatt-hours, describes the amount of energy a 1000 watt load operated for a period of one hour. This term is used when estimating energy use and a solar systems expected annual energy production.
- kW – kilowatt, a unit of power equal to 1000 watt load, which is the designation used for electrical demand. This is also used in sizing solar systems. The system size may be reflected in DC or AC watts.
- Module – is the solar panel
- Net Meter – is an electrical meter that allows power to flow both to and from the home; if the solar system produces more energy than the home needs, the meter will record backwards energy flow.
- PBI (Performance Based Incentives) – incentive payments for business solar systems 10kW CEC-AC watts or larger; paid on a quarterly basis for a given length of time for measured energy production.
- Power Purchase Agreement – is an agreement where the customer purchases energy at a set price per kWh, possibly with annual price escalations; the energy is this type of contract is generated and consumed on the customers site; and the PPA provider installs and maintains the PV system typically at no cost to the home owner.
- PTC DC watts – PVUSA Test Conditions, performance of solar module in real-world conditions as determined by the California Energy Commission (CEC)
- PV – Photovoltaic. Photo – light; Volt – electrical potential.
- Rule 21 – Interconnection Agreement, all customers installing a solar system must abide by these rules and regulations prior to connecting a solar system, and while the system is connected.
- Shading – PV cells are very sensitive to shading, even a small amount of shading may drastically reduce energy production, even small objects like chimneys, telephone poles, vents may affect solar output. Ask your solar contractor about how to place cells to reduce shade on the array.
- Shading Analysis – is an essential step in PV system design. The solar contractor will use a shading analysis tool to evaluate the site for shading. Each array orientation must have a shading analysis report, and minimal shading is not allowed by Roseville Electric.
- Stand-Alone PV System – a PV system that is independent, not connected to, the electric utility grid. This type of system is more inclined to include batteries to store excess energy when it available and this energy may be used later when it is required.
- STC DC watts – Standard Test Condition, or nameplate rating of the solar module. Contractors often use this number as the system size.
- Tilt / Pitch – the solar tilt angle of installation of the solar system towards the sun, and one of the key elements to optimize energy production.