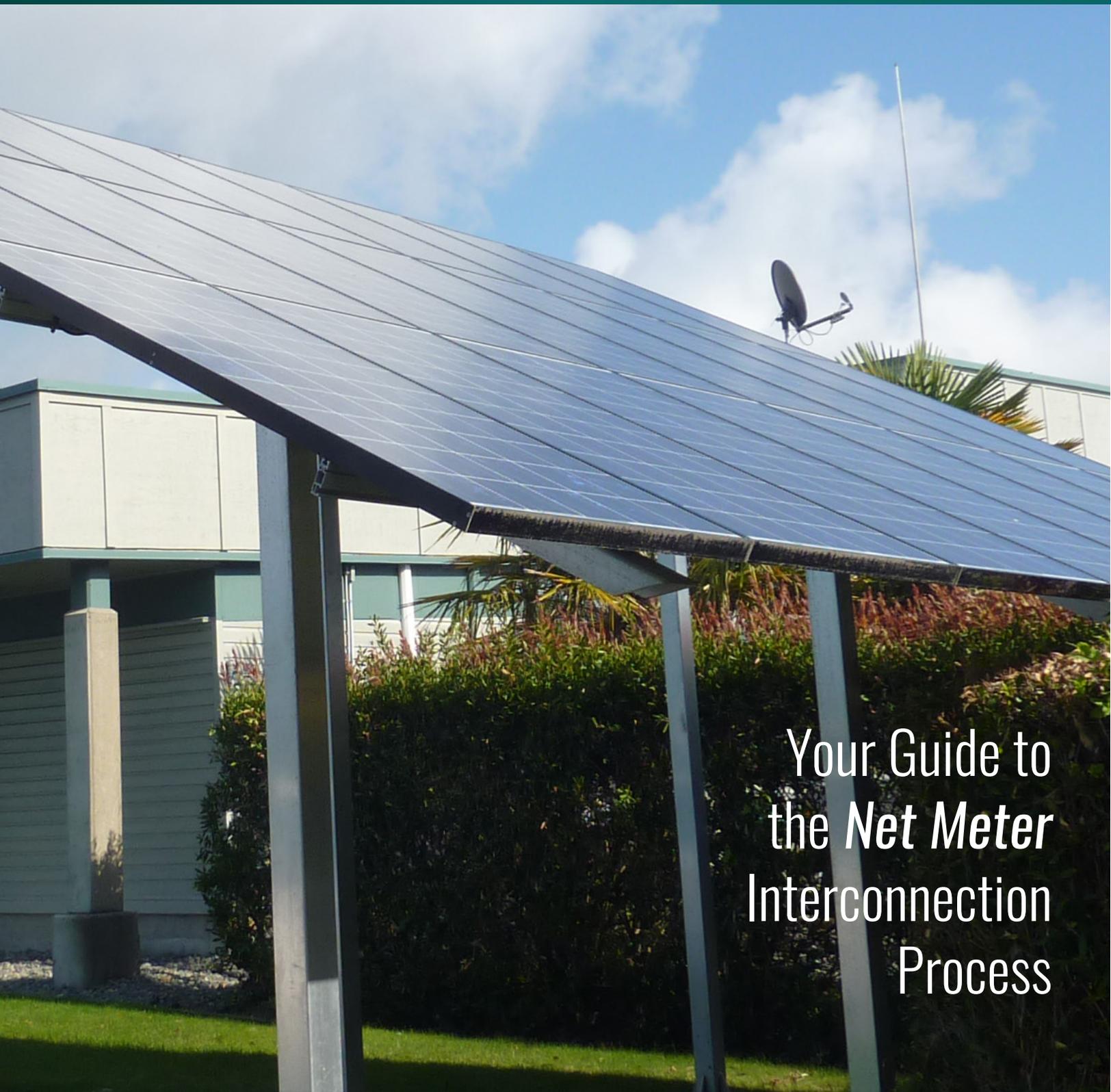


NET METER HANDBOOK



Your Guide to
the *Net Meter*
Interconnection
Process

About the Net Meter Handbook

Coos-Curry Electric Cooperative (CCEC) recognizes many of our members have an interest in installing distributed generation, also called on-site generation, of electricity at their homes or businesses through the operation of a grid-connected net metering facility. The rules and regulations for interconnection between member and CCEC can seem overwhelming. To simplify the process, CCEC provides the following materials outlining the steps needed to interconnect net metering facilities.

This handbook is a reference and not intended as a design guide. This handbook outlines the process to receive approval to connect from CCEC for an interconnected renewable energy system.

WHAT IS THE NET METERING PROGRAM?

The CCEC net meter program allows our members to install a grid-tied renewable energy generation system at a home or business while staying connected to a reliable source of energy from the CCEC electric grid.

Net metering service is available to members who own and operate an approved net metered generating facility subject to all the following conditions:

1. Generates electricity using solar power; wind power; hydroelectric power; landfill gas; digester gas; waste; dedicated energy crops available on a renewable basis; low-emission, nontoxic biomass based on solid organic fuels from wood, forest or field residues; geothermal energy; or renewable marine energy, including wave energy, wave-wind hybrid energy and tidal energy.
2. Nameplate generating capacity of no more than 25 kilowatts.
3. Net metered facilities are located on the member-generator's premises.
4. Generating facilities operate in parallel with CCEC's existing transmission and distribution system.
5. Generating facilities are intended primarily to offset part or all of the member's electrical requirements.

HOW DOES THE NET METERING PROGRAM WORK?

Your home or business uses the energy you produce as a net metering generator to meet your energy needs. If you produce more electricity than you need, the additional energy is sent back through CCEC's meter into the electric grid. If you need more energy than your net metering facility is producing, the CCEC system supplies that need.

During each billing period, the energy delivered to CCEC is subtracted from the energy supplied by CCEC and the member-generator is only charged the difference. If the amount of energy delivered to CCEC is greater than the amount supplied by CCEC during the monthly billing cycle, the excess is kept in "an energy bank" and may be used as a credit to offset future energy needs for the associated net-metering account.

The member-generator will be billed the base charge equal to the rate class of the net metered service.

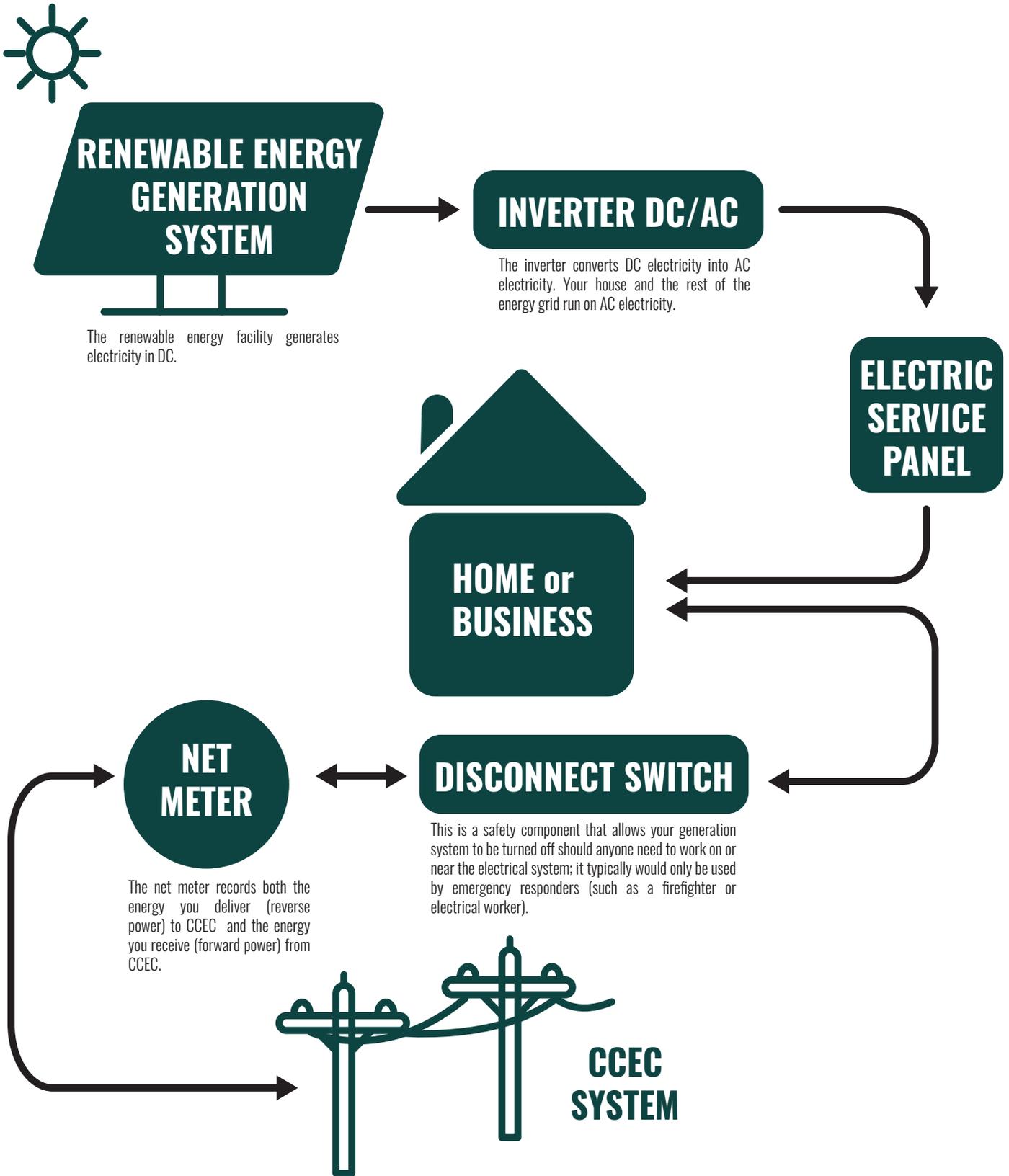
If you have questions regarding your net metering bill or how to understand rate classes, please contact CCEC at ms@cooscurryelectric.com.

Once a year, if the credit is substantial, the banked excess energy will be credited to the member's account at the avoided cost rate.

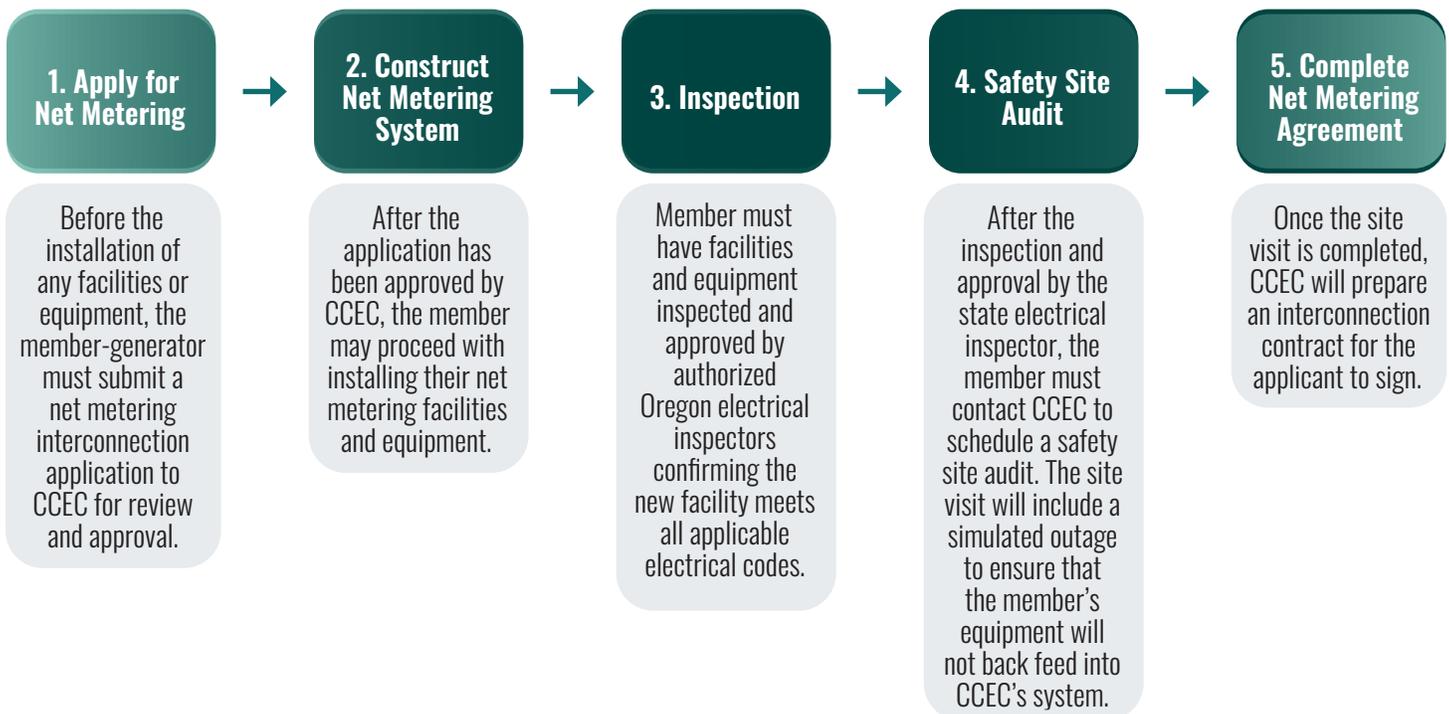


WHAT DOES NET METERING LOOK LIKE?

The diagram below shows a typical net metering system overview.



NET METER INTERCONNECTION PROCESS OVERVIEW



1. APPLY FOR NET METERING

Before installing any facilities or equipment that will be connected to the CCEC electric system, members are required to apply to CCEC for review and approval. Applications can be found at: www.ccec.coop/net-metering.

Any subsequent modifications will require review and approval.

The member may submit their application to any one of our offices or through the CCEC website. The applications will be reviewed within 10 business days. The member will be notified by a CCEC representative regarding the status of their net metering application.

A net metering application requires the following documents:

- Application*
- One-line diagram*
- Final inspection card and/or satisfied building permit*

2. CONSTRUCT YOUR NET METERING SYSTEM

To be eligible for interconnection, net-metering facilities must comply with all applicable codes and regulations. The Oregon Building Codes Electric Division must approve the installation of any net metering facilities.

Net metering facilities must not adversely affect the safety of CCEC personnel or the reliability and power quality of the utility system.

Net metering facilities must automatically disconnect from the utility system when the power from the utility system is lost.

An approved manual disconnect device located adjacent to the CCEC meter is required. For smaller single-phase systems with a rating of less than 600 VAC, and a nameplate output of 30 amps or less, a lock-out/tag-out disconnect switch located next to the inverter may be used in lieu of the manual disconnect device.

Approval must be obtained before connecting a generating facility to the CCEC system.

3. INSPECTION

The member is responsible for the design, installation, operation and maintenance of their net metering facility. The Oregon Building Codes Division is required to inspect and approve the installation of net metering facilities prior to the CCEC safety site audit. Members should contact the state of Oregon Building Codes Division for information about the current code requirements. CCEC does not design, install or inspect net metering facilities.

4. SAFETY SITE AUDIT

After the member's net metering facility has been installed, an interconnection safety site audit can be performed to confirm the system follows CCEC's net metering policies.

If the net metering facility passes the safety verification, the net meter is installed, and the system may be commissioned. If the net metering facility does not satisfy the requirements of the interconnection safety site audit, CCEC will contact the member to review any issues. An additional site audit may be necessary after corrections are made.

5. COMPLETE NET METERING AGREEMENT

To participate in the net metering program, the member must complete and sign a net metering agreement with CCEC. The agreement covers the specific terms, agreements and requirements such as safety, insurance, ownership, responsibilities, charges and power quality.

The member may be responsible for additional costs associated with engineering and/or construction necessary for connecting and operating a distributed generation facility in accordance with CCEC's policy.

CCEC requires the member-generator to place several permanent signs on components of the generation system. This is to prevent someone from inadvertently getting injured when working on or around the electric system.

COMMON DEFINITIONS & TERMS

Alternating current (AC)- The form in which electricity is delivered to residences and businesses. This is the type of electricity produced by the inverter and delivered to the home and the grid through the service panel.

Direct current (DC)- The electricity produced by some generating systems like a solar panel. A battery produces DC electricity. This type of current is not typically used in the home and must be converted to AC electricity by the inverter before being used in the home or returned to the grid.

Distributed generation- a term used when electricity is generated from sources, often renewable energy sources, near the point of use as opposed to a large generating plant located far from where the energy is used.

Interconnection Agreement- A contractual agreement between CCEC and the member, authorizing a net metered facility to be connected to the CCEC electric grid.

Kilowatt- The measure of power (watt) being generated or used. It is like the flow of gas from the gas tank to the engine of a car.

Kilowatt-hour- The result of producing power over a sustained period of time. If a one-kilowatt generator produced electricity at full power for one hour, one kilowatt-hour would be produced. It is like the total energy in the gas tank of a car.

Member-generator- A CCEC member who participates in the net metering program.

Net metering- measuring the difference between the electricity supplied to the member by CCEC and the electricity generated by the members' net metered generation facility and delivered to CCEC over the applicable billing period.

Net metered facility- A member-owned distributed generation facility (typically solar, wind, fuel cell or micro-hydroelectric power) connected to the CCEC grid and participating in the CCEC net metering program.

Net metering agreement- An agreement for interconnection of renewable energy generating facilities to the CCEC system.

One-line diagram- A simplified diagram of the net metered facility component parts connected together with a single line to display how the system functions. See the example on Page 7.

Safety site audit- A process completed by the member-generator and CCEC after installation and before completing the Net Metering Interconnection Agreement verifying the system confirms code, performs to specifications and is ready to safely be connected to the CCEC grid.

FREQUENTLY ASKED QUESTIONS

How do I know if a net metered system is right for me?

To determine if a net metered system is right for your home or business consider the following:

- Your daily power consumption
- The generating capacity of the system you plan to install
- What is your motivation? Before considering a system, you should clearly define your goals and expectations

Use this calculator to estimate solar performance and savings based on your address: <https://pvwatts.nrel.gov/>

How much electricity am I able to produce?

Many factors affect the amount of electricity your system will produce. These include: the type and size of power plant installed, your location and seasonal changes.

The intent of CCEC's net meter program is to offset some or all your annual energy needs while protecting the reliability of our power grid. A net metered system should be sized with an installed capacity of 25kW or less and an expected annual output of not more than your estimated energy consumption. To estimate your energy consumption, sum the previous 12 months kWh from your CCEC bill.

Where can I find information on Oregon State Building Code and renewable energy?

Visit <https://www.oregon.gov/energy/energy-oregon/Pages/Renewable-Energy.aspx>

Where can I apply for net metering?

Begin your application process online at www.ccec.coop/net-metering. If you have any questions, contact CCEC at 541-332-3931.

Can I go "off the grid" completely with a renewable energy system?

Generating all your own electricity, completely disconnected from the power grid, is difficult. Renewable energy technologies such as solar are an intermittent power source. In most cases, they cannot generate enough electricity to be the sole power source, 24/7.

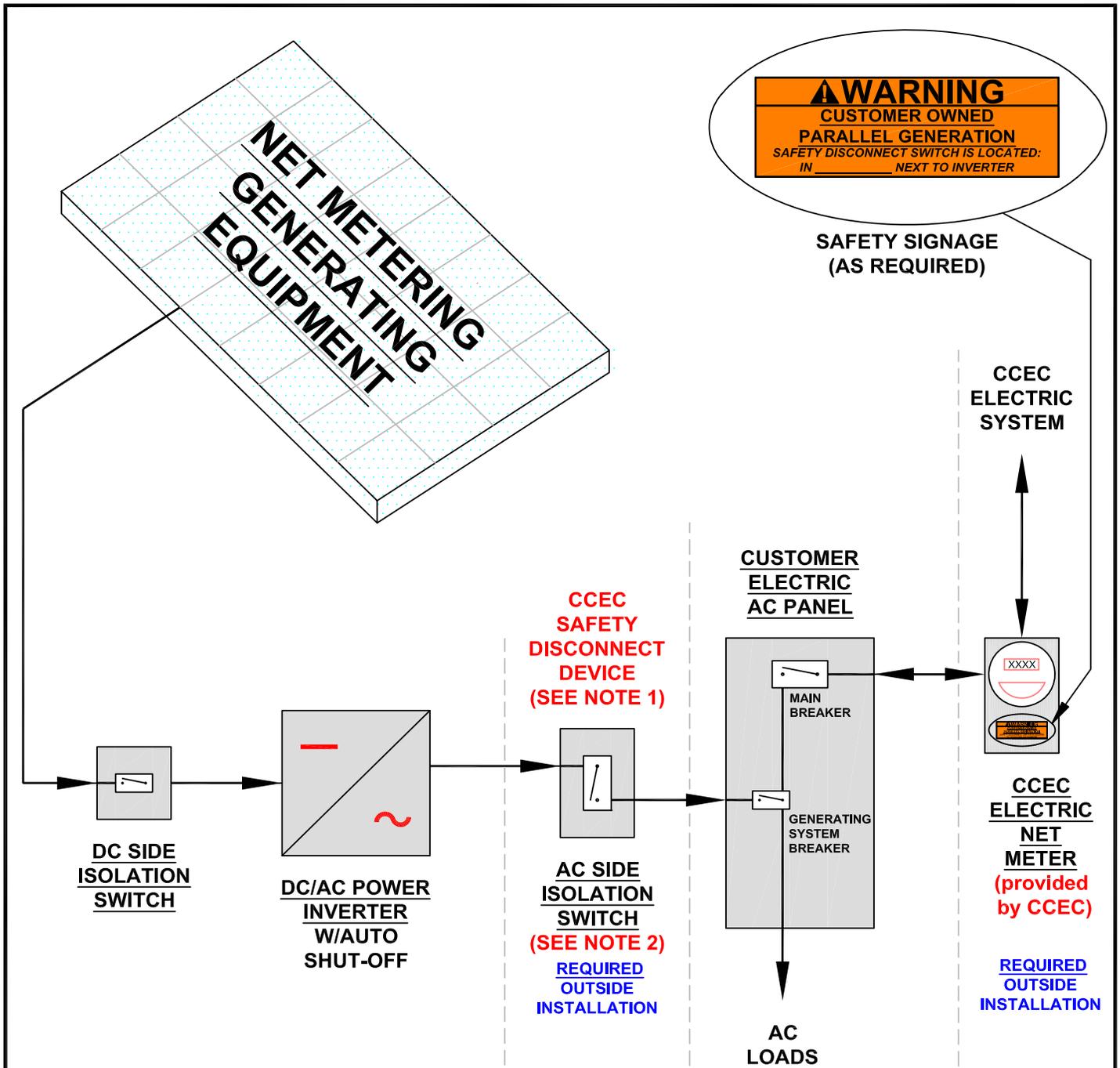
When the wind is not blowing, the sun is not shining or a creek isn't flowing, your system is not generating electricity. To power your home when your system isn't generating electricity a battery backup is required. A battery backup can add significantly to the cost and complexity of the system.

Net metering is intended to aid in the adoption of renewable energy technologies without sacrificing reliability.

Is installing a net metered facility a good investment?

CCEC is a not-for-profit utility owned by the members we serve. Our goal is to assist members with making an informed decision when installing a net metered facility. Every solar company has a variation of the same sales pitch, "Did you know going solar can save thousands of dollars?" They make it sound easy, but the truth is, whether putting a net metered facility on your home or business is a smart long-term investment for you depends on a few major factors.

1. Why are you considering installing a net metered facility? Everyone has different goals and expectations driving them to consider a project like this.
2. How much do you pay for electricity? In the Pacific Northwest, we enjoy some of the lowest energy rates in the United States. The cost of energy is one of the most important factors when calculating the time it takes for a net metered system to pay for itself.
3. How much does the system cost? Installation prices will vary significantly depending on the company you choose and the equipment you install. It's worth taking some time to review different contractors, bids and all your equipment options to find the right combination of price and quality for you.



Customer owned Electric Generating Equipment

Provided by Customer

Customer owned Equipment

Customer owned Meter Base Equipment

NOTES

1. A SAFETY DISCONNECT DEVICE LOCATED ADJACENT TO THE CCEC METER IS NOT REQUIRED WHEN AN APPROVED INVERTER-BASED FACILITY IS USED FOR SINGLE PHASE SERVICES LESS THAN 600 VAC AND A MAXIMUM DISCONNECT RATING OF 30 AMPS. IN THESE INSTANCES, AN INVERTER LOCK-OUT/TAG-OUT DISCONNECT SWITCH LOCATED NEXT TO THE INVERTER IS ACCEPTABLE.
2. WHEN REQUIRED, THE AC SIDE ISOLATION SWITCH MUST BE INSTALLED OUTSIDE AND WITHIN 4 FT OF CCEC ELECTRIC METER. SWITCH SHALL BE MOUNTED 5 FT ABOVE GROUND.

NET METERING SYSTEMS TYPICAL COMPONENT LAYOUT		
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