# **Pre-Installation FAQs**

## Will I still receive a bill from NV Energy every month?

Yes. If NV Energy does not deliver energy to your home during the billing period, you will still receive a bill for the basic service charge fee and local government fee to retain electric service. If your delivered energy to the grid is less than the energy you received from NV Energy, then you will be charged all the related charges and fees for the net kilowatt-hours ("kWh") that you used during the month. For more information, please refer to "how to read my bill".

### Will I get credit for my excess solar production?

Yes, you will receive credits when enrolled in NV Energy's net metering program. Net metering ("NEM") allows you to receive a credit for the energy generated by your renewable energy system, which you can use to offset your monthly energy bill. All customers with renewable energy systems (or PV system) that have a system size equal or less than 1 megawatt ("MW") may be eligible for NEM. The energy you generate and send to the grid directly offsets the cost of energy received from NV Energy. Although not common, in some months, your PV system may over-generate and send to the grid more energy than you receive from NV Energy. For PV systems equal or less than 25 kilowatts ("kW"), you will earn credits for this net excess solar production according to the tranche that you are in. The current rate for new solar installations is under Tranche 4 and earns credits at a rate of 75 percent of NV Energy's then-effective retail rate. Any credits received cannot be applied to the basic service charge. Please visit NV Energy's net metering frequently asked questions page for more information <u>Net Metering FAQs | NV Energy</u>.

All customers connected to the NV Energy power grid will receive a monthly bill for the basic service charge and local government fee, even if NV Energy does not deliver energy to your home during the billing period.



# What are the types of Net Metering and who qualifies for them?

Types	Generating System
NMR-B	NMR-B net metering tariff is for larger rooftop solar systems that generate between 25
	kW and 1,000 kW of electricity.
	Customers are billed the same as non net metering customers but have their consumption charges directly offset by the energy they produce and send to the grid. If, in some months, these customers generate and send to the grid more energy than they receive from NV Energy, they are entitled to a banking credit (in kWh) for these net excess
	energy they produce and send back to the grid.
<u>NMR-405</u>	Rooftop solar customers with systems of 25 kilowatts (kW) or less who applied for and/or
	installed a private rooftop solar system on or after June 15, 2017, are part of the NMR-
	405 rate class. NMR-G and NMR-A customers have the option to move to the NMR-405
	rate class, however, cannot switch back to their original rate once moving to NMR-405.
	NMR-405 customers receive full credit for the energy they produce and send to the grid
	and, in some months, a credit equal to at least 75 percent of the retail consumption rate
	for the net excess energy they produce and send to the grid.

#### Can I cash out my excess solar credits?

No, under <u>NMR-405</u> and <u>NMR-B</u> tariffs, there is no way to convert credits into a cash payment. You are only able to use credits on your account to offset future billing periods in which NV Energy delivers energy to you when you consume more energy than you produce. This excess credit cannot be used to reduce any fee or charge, such as Basic Service Charge, governmental fees, Energy Efficiency Charge, and the Deferred Energy Adjustment. Additionally, the credits are non-transferrable when you stop service with NV Energy or transfer service to another premise.



### Can I design my renewable generation system to offset more than 100 percent of my consumption?

No, by law, net metering systems cannot be designed to produce more than 100 percent of the customer's annual requirements for energy. NV Energy looks at your highest 12-month energy usage out of a 24-month period to determine how your system should be sized. If in your application you are adding things like EV chargers, then this additional load can be calculated by a licensed engineer to make sure your system is being designed to adhere to Nevada law.

### Do solar panels work during power outages?

If the solar system is not designed to operate with a backup power system, then it will not continue to work during a power outage. This is because solar systems that are connected to the power grid are required to follow the Institute of Electrical and Electronics Engineers ("IEEE") safety standards. In particular, the anti-islanding safety requirements of the IEEE 1547 safety standard. The IEEE 1547 safety standard requires all solar systems to stop generating power and automatically turn off when they detect that the grid is down. This prevents solar systems from continuing to send their electricity to the power grid where workers are busy restoring the outage and may be electrocuted.

There is specialized backup power equipment, for example, like automatic transfer switches, that can detect when a power outage occurs and will physically disconnect the solar system from the grid. The transfer switch will then reconnect the solar system to a separate backup power panel where lights and appliances can continue working from the solar energy. When a solar or other power generator works in a backup system like this, it is also known as an "islanded system" or a "microgrid".

The transfer equipment and other devices needed to enable backup power will have additional costs and require extra planning and designs. Ask your solar installer about backup power systems if you are interested.

## What is an inverter and are there different kinds?

Simply stated, an inverter converts the direct current (DC) produced by a solar panel into an alternative current (AC), which is the current our grid uses. There are two different kinds of inverters: microinverters and central inverters. They have different advantages and disadvantages depending on design and installation.

Microinverters are mounted directly onto each solar panel. They then convert an electrical current at the source. Central inverters are mounted on your home, typically close to the main service panel. They convert the electrical current from a string of solar panels located in one central location.

Factors such as shading, system upgrades including battery storage, upfront costs and warranties should all be considered before making a decision. Customers can research or ask their vendors about different types of technology to improve the efficiency of their solar system. (<u>Solar Photovoltaic Inverters Scoping</u> Report (energystar.gov))

## Do PV systems reduce your electric bill?

Solar energy can help many customers power their homes as an alternative or supplement to purchasing electricity from the grid. With a median size of 7 kW, many customers may see an energy savings on monthly power bills.

### Is my solar system sunlight dependent?

Without sunlight, a system reliant on solar energy cannot produce power. This can pose a problem for consumers in areas with less-than-ideal levels of sun exposure or poor weather. The way that the solar panels face and the angle they are mounted can have a significant effect on how much sunlight they receive per day.

### How much does solar cost?

Despite decreases in the cost of solar technology over the past few years, a complete solar installation still requires a significant investment. There are a few different factors – the type of solar panels, the inverter choice, the system rating (efficiency and size) and the warranty – which all impact the final price of the system. It is important to get multiple estimates to best determine which system will work best for your situation and budget.

### Buy, Lease, or Finance?

This answer can become quite complex, and it is usually best answered by your own personal financial advisor. Some important points to note here is that, if you were to sell your house while your system is still being financed or leased, this can complicate that process exponentially. The buyer would need to secure a separate loan for the solar system outside of the mortgage for the house, sometimes pushing their debt-to-equity ratio to a point where they can no longer afford the house. Alternatively, the buyer

may be able to assume the lease. The lease would need to allow for re-assignment, and buyer would need to qualify. Finally, if feasible and allowable, the seller could pay off any outstanding balance.

## What kind of warranty does the equipment come with?

Since solar arrays have no moving parts, manufacturers tend to be confident in the long-term performance of the system. Since solar contracts are usually for 25 years, it is important to understand how long the warranty is for each specific piece of your system, like solar panels, inverters, racking, and energy storage devices. Also, be sure to ask about the difference between performance and equipment warranties.

For information about the warranties on your equipment, please talk to your solar contractor.

## Anything else to consider?

The condition of your roof. If your roof needs repair or replacement, the system may need to be removed to perform the work. This could significantly add to the cost of the repairs. There may also be restrictions on who can remove and reinstall the system if you entered into a lease or power purchase agreement. To avoid post installation surprises, have your roof inspected and take that inspection report into account when deciding whether to move forward with solar.

## Does the contractor you decide to use have a valid electrical contractor's license?

It is important to use contractors who are licensed electrical contractors (C2 or C2G License) insured in the state of Nevada. Failing to use a licensed contractor could result in your application being rejected during review. Failing to use an insured contractor can result in personal liability if something happens during installation. Make sure to visit <u>Nevada State Contractors Board (nvcontractorsboard.com)</u> for more information on contractors in Nevada.

# Does NV Energy have partnership with solar contractors?

No. NV Energy does not currently have a partnership with any solar contractor.

# What are the contract terms?

How many months will you be locked into making payments on the system, what is the interest rate, are there any rules in the fine print? As with any major purchase, check with different vendors, get multiple quotes, and negotiate. NV Energy provides a free Rooftop Solar Calculator for your use on the NV Energy website <u>Solar | NV Energy</u>. You can sign into your MyAccount to get a personalized view of whether a solar system is cost-effective for you and, if it is, what size system would work best for your consumption activity. You can use the report that it generates to compare against quotes you receive from solar contractors as a reference point.

Additionally, licensed contractors who perform work on residential solar photovoltaic systems must adhere to specific requirements in an effort to better protect the public engaging in residential solar

projects. NRS 598.9801 and related provisions offer extensive protections to members of the public seeking to install a rooftop solar system. By law, agreements between host customers and contractors must include the following in at least 10-point font:

- Contractor info: contractor's name, address, license number, and monetary limit.
- Owner info: name and mailing address of owner where work is being performed.
- Contract date and estimated completion date.
- Description of work to be performed.
- Contract value: total amount to be paid to the contractor by the owner of the single-family residence for all work to be performed under the contract, including applicable taxes.
- Down payment: initial down payment or deposit not to exceed \$1,000 or 10 percent of the aggregate contract value, whichever is less to be paid before the start of construction.
- Disclosures: owners should be provided disclosures required under NRS 624.600, as well as the full retail price of a kilowatt-hour, any offsetting tariff and the identity of the electric utility that furnishes electric service at the time the contract is executed.
- Change orders: statement that any change orders must be agreed to in writing by both parties and incorporated into the original contract as such to be deemed enforceable.
- Plans and drawings: for new residential solar projects (does not apply for repairs exclusively), a plan and scale drawing showing the shape, size, and dimensions/specifications for the construction and equipment to be installed.
- Schedule of payments: dollar amount of any progress payment and the stage of construction at which the contractor is entitled to collect such payment. Payments must not be in excess of 100 percent of the value of the work performed on the project at any time, excluding financing charges, except for the initial down payment.

# How will I know when NV Energy has reviewed my project?

Within ten business days of an application for net metering being fully submitted, NV Energy will review the application to determine whether it has all the correct information and necessary documents uploaded. After this initial review, the applicant will receive a communication from PowerClerk letting them know if the application needs any corrections or if it is moving further along in the process. Each time an application is kicked back to the applicant for corrections and then re-submitted, NV Energy has ten business days to complete the review of the corrected application. Please refer to our handbook for more information. <u>Net Metering & Energy Storage Device Interconnection Handbook | NV Energy</u>

# How can I help ensure my renewable generation system will pass the utility safety inspection?

- The solar breaker will need to be turned to the closed (on) position. An NV Energy metering
  electrician will measure and check for correct voltages at the solar AC disconnect to make sure it
  is wired correctly. If the solar breaker is turned to the open (off) position, then no voltage will be
  measured at the AC disconnect and the NV Energy metering electrician will not be able to
  complete the inspection, resulting in a failed inspection.
- The solar AC disconnect will need to be turned to the open (off) position until NV Energy completes the utility safety inspection. Note: the home has not yet received a bi-directional NEM meter (at this point). Therefore, if any solar energy is produced and exported to the grid before the NEM meter is installed, the original standard KWh meter may record that exported

solar energy as energy consumption. Your bill will be artificially higher due to not having the appropriate meter installed.

## Under what circumstances would I need an NV Energy lockbox or lock to be installed?

An NV Energy lockbox or 2754 padlock will be required to be installed in any instance that the utility metering and/or the AC disconnect is not accessible 24/7 by NV Energy. This equipment is provided free of charge to your solar contractor and allows for the secure placement of keys. This will allow access for NV Energy authorized personnel and emergency first responders to reach your meters and disconnects in the event of an electrical emergency. Please note: your gate will need to be accessible from the exterior side of the gate door. This includes access to all locks, latches, bolts, etc. If this accessibility is not currently present, your gate will need to be modified to allow our metering electricians to reach these items and to comply with NV Energy's 24/7 access requirements.

# How long will it take for me to get my Permission to Operate (PTO)?

This can depend on the complexity of your project and the necessary review that each project goes through. Typically, most projects can expect roughly a six-month timeframe from when the project is first submitted to when the project receives permission to operate. Of course, this can be affected by any corrections that need to be made to either the PowerClerk Application or the system design itself. It is extremely important to have the contact information correct in the PowerClerk application to convey all necessary communications about the project to the correct person in a timely manner. This timeframe is also dependent on how quickly your solar contractor can complete the installation and submit the necessary paperwork for NV Energy to review.

# **Post Installation FAQs**

# What is considered a system expansion?

A system expansion means that you already have a renewable generation system installed on your house and you are looking to add additional equipment to that system to make it larger.

### If I expand my existing PV system, will I be on the same NEM rate?

Not necessarily, a PV system expansion will place you onto the most current rate schedule, which may not be as financially beneficial as your current NEM rate.

### What kind of maintenance will be required?

To operate efficiently, solar systems necessitate periodic upkeep, which may entail clearing debris from the panels and verifying the tightness and corrosion-free state of the electrical connections.

### What will happen to the efficiency of my solar panels over time?

Even with regular maintenance, the solar panels will still see a decrease in efficiency over time losing about 0.5 percent efficiency per year.

### What are some ways other than solar, that could help me save energy?

In addition to solar, you can improve the energy efficiency of your home by replacing old appliances with more efficient ones, getting a smart thermostat, weatherizing your home, and getting an energy

assessment. NV Energy offers programs to help save on your energy consumption, for more information visit Powershift at NV Energy. <u>https://www.nvenergy.com/save-with-powershift</u>

# Resources

# Sources

- <a href="https://www.forbes.com/home-improvement/solar/solar-energy-pros-and-cons/">https://www.forbes.com/home-improvement/solar/solar-energy-pros-and-cons/</a>
- <u>https://www.pge.com/en\_US/residential/solar-and-vehicles/options/option-overview/how-to-get-started/nema/net-energy-metering-aggregation.page</u>
- <u>https://www.cpuc.ca.gov/solarguide/</u>
- <u>Nevada State Contractors Board (nvcontractorsboard.com)</u>
- <u>SB303 Text (state.nv.us)</u>