ConsumerReports

The Real Cost of Leasing vs. Buying Solar Panels

Weigh all your options before settling on a solar system

By Josh Garskof June 30, 2016

Buying <u>solar panels</u> requires an investment and more decision-making than leasing, but over the long term the benefits of owning your system are hard to beat.

Best Ways to Pay for Your Panels

Cash

Buying your solar electric system outright is best. It usually costs \$15,000 to \$20,000 after tax credits and can reduce your electricity bill by 70 to 100 percent, depending on the size and orientation of your roof and local regulations. Most systems pay for themselves in five to seven years.

Home Equity Loan

If you need to finance your solar panel purchase, the most cost-effective way to do it is to use a home equity loan or a home equity line of credit. Because your house serves as collateral, these options have low interest rates (currently about 3 to 5 percent). The interest you pay is tax deductible. Equity loans range from 5 to 20 years and usually have fixed interest rates. Equity lines last 10 years and have variable rates (so the interest may increase).

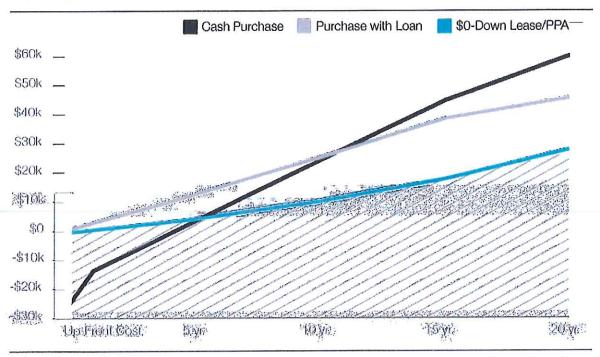
Solar Loan

There are unsecured and secured solar loans. With an unsecured loan, your

house doesn't act as collateral and the interest isn't tax deductible. Many solar installers work with lenders that offer solar loans, but you'll probably find better rates by directly checking with banks, and credit unions. Watch out for high origination fees. Fannie Mae also offers consumers financing for solar system installations through its HomeStyle Energy Mortgage Program when they buy a new house or refinance.

A LOOK AT WHAT YOU LOSE BY LEASING

A comparison of how much a residential solar system could save a New Jersey homeowner, depending on whether it was bought up front, bought with a loan, or leased



Source: EnergySage © 2016 Consumer Reports. All rights reserved

Why Leasing Isn't a Bright Idea

The steep up-front costs for a residential solar system can make a leasing company's sales pitch sound pretty appealing: Pay little or nothing and save hundreds of dollars per year on average. (The premise is that you save because the combination of your lease payment and your electric bill is less than what you currently pay for power.) Leasing can also look seductively simple compared with buying: There's no need to shop separately for an installer and financing; you just sign on the dotted line. So it's not surprising that 72 percent of the people who

The Real Cost of Leasing vs. Buying Solar Panels - Consumer Reports

installed residential solar systems in 2014 did so through leasing or another type of third-party arrangement. But the reality is not quite so sunny.

Your Savings Will Be Modest

People who lease their solar systems save far less than those who buy them outright or with a loan (they also miss out on federal tax benefits and any local incentives). Many leases contain an escalator clause that can further reduce savings by increasing payments 3 percent per year. So if you're paying 12 cents per kilowatt-hour in year one, with a 3 percent escalator, you'll be paying 18.2 cents in year 15. That means that if the cost of energy doesn't rise as quickly as the contracted lease payments increase, your savings could evaporate.

You Lose Control of Your Roof

Leasing companies want to maximize their profit, so there's a chance you could wind up with more panels than you want and that they could be installed in highly visible places—such as facing the street—without any <u>regard to appearance</u>. To avoid that, check the final system design and placement before signing the lease. It could be different from the initial mock-up.

Leases Can Scare Off Home Buyers

If you put your house on the market before the lease is up (usually 20 years), you will either have to buy out the lease or the person purchasing your home will have to assume it—which some are reluctant to do.

That's what happened to Andrew and Nora Barber, who had to buy out the lease on the solar system on their Clovis, Calif., home after two prospective buyers were frightened away by it. "I offered the solar company \$16,000, which was the total of all the payments for the remainder of the contract," Andrew says. "But \$21,000 was the buyout price in the contract, and the company wouldn't budge."

Some solar leasing companies may offer to relocate their systems from one house to another. That could cost \$500 for an initial audit and another \$500 to transfer the panels, if the leasing company determines it can be done. You would also need approval from your utility and local landmarks commission or the condo or homeowner's association, if applicable. Plus the new house must be able to accommodate the old system.

And remember: At the end of the lease, the solar company could remove the system—and your savings along with it.

Service Plans Don't Serve You

Though leasing companies tout their service plans, maintenance is a red herring. "Generally, there's really no scenario where the maintenance plan is going to kick in," says Joshua Pearce, an engineering professor and solar expert at the Michigan Tech Open Sustainability Technology Lab. Equipment problems aren't covered by the maintenance plan, they're covered by the warranty. And if a storm destroys your panels, the damage may be covered by your homeowners insurance.

That's why—whether you buy or lease—it's essential that you inform your insurer. (Roof-mounted solar is generally added as part of a standard homeowners policy at no additional cost; ground-mounted solar may require an insurance rider.)

More on Alternative Energy

- Energy Efficiency Guide
- Shedding Light on Solar Power
- How Utilities Are Fighting Back on Solar Power.
- Better-Looking Solar Solutions on the Horizon

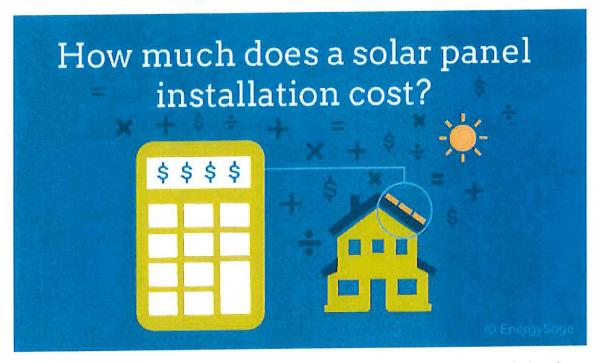
Editor's Note: This article also appeared in the <u>August 2016 issue of Consumer Reports magazine</u>.

© 2006 - 2016 Consumer Reports

Sign In

< NEWS FEED

What is the Average Cost of Solar Panels in the U.S.?



You've probably heard about how solar energy can reduce your electricity bills, but how much do solar panels really cost? The easiest way to calculate the average cost of solar panels is to look at its price in dollars per watt, which is relatively consistent across the United States. As of early 2016, most U.S homeowners are paying \$3 to \$4 per watt to install a solar panel system, and the average price of solar in the U.S. is \$3.70 per watt. That's 12 percent lower than it was a year ago, and solar panel system costs are continuing to fall. However, to really understand what a single solar panel will cost and what a complete solar system will cost, it's important to compare prices quoted to homeowners in your area – total costs can vary depending on the state that you live in.

Average cost of solar panels based on system size

Knowing the average cost per watt is helpful, but what does \$3.70/watt actually mean for you? The cost of installing solar on your home or business depends on how much electricity you want to generate – a bigger system will cost more, because you'll need to buy more equipment and more labor will be needed to install it.

The average solar energy system size in the U.S is approximately 5 kilowatts (kW). Based on the average price of \$3.70/watt, a 5kW system would cost \$13,000 after tax credits. Below are some average 2015 quotes for other solar energy systems by size:

- 6kW solar energy system cost: \$15,600
- 8kW solar energy system cost: \$20,700

• 10kW solar energy system cost: \$26,000

These prices reflect the cost of a solar energy system after deducting the federal solar tax credit, which reduces your solar system cost by 30 percent. Some states, local governments, and utilities also offer rebates and other tax incentives that can further reduce the solar system costs in your quotes from solar installers.

Get an instant estimate of your solar savings potential! Based on your roof + actual offers in your area

Get Your Estimate Now



The price of solar panels will also vary from state to state. EnergySage analyzed quote data from the EnergySage Solar Marketplace to develop a range of solar panel system prices for top solar states:

State	Solar system price range (6 kW)	Solar system price range (10 kW)
Arizona	\$10,900 - \$16,300	\$18,100 - \$27,100
California	\$13,700 - \$17,500	\$22,800 - \$29,200
Colorado	\$12,800 - \$16,500	\$21,400 — \$27,500
Connecticut	\$14,100 - \$18,400	\$23,500 - \$30,700
Florida	\$10,800 - \$15,200	\$18,100 – \$25,300
Illinois	\$13,200 - \$17,200	\$21,900 – \$28,700
Maryland	\$12,600 – \$15,500	\$21,000 – \$25,800
Massachusetts	\$14,500 - \$18,600	\$24,200 – \$31,000
New Hampshire	\$14,500 - \$17,500	\$24,200 – \$29,200

What Do Solar Panels Really Cost in the U.S.? | EnergySage

New Jersey	\$12,700 - \$13,400	\$21,200 – \$27,300
New York	\$13,500 – \$19,200	\$22,400 – \$32,000
North Carolina	\$12,900 - \$16,300	\$21,400 - \$27,100
Ohio	\$11,900 - \$16,000	\$19,900 - \$26,600
Oregon	\$13,200 - \$17,000	\$22,000 - \$28,300
Pennsylvania	\$12,400 - \$16,600	\$20,600 - \$27,700
Rhode Island	\$14,500 - \$18,100	\$24,200 – \$30,200
South Carolina	\$13,300 – \$16,200	\$22,100 – \$27,000
Texas	\$11,800 - \$15,300	\$19,700 – \$25,600
Virginia	\$13,100 - \$17,400	\$21,900 – \$29,000
Washington	\$15,100 – \$19,700	\$25,100 - \$32,800

NOTE: These ranges are system prices after the 30 percent federal tax credit for solar.

Remember, while bigger systems may cost more, they also should result in more savings. If you need to install a 10kW solar energy system to cover all of your electricity use, you might have to pay more out of pocket, but you'll be cutting a significant monthly expense – your utility bill – and saving more money as a result. \$0-down, low-interest solar loans are becoming increasingly common, making it even easier to buy a solar panel system and maximize your solar savings. For more information about the average cost to go solar in both these and other states, you can compare prices and installers across the country for 3.5kW, 4.5kW, 5kW, 6kW, 7 kW, 8 kW and 10kW solar systems.

Solar energy installation cost by state (dollars per watt)

As interesting as it is to look at average solar panel cost in the United States, it's also very helpful to understand what solar will cost in each state. Prices can vary significantly depending on where you live. A number of factors impact this variation – one of the most influential is the cost of electricity. That's one reason for why Florida's average solar cost is so much lower than the cost of solar in Massachusetts – electricity costs in the Northeast are high when compared to the rest of the U.S. (see table below).



EnergySage data. Source: Solar Electric Power Association, Market Snapshot | PV System Price Quotes from Selected States

The biggest takeaway from this data isn't that some states are "better" than others when it comes to solar prices: it's that solar panel cost is low and affordable across the board. Almost every state falls within a \$0.40 cent margin of the \$3.70 national average. An additional takeaway is that many of the top 10 solar states in the U.S. for installed capacity are higher than the national average for cost per watt (including the nation's leader California). Clearly, solar isn't only worth it in the regions of the United States where costs are extremely low – there is a healthy trend of adoption across the states without direct correlation to lowest cost per watt.

How much does a single solar panel cost?

Many homeowners are wondering how much a single solar panel costs as a way to understand the overall breakdown of their system or to calculate estimates for DIY solar projects. The simple answer is that it depends on the amount of leverage a buyer has, the type of panel, and the size of the system. For example, because solar installers have direct relationships with distributors and can buy in bulk, they can often purchase solar panels at a rate much lower than the average consumer. Solar companies can typically get a single solar panel at a price of \$0.75 per watt. Therefore, if the solar panel output is 250 watts, that single panel might cost you \$187.50. However, if a homeowner is trying to buy one or two panels on their own for a small DIY project, they will likely pay closer to \$1 per watt. That means the same solar panel could cost closer to \$250.

For those looking for a range for the cost of solar panels, the cost will run from as low as \$0.85 per watt to \$1.25 per watt with output ranging from 150W to 350W for a typical solar panel. If those numbers seem low, remember that an installation has added costs thanks to the inverters, solar batteries and other additional equipment needed for a complete solar energy system. Overall, there's no question that the equipment will be significantly cheaper when working with a solar installer rather than trying to find a deal online as a consumer.

Get an instant estimate of your solar savings potential! Based on your roof + actual offers in your area

Get Your Estimate Now



Factors that impact the cost of solar panel installation

A home solar quote contains the all-in price that you'll be expected to pay when you install a solar energy system on your roof. As you start to explore solar offers for your home, you'll notice that there are pricing variations between installers – what are the factors that make up the cost of your solar energy system?

First, there's the **equipment**. Not all solar panels (or inverters) are created equal, and more efficient equipment comes with a higher price tag. More efficient, higher-quality equipment comes with benefits that may be worth the added cost, however: better hardware can produce more electricity with the same amount of sunlight, and often comes with a more comprehensive warranty, too.

While equipment costs make up a significant portion of your solar energy system quote, the cost of **permits** and labor are also a factor. Typically, you will have to pay a fee to get your solar energy system connected to the grid. Additionally, there's a significant amount of manpower required to take your solar idea to a reality – designing a system, coordinating a site visit, filing permits, and installing the solar panels all take time and cost money.

The characteristics of your home can also play a part in your total costs. If you have a south-facing roof that slopes at a 30-degree angle, installing solar on your home will be very easy, because there are no additional accommodations to be made. Conversely, if your roof has multiple levels, dormers, or skylights, the additional effort to finish the installation may bring (slight) additional costs.

Another factor that can increase the cost of your solar energy system is marketing and sales spending. Solar installers spend money trying to attract customers, whether through phone calls, door-to-door salespeople, flyers, or other forms of direct advertising. Luckily, this is a cost you can control: by using an online comparison-shopping platform like the EnergySage Solar Marketplace, you can lower the costs your installer would otherwise incur by trying to market to you.

How much can you save with solar?

So how much are your neighbors actually saving over 20 years as a result of installing a solar energy system? As you might expect, this depends on where you live. For example, homeowners will save about \$38,000 on average in Boston when they go solar. In Los Angeles, homeowners will save nearly \$22,000 on average, and in Portland, homeowners can save a whopping \$43,000 over 20 years.

Top cities for 20-year solar savings in 2015



Your solar panel payback period will also depend on where you live. The average U.S. household can break even on their solar energy system in just 7.5 years, but in many cities that number is even lower – Portland, Seattle, Washington DC, and Boston all have payback periods of four years or less.

Many factors impact how much you'll pay out of pocket for your solar panel system and how much you'll save. The best way to quickly understand how much a solar panel installation will cost for you is to use a Solar Calculator – this tool uses your electricity consumption and real-time market prices to develop an instant solar estimate. Once ready, get quotes from multiple providers to compare all of your options and determine which one is best for you.

More information about solar panel costs & savings

- PVWatts Calculator: Estimate how much electricity your home can produce with solar.
- Tax Tips for Energy Savers: Learn more about the tax credits available for solar panels and other renewable energy systems.
- Solar PV Technology Basics: The Department of Energy's guide to solar energy system components.

Share this:



Posted on JUNE 8, 2016 [HTTP://NEWS.ENERGYSAGE.COM/HOW-MUCH-DOES-THE-AVERAGE-SOLAR-PANEL-INSTALLATION-COST-IN-THE-U-S/] by SARA MATASCI.

Categories: COSTS AND BENEFITS OF GOING SOLAR, SOLAR 101, SOLAR POWER SYSTEM PRICES
Tags: 10KW SOLAR SYSTEMS, 6KW SOLAR SYSTEM, AVERAGE PRICE OF SOLAR, INSTALLED COST OF
SOLAR PANELS, SOLAR SYSTEM PRICES

NET METERING RATES & RULES

NORTHERN NEVADA

1150 E. William Street Carson City, NV 89701 Phone: (775) 684-6101 Fax: (775) 684-6110

Consumer Complaints: (775) 684-6100



SOUTHERN NEVADA

9075 W. Diablo Dr., Ste. 250 Las Vegas, NV 89148 Phone: (702) 486-7210 Fax: (702) 486-7206

Consumer Complaints: (702) 486-2600

Net metering allows customers to offset their electricity usage and receive credit on their bills for excess electricity generated by solar energy systems that they own or lease.

SENATE BILL 374: Prior to the 2015 Nevada legislative session, NRS 704.773 required that NV Energy offer net metering until a cap of 3 percent of the total peak capacity of all utilities in the state was met. During its 2015 legislative session, the Nevada Legislature passed Senate Bill 374, which set a new cap of 235 MW, and directed the PUCN to examine the rates applicable to net metering customers and to identify and eliminate any unreasonable shifts in costs from net metering customers to other customers in order to move past the new statutory cap of 235 MW. SB 374 required NV Energy to file a proposed tariff, or rules and rates, with the PUCN by July 31, 2015. SB 374 set a Dec. 31, 2015, deadline for the PUCN to review and approve the proposed tariffs, including new rates.

PUCN'S DUTY UNDER SB 374: The PUCN's role is not to set state energy policy. Instead, the legislative process determines the state's energy policy, and the PUCN follows that legislative direction, which is set out in the Nevada Revised Statutes. SB 374 tasked the PUCN with ensuring that continuing net metering past the cap would not unreasonably shift costs from one group of ratepayers to another.

DOCKETS 15-07041 & 15-07042: On July 31, 2015, NV Energy filed applications with the PUCN for approval of a cost-of-service study and net metering tariffs for Nevada Power Company (NPC) and Sierra Power Pacific Company (SPPC). The PUCN designated those applications as Docket Nos. 15-07041 and 15-07042, respectively. In these dockets, many documents were filed with the PUCN and multiple hearings were held. All of that information is available on the PUCN website.

NEW NET METERING RATES APPROVED: On Dec. 23, 2015, the PUCN issued an order in Docket Nos. 15-07041 and 15-07042 implementing new rates for NV Energy customers who participate in net energy metering. At its Feb. 12, 2016, the PUCN reaffirmed its Dec. 23, 2015, order with one material change. The transition period was extended from four years to 12 years.

The order outlines a transition of all small commercial and residential net metering customers to a more cost-based rate structure over the next 12 years (2016 –

2028) that will eliminate unreasonable cost shifts between ratepayers without resulting in any additional profits to NV Energy. There are three basic components to the new rule: 1) a basic service charge, 2) a volumetric rate for the energy NV Energy sells to the customer, and 3) the rate NV Energy compensates the customer for the excess energy that NV Energy is required to accept from the customer generator.

Customer generators that remain connected to NV Energy's electric distribution system and rely on NV Energy to provide continually reliable service must pay their share of the fixed costs of maintaining NV Energy's system, no matter the volume of electricity they purchase from NV Energy.

The PUCN order adopts the following changes:

Separate ratepayer classes to eliminate subsidies: The PUCN found that current rates enable net metering customers to avoid paying for some of the fixed costs associated with the sale of electric service by NV Energy to net metering customers. For example, NV Energy incurs significant costs investing in the infrastructure (e.g., distribution system and generation assets) necessary to ensure that it can meet net metering customers' full electricity demands when their solar energy systems are not generating electricity. State and federal law entitle a regulated utility to recover in rates the full cost of its reasonable investment in facilities to serve customers. If net metering customers rely on these facilities, they should be responsible for their share of the costs that are incurred by NV Energy to provide them electric service regardless of their use of solar energy systems to reduce the amount of electricity they purchase from NV Energy. Creating separate ratepayer classes for net metering customers ensures that costs allocated to net metering customers stay with net metering customers when determining rates.

Unreasonable cost shift: The PUCN found that, under the previous rates, costs were being unreasonably shifted away from small commercial and residential net metering customers to other non-participating ratepayers, resulting in higher rates for non-net-metering customers. The annual subsidy associated with the shift in fixed costs from net metering customers to other customers is approximately \$623 per year for each residential net metering

customer in Southern Nevada and \$471 per year for each residential net metering customer in Northern Nevada. In addition to reducing the cost-shifts, the PUCN ordered NV Energy to account for the new rates in a manner (regulatory liability) to allow the PUCN to ensure that the increased collections from net metering customers would reduce costs for non-net-metering customers, rather than flow to NV Energy's shareholders.

Net energy metering subsidy line item on customer bills: The PUCN ordered NPC and SPPC, in their next respective general rate cases, to propose including a line item entitled "Net Energy Metering Subsidy" on customer bills that identifies the subsidy each non-net-metering customer pays each month to subsidize net metering customers. The companies would have to include the same proposals in every subsequent general rate case filing with the PUCN until the subsidy is completely eliminated on Jan. 1, 2028.

Grandfathering: The PUCN decided the new net metering rules should apply to all net metering customers, not just new customers. Treating net metering customers differently depending on the date of the system application would have potentially been confusing and impractical to administer, especially in real estate transactions. The new rule treats all net metering customers identically.

Gradual implementation of new rates: The order outlines a tri-annual incremental implementation of the new rates for net metering customers to reduce and ultimately eliminate the current cost shifting between net metering customers and those who do not participate in net metering. The new rates will be fully implemented on Jan. 1, 2028.

Lower volumetric charge/increased basic service charge: The order includes a decrease to the volumetric commodity charge and a corresponding increase to the fixed basic service charge. For the basic service charge, all customers pay a minimum amount each month regardless of how much electricity the customer uses because many of the infrastructure costs are fixed and do not vary based on usage. The basic service charge covers costs such as meters, power lines and other distribution facilities. Some of the fixed costs are also collected through a consumption-based charge. See the tables on pg. 3 for more information.

Compensation for excess electricity: The PUCN ordered that NV Energy must change the way it compensates net metering customers for the excess energy produced by the customers' energy systems. Previously, NV Energy credited any excess energy back to net metering customers at retail rates. Because NV Energy can either produce or purchase identical energy in the wholesale market, providing the retail rate overvalued the excess energy produced by net metering systems. The PUCN set a new rate of compensation to reflect the actual value of excess generation, which is based on avoided energy cost (the energy that NV Energy

did not have to supply to the grid) and a credit for reduced energy/line losses. As with the rest of the revised net metering rates, the change in the compensation for excess energy will be phased in over 12 years. See the tables on pg. 3 for more information.

Optional rates: The order offers net metering customers the option to take service under time-of-use and time-of-production rates to allow them to take full advantage of energy generation during peak and off-peak periods. Time-of-use pricing enables net metering customers to respond to price signals for both the excess generation produced by their net metering systems and the electricity delivered by NV Energy, while positioning them to benefit from future advancements in technologies, such as storage.

CAN THE RATES CHANGE BEFORE BEING FULLY IMPLEMENTED IN 2028? Yes. The reason for the gradual transition was to give net metering customers time to adjust, but it also allows for periodic adjustments based on data in NV Energy's next general rate cases for SPPC and NPC. SPPC's next general rate case will take place in 2016, and NPC's will occur in 2017. Nevada law requires electric utilities to file a general rate case application at least once every three years. For more information on general rate cases, please see the PUCN's "General Rate Case Process" fact sheet.

WHY DID THE PUCN RELY ON NV ENERGY'S MARGINAL COST OF SERVICE STUDY? It is a longstanding and widely accepted practice to rely on the utility's cost-of-service study when setting the utility's rates. The PUCN utilized the data provided by NV Energy because NV Energy is the only entity with the specific customer data necessary to evaluate the costs of providing service to its customers. Prior to being accepted by the PUCN, the data underlying NV Energy's study was subjected to rigorous review by experts representing various interested parties in Docket Nos. 15-07041 and 15-07042. A marginal cost-of-service study is the most appropriate tool for setting rates because it examines the actual costs of serving various customers.

Other studies, such as the 2014 "Nevada Net Energy Metering Impacts Evaluation," conducted by E3 and commissioned by the Nevada Legislature, are useful for public policy decisions but are not as helpful for actually setting rates. The E3 study was a cost/benefit analysis focusing on whether or not it would be appropriate to promote, incentivize, or support net metering in Nevada. Although the E3 study is not a rate-setting tool, extrapolating the E3 study under current conditions, the conclusion of the E3 study is consistent with the findings of NV Energy's marginal cost-of-service study.

The E3 study showed there would be a \$36 million benefit to non-net-metering customers from net metering if utility-scale



solar costs were \$100 per megawatt-hour. That finding is premised on utility-scale solar (i.e. large solar farms located in the desert) costing \$100 per megawatt-hour to finance, construct and maintain over a certain period of time. Based on the end-of-2013 numbers that the E3 study utilized, \$100 per megawatt-hour for utility-scale solar appeared to be a reasonable assumption. However, the E3 study also included sensitivity analyses to demonstrate what would happen to the cost/benefit ratio if the cost of utility-scale solar decreased from \$100 to \$80 per megawatt-hour. E3's analysis showed that at \$80 per megawatt-hour, there was no longer a benefit but instead a \$222 million cost for nonnet-metering customers. As of January 2016, the cost of utility-scale solar was approximately \$48 per megawatt-hour. Using the same study, changing that one variable to \$48 per megawatt-hour would result in a net cost to non-net-metering customers of over \$600 million.

INCENTIVIZATION OF SOLAR IN NEVADA: The order finds that a cost-based approach to ratemaking will transition Nevada to a net metering framework that allows

all customers to receive accurate price signals. The rooftop solar industry will no longer receive a hidden subsidy in the form of a discriminatory rate design that benefits net metering customers at the expense of other ratepayers, and it will therefore be able to respond to the market and gradually adjust its business model.

The order's net metering framework continues the policy goal of incentivizing the development of solar energy resources in Nevada, but it does so pursuant to SB 374, which requires reasonable and transparent cost-based rates and fair compensation for excess generation. The rates approved by the PUCN continue to provide a growing number of net metering customers the opportunity to offset their electricity usage and costs.

MORE INFORMATION: Information about the order and underlying applications can be found on the PUCN's website at puc.nv.gov. From the top navigational bar on the home page, select Dockets, followed by Electric Dockets. Scroll to Docket Nos. 15-07041 and 15-07042 and select View.

			IER COMPANY e Implementation	
Step	Date	Basic Service Charge	Volumetric Charge (per kilowatt-hour)	Excess Energy Credit (per kilowatt-hour)
	Rates Prior to Jan. 1, 2016	\$12.75	\$0.11289	\$0.11289
1	Jan. 1, 2016	\$17.90	\$0.11067	\$0.09199
2	Jan. 1, 2019	\$23.05	\$0.10845	\$0.07429
3	Jan. 1, 2022	\$28.21	\$0.10623	\$0.05747
4	Jan. 1, 2025	\$33.36	\$0.10418	\$0.04157
5	Jan. 1, 2028	\$38.51	\$0.10179	\$0.02649

			POWER COMPANY te Implementation			
Step	Date	Basic Service Charge	Volumetric Charge (per kilowatt-hour)	Excess Energy Credit (per kilowatt-hour)		
	Rates Prior to Jan. 1, 2016	\$15.25	\$0.08829	\$0.08829		
1	Jan. 1, 2016	\$21.09	\$0.08267	\$0.07620		
2	Jan. 1, 2019	\$26.92	\$0.07705	\$0.06055		
3	Jan. 1, 2022	\$32.76	\$0.07143	\$0.04716		
4	Jan. 1, 2025	\$38.59	\$0.06582	\$0.03601		
5	Jan. 1, 2028	\$44.43	\$0.06020	\$0.02711		

The above tables provide examples of the basic service charge, volumetric rate and excess energy credit for the 12-year transition period. The rates assume no changes (e.g. general rate cases) other than the transition to the PUCN-ordered new net metering rates. For the excess energy credit, the avoided cost of energy is certain to change in the future based on factors such as the price of natural gas and the price of energy produced by large-scale solar energy projects. For example, higher prices for natural gas or large-scale solar energy will likely result in higher compensation for excess energy produced by net metering systems.





Table 1 -Solar PV System Cost

	18% Capacity Factor	30% ITC	(kwh)	\$0.089	\$0.084	\$0.080	\$0.078	\$0.075	\$0.071	\$0.066	\$0.062	\$0.058	\$0.039
	18% Capa	w/o ITC	(kWh)	\$0.127	\$0.120	\$0.114	\$0.112	\$0.108	\$0.101	\$0.095	\$0.089	\$0.082	\$0.056
25 Year Period	19% Capacity Factor	30% ITC	(kWh)	\$0.084	\$0.080	\$0.076	\$0.074	\$0.071	\$0.067	\$0.063	\$0.059	\$0.055	\$0.037
25 Year	19% Capa	w/o ITC	(kWh)	\$0.120	\$0.114	\$0.108	\$0.106	\$0.102	\$0.096	\$0.090	\$0.084	\$0.078	\$0.053
	20% Capacity Factor	30% ITC	(kWh)	\$0.080	\$0.076	\$0.072	\$0.071	\$0.068	\$0.064	\$0.060	\$0.056	\$0.052	\$0.035
	20% Capa	w/o ITC	(kWh)	\$0.114	\$0.108	\$0.102	\$0.101	\$0.097	\$0.091	\$0.085	\$0.080	\$0.074	\$0.050
stem	(AC)	30% ITC	(per Watt)	\$3.50	\$3.33	\$3.15	\$3.10	\$2.98	\$2.80	\$2.63	\$2.45	\$2.28	\$1.54
PV System	Cost (AC)	w/o ITC	(per Watt) (per Watt	\$5.00	\$4.75	\$4.50	\$4.43	\$4.25	\$4.00	\$3.75	\$3.50	\$3.25	\$2.20

Table 2 - Estimated Excess Rate
PV System Cost with Current NPC RS-NEM Service

	actor											
Year Period	18% Capacity Factor	30% ITC	(kWh)	\$0.174	\$0.159	\$0.145	\$0.140	\$0.130	\$0.115	\$0.097	\$0.078	\$0.058
70% Consumed / 30% Excess - 25 Year Period	19% Capacity Factor	30% ITC	(kWh)	\$0.153	\$0.139	\$0.125	\$0.121	\$0.111	\$0.093	\$0.075	\$0.056	\$0.037
70% Consum	20% Capacity Factor	30% ITC	(kwh)	\$0.134	\$0.120	\$0.107	\$0.102	\$0.089	\$0.071	\$0.053	\$0.036	\$0.018
rear Period	18% Capacity Factor	30% ITC	(kWh)	\$0.155	\$0.144	\$0.133	\$0.130	\$0.122	\$0.111	\$0.097	\$0.082	\$0.067
60% Consumed / 40% Excess - 25 Year Period	19% Capacity Factor	30% ITC	(kWh)	\$0.139	\$0.129	\$0.118	\$0.114	\$0.108	\$0.094	\$0.080	\$0.066	\$0.052
60% Consu	20% Capacity Factor	30% ITC	(kWh)	\$0.125	\$0.115	\$0.103	\$0.100	\$0.090	\$0.077	\$0.064	\$0.050	\$0.037
stem	(AC)	30% ITC	per Watt) (per Watt)	\$3.50	\$3.33	\$3.15	\$3.10	\$2.98	\$2.80	\$2.63	\$2.45	\$2.28
PV System	Cost (AC)	w/o ITC	(per Watt)	\$5.00	\$4.75	\$4.50	\$4.43	\$4.25	\$4.00	\$3.75	\$3.50	\$3.25

Table 3 - Estimated Excess Rate
PV System Cost with Current SPPCo RS-NEM Service

	20% Capacity Factor	60% COIISUITIEU / 40% EXCESS - 23 TEAL PELIOU		ns on oso	V / COIISUITEU / SO/VEXCESS - 23 TEAL FELLOU	במו בנו המ
			63.10.150			
		19% Capacity Factor	18% Capacity Factor	20% Capacity Factor	19% Capacity Factor	18% Capacity Factor
t) (per Watt)	30% ITC	30% ITC	30% ITC	30% ITC	30% ITC	30% ITC
0 L C P	(kWh)	(kWh)	(kWh)	(kWh)	(kWh)	(kWh)
)\$ 05.5\$ 00.5\$	\$0.178	\$0.193	\$0.208	\$0.216	\$0.236	\$0.257
\$3.33	0.168	\$0.182	\$0.197	\$0.203	\$0.222	\$0.242
\$3.15	0.158	\$0.172	\$0.186	\$0.190	\$0.208	\$0.227
\$3.10	\$0.155	\$0.169	\$0.183	\$0.186	\$0.204	\$0.223
\$2.98	0.148	\$0.161	\$0.175	\$0.176	\$0.194	\$0.212
\$2.80	0.138	\$0.151	\$0.164	\$0.163	\$0.180	\$0.198
\$3.75 \$2.63 \$(\$0.128	\$0.140	\$0.153	\$0.150	\$0.166	\$0.183
\$2.45	0.118	\$0.130	\$0.142	\$0.137	\$0.152	\$0.168
\$3.25 \$2.28 \$(\$0.108	\$0.119	\$0.131	\$0.123	\$0.138	\$0.153

The estimated excess rate is the target rate in 2028 for excess energy 5 steps over 12 years (PUCN Order, Dockets Nos. 15-07041 & 15-07042). NV Energy May 2016 Solar Generations Report: PV system cost of \$4.43 per AC Watt (less than 25kV); \$2.20 per AC Watt (25kV and larger). Excess rates greater than the utility tariff rates are set in 2016 with no phase in periods (above the line in Table 1 and entire Table 2). Noted PV system capacity factors are an average value over a 25 year period with module degradation of 0.5% per year. Other Assumptions: PV system in 2016, utility rates held constant, values are nominal (no time value of money). Notes:

SIERRA PACIFIC POWER COMPANY dba NV Energy

6100 Neil Road

Notice No.:

Reno, NV 89511

55 th Revised

PUCN Sheet No. 63G PUCN Sheet No. 63G

Tariff No. Electric No. 1 Cancelling 54 th Revised STATEMENT OF RATES EFFECTIVE RATES APPLICABLE TO SIERRA PACIFIC POWER COMPANY **ELECTRIC SCHEDULES Bundled Rates** UEC DEAA **Total Rate** TRED REPR Schedule Number & Type of Charge **BTGR BTER** D-1 - Domestic Service \$15,25 Basic Service Charge, per month \$0.00198 \$0.08334 (R) \$0,00039 (\$0.00727) Consumption Charge per kWh \$0.05793 \$0.03348 \$0,00105 (\$0.00422) DM-1 - Domestic Multi-Family Service \$7.50 Basic Service Charge, per month \$0.04862 \$0.03348 \$0.00105 (\$0.00422)\$0,00039 (\$0.00727)\$0.00184 \$0,07389 (R) Consumption Charge per kWh GS-1 - Small General Service \$32.00 Basic Service Charge, per month Consumption Charge per kWh \$0.04422 \$0,03348 \$0.00105 (\$0.00422) \$0.00039 (\$0.00727)\$0.00174 \$0.06939 (R) \$2.40 Additional Meter Charge per additional meter per month GS-2 - Medium General Service Secondary Distribution Voltage \$11.00 Basic Service Charge, per month \$0,01854 \$0.03348 \$0,00105 (\$0.00422) \$0.00039 (\$0.00727) \$0.00172 \$0.04369 (R) Consumption Charge per kWh Demand Charge, Per kW of Maximum Demand \$4.04 Facilities Charge, Per kW of Maximum Demand \$6.10 \$4.00 Additional Meter Charge per additional meter per month Primary Distribution Voltage \$15.00 Basic Service Charge, per month (R) \$0.02910 \$0.00446 \$0.03348 \$0.00105 (\$0.00422) \$0.00039 (\$0.00727) \$0.00121 Consumption Charge per kWh \$3.03 Demand Charge, Per kW of Maximum Demand \$2.86 Facilities Charge, Per kW of Maximum Demand \$8.10 Additional Meter Charge per additional meter per month Transmission_Voltage \$27.00 Basic Service Charge, per month (\$0.00422) \$0.00039 (\$0.00727) \$0.00130 \$0.03141 (R) \$0,00668 \$0.03348 \$0.00105 Consumption Charge per kWh \$3.44 Demand Charge, Per kW of Maximum Demand \$0,00448 Facilities Charge per dollar of Utility Investment Facilities Charge per dollar of Contributed Investment \$0.00084 \$4.39 Or, Facilities Charge, Per kW of Maximum Demand HVD Charge, Per kW of Maximum Demand \$0.26 \$17.00 Additional Meter Charge per additional meter per month (Continued) Issued By: Issued: 05-13-16 Shawn M. Elicegui 07-01-16 Effective: Senior Vice President 16-02

SIERRA PACIFIC POWER COMPANY dba NV Energy 6100 Neil Road

Reno, NV 89511 Tariff No. Electric No. 1

Cancelling

3 rd Revised 2 nd Revised

PUCN Sheet No. 63L(1) PUCN Sheet No. 63L(1)

STATEMENT OF RATES

EFFECTIVE RATES APPLICABLE TO SIERRA PACIFIC POWER COMPANY

<u>EFFE</u>	CTIVE RATES API		TO SIERRA C SCHEDU		OWER CO	<u>OMPANY</u>		
		<u>Bund</u> Net Meterin	dled Rates					
Schedule Number & Type of Charge		BTER	TRED	REPR	<u>UEC</u>	<u>DEAA</u>	<u>EE</u>	Total Rate
D-1 - NEM - Domestic Service-Net M	letering							\$21.09
Basic Service Charge, per month Consumption Charge per kWh	\$0.05231	\$0,03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0,00727)	\$0.00198	\$0.07772
Excess Energy Credit per kWh								(\$0.07620)
DM-1-NEM - Domestic Multi-Family Basic Service Charge, per month	Service-Net Metering							\$10.15
Consumption Charge per kWh	\$0.04406	\$0.03348	\$0,00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00184	\$0.06933
Excess Energy Credit per kWh								(\$0.06960)
GS-1-NEM - Small General Service-	Net Metering							
Basic Service Charge, per month Consumption Charge per kWh	\$0.04072	\$0.03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00174	\$45.58 \$0.06589
· - ·	ψ0,04072	φυ.υυυντυ	φυ.υυτου	(40.00-122)	40.00000	(40.00727)	40.001.1	·
Excess Energy Credit per kWh								(\$0.06692)
Additional Meter Charge per additiona	i meter per month							\$2.40
OD-1-TOU-NEM - Optional Domestic	Service Time-of-Use-	Net Metering						\$21.09
Basic Service Charge, per month Consumption Charge per kWh								,
Summer On-Peak Period	\$0.34602	\$0.03348	\$0.00105	(\$0.00422)	\$0,00039	(\$0.00727)	\$0,00198	\$0.37143
Summer Mid-Peak Period	\$0.14886	\$0.03348	\$0.00105	(\$0,00422)	\$0.00039	(\$0.00727)	\$0,00198	\$0.17427
Summer Off-Peak Period	\$0.02399	\$0.03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0,00727)	\$0.00198	\$0,04940
Summer OD-REVRR (Residential	\$ \$0.01700	en noo40	\$0.00105	(\$0.00422)	\$0,00039	(\$0.00727)	\$0,00198	\$0.04339
Electric Vehicle Recharge Rider	\$0.01798 \$0.04033	\$0.03348 \$0.03348	\$0.00105	(\$0.00422) (\$0.00422)	\$0.00039	(\$0.00727)	\$0.00198	\$0,04553
Winter On-Peak Period	\$0.02399	\$0.03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00198	\$0.04940
Winter Off-Peak Period	φ0.02399	\$0,03340	φυ.υσ1υσ	(ψ0.00+22)	φυ,υυσου	(\$0.00121)	40.00100	V 0.0.0.0
Winter OD-REVRR (Residential Electric Vehicle Recharge Rider)	\$0.01798	\$0.03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0,00727)	\$0.00198	\$0.04339
Excess Energy Credit per kWh								
Summer On-Peak Period								(\$0.12219)
Summer Mid-Peak Period								(\$0.11225)
Summer Off-Peak Period								(\$0.06015)
Summer OD-REVRR (Residential E	lectric Vehicle Recharg	e Rider)						(\$0.06015)
Winter On-Peak Period								(\$0.07649)
Winter Off-Peak Period								(\$0.06015)
Winter OD-REVRR(Residential Ele	ctric Vehicle Recharge I	Rider)						(\$0.06015)
ODM-1-TOU-NEM - Optional Domes Basic Service Charge, per month	tic Service Multi-Famil	y- Time-of-Us	e-Net Meteri	ng	,			\$10.15
Consumption Charge per kWh								
Summer On-Peak Period	\$0.33063	\$0.03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00184	\$0.35590
Summer Mid-Peak Period	\$0.12741	\$0.03348	\$0.00105	(\$0.00422)	\$0,00039	(\$0.00727)	\$0.00184	\$0.15268
Summer Off-Peak Period	\$0.02004	\$0.03348	\$0,00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00184	\$0.04531
		(Co	ontinued)		Γ			
Issued: 05-13	3-16	Issue	ed By:					
Effective: 07-01	I-16	Shawn N	1. Elicegui					
VI-01								
Notice No.: 16-02	2	Senior Vic	e President	:				

SIERRA PACIFIC POWER COMPANY dba NV Energy 6100 Neil Road Reno, NV 89511

Tariff No. Electric No. 1

3 rd Revised 2 nd Revised PUCN Sheet No. 63L(2)

			Cancelling		rd Revised nd Revised			N Sheet No. N Sheet No.	
				NT OF RA		<u></u>	****		
	EFFECTIVE RA	ATES APPL				OWER CO	OMPANY		
				SCHEDU	<u>LES</u>				
		NI NI	<u>Bund</u> et Meterin	led Rates	Datas				
		<u>N</u>	et weterin	d (MEMI)	Rates				
Schedule Number & Type	of Charge	BTGR	BTER	TRED	REPR	UEC	DEAA	<u>EE</u>	Total Rate
DDM-1-TOU-NEM - Optio	nal Domestic Service				ng (Continue	<u>d)</u>			
Consumption Charge per k									** ***
Winter On-Peak Period		\$0.03090	\$0.03348	\$0,00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00184	\$0.05617
Winter Off-Peak Period		\$0.02004	\$0.03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00184	\$0.04531
	145								
Excess Energy Credit per l Summer On-Peak Peno									(\$0.11161)
Summer Mid-Peak Perio									(\$0.10253)
Summer Off-Peak Perio									(\$0.05620)
Winter On-Peak Period	-								(\$0.06706)
Winter Off-Peak Period									(\$0.05620)
OGS-1 TOU-NEM - Option	nal General Service 1	ime-of-Use-N	let Metering						4 15 50
Basic Service Charge, per									\$45.58
Consumption Charge per k		** *****	AC DOO 10	******	(80.00400)	ቀብ ለለበቁስ	(60 00707)	\$0,00194	\$0.35097
Summer On-Peak Perio		\$0.32560	\$0.03348	\$0.00105	(\$0.00422)	\$0,00039 \$0,00039	(\$0.00727) (\$0.00727)	\$0.00194	\$0.16131
Summer Mid-Peak Perio		\$0.13594	\$0.03348 \$0.03348	\$0.00105 \$0.00105	(\$0.00422) (\$0.00422)	\$0,00039	(\$0.00727)	\$0,00194	\$0,03942
Summer Off-Peak Perio		\$0.01405	оноси,џф	\$0.00103	(\$0.00422)	φυ,υσοσσ	(\$0.00121)	40,00101	ψυ,σσο 12
Summer OGS-EVRR (G Electric Vehicle Rech		\$0.00903	\$0.03348	\$0,00105	(\$0.00422)	\$0,00039	(\$0.00727)	\$0.00194	\$0.03440
Winter On-Peak Period	large Mider)	\$0.03144	\$0.03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00194	\$0.05681
Winter Off-Peak Period		\$0.01405	\$0.03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00194	\$0.03942
Winter OGS-EVRR (Ge	neral Service	40.01.100	************	**	(******		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Electric Vehicle Rech		\$0.00903	\$0.03348	\$0.00105	(\$0.00422)	\$0.00039	(\$0.00727)	\$0.00194	\$0.03440
	• .								
Excess Energy Credit per l	kWh								(00 10700)
Summer On-Peak Perio									(\$0.10732) (\$0.09859)
Summer Mid-Peak Perio									(\$0.05021)
Summer Off-Peak Perio		- Mariata Dael	anna Didan						(\$0.05021)
Summer OGS-EVRR (G	eneral Service Elecui	c venicle Reci	large reluer)						(\$0,06760)
Winter On-Peak Period Winter Off-Peak Period									(\$0.05021)
Winter QGS-EVRR(Gen	eral Service Electric \	ehicle Rechar	ae Rider)						(\$0.05021)
WEREI GOO EVIINGOO	10701 001 1100 21001110 1		g- · · · · /						
Additional Meter Charge po	er additional meter per	month							\$2.20
Notes									
The charges shown a	bove are subject to a	ijustments for	taxes and ass	sessments as	specified in th	e Tax Adjustr	nent Rider		
1	63E) and Schedule M	IC (PUCN She	et Nos. 63C-6	63D.)					
BTGR = Base Tariff (
3. BTER = Base Tariff E									
4. TRED = Temporary F			arge.						
 REPR = Renewable I UEC = Universal Ene 			of the applica	able rate sche	dule \				
 UEC = Universal Energy DEAA = Deferred Energy 	arou Accounting Adjus	tment (see Sc	bedule DEAA	PHON Shee	it No. 63.)				
B. The STGR includes th	ne cost of recovery of l	he Advanced	Service Delive	ery project as	ordered in Do	cket 14-0500	5.		
9 Time-of-Use and Sea	son periods are define	ed in the Speci	al Conditions	of the applica	ble rate sched	ule.			
	at contain a demand bi	lling compone	nt are also sui	bject to the Po	ower Factor Ac	djustment cha	rge (see the S	pecial	
10. All rate schedules tha									
All rate schedules that	applicable rate schedu			ina provisions	of Schedule N	∛o. IS-1 are a	pplicable.		
 All rate schedules that Conditions of the statement For the billing periods 	applicable rate schedu s November 1 through	the end of Fet	oruary, the bili	ing provident					
10. All rate schedules the Conditions of the 11. For the billing periods 12. Tier 1 rates for dema	applicable rate schedu s November 1 through nd and consumption a	the end of Fet re applicable t	o that portion	of Customer's	s load identified	d in the servic	e agreement a	IS	
10. All rate schedules the Conditions of the 11. For the billing periods 12. Tier 1 rates for dema	applicable rate schedu s November 1 through	the end of Fet re applicable t	o that portion	of Customer's	s load identified	d in the servic	e agreement a	18	
10. All rate schedules the Conditions of the 11. For the billing periods 12. Tier 1 rates for dema tied to Tier 1 rates 13. HELD FOR FUTURE	applicable rate schedu s November 1 through nd and consumption a s, subject to the Specia EUSE	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat	of Customer's	s load identified	d in the servic	e agreement a	is	
10. All rate schedules the Conditions of the 11. For the billing periods 12. Tier 1 rates for dema tied to Tier 1 rates 13. HELD FOR FUTURE	applicable rate schedu s November 1 through nd and consumption a s, subject to the Specia EUSE	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat schedule	of Customer's le schedule.	s load identified	d in the servic	e agreement a	18	
All rate schedules the Conditions of the 11. For the billing periods Tier 1 rates for dema tied to Tier 1 rates HELD FOR FUTURE	applicable rate schedu s November 1 through nd and consumption a s, subject to the Specia EUSE	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat schedule	of Customer's	s load identified	d in the servic	e agreement a	is	
10. All rate schedules the Conditions of the 11. For the billing periods 12. Tier 1 rates for dema tied to Tier 1 rates 13. HELD FOR FUTURE	applicable rate schedu s November 1 through nd and consumption a s, subject to the Specia EUSE	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat schedule	of Customer's le schedule.	s load identified	d in the servic	e agreement a	IS	
10. All rate schedules the Conditions of the 11. For the billing periods 12. Tier 1 rates for dema tied to Tier 1 rates 13. HELD FOR FUTURE	applicable rate schedu s November 1 through nd and consumption a s, subject to the Specia EUSE	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat schedule (Co	of Customer's le schedule. ontinued)	s load identified	d in the servic	e agreement a		
10. All rate schedules the Conditions of the Conditions of the International Internat	applicable rate schedu s November 1 through nd and consumption a s, subject to the Specia EUSE	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat schedule (Co	of Customer's le schedule.	s load identified	d in the servic	e agreement a	is	
10. All rate schedules the Conditions of the Conditions of the International Internat	applicable rate schedus November 1 through not and consumption as subject to the Specia USE pply, please see the a	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat schedule (Co	of Customer's le schedule. ontinued)	s load identified	d in the servic	e agreement a	s	
10. All rate schedules the Conditions of the Conditions of the It. For the billing periods 12. Tier 1 rates for dematied to Tier 1 rates 13. HELD FOR FUTURE 14. Other charges may a lissued:	applicable rate schedus November 1 through not and consumption as subject to the Special USE pply, please see the a	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat schedule (Co	of Customer's e schedule. ontinued) ed By:	s load identified	d in the service	e agreement a	is	
10. All rate schedules the Conditions of the Conditions of the It. For the billing periods 12. Tier 1 rates for dematied to Tier 1 rates 13. HELD FOR FUTURE 14. Other charges may a lissued:	applicable rate schedus November 1 through not and consumption as subject to the Specia USE pply, please see the a	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat schedule (Co	of Customer's le schedule. ontinued)	s load identifier	d in the service	e agreement a	is	
10. All rate schedules the Conditions of the 11. For the billing periods12. Tier 1 rates for dema	applicable rate schedus November 1 through not and consumption as subject to the Special USE pply, please see the a	the end of Fet re applicable t al Conditions o	o that portion f the GS-4 rat schedule (Co	of Customer's e schedule. ontinued) ed By:	s load identifier	d in the service	e agreement a	is	
10. All rate schedules the Conditions of the Conditions of the International Conditional Conditions of the International Cond	applicable rate schedus November 1 through not and consumption as subject to the Special USE pply, please see the a	the end of Fet re applicable t al Conditions o	o that portion if the GS-4 rat schedule (Co	of Customer's e schedule. ontinued) ed By:	s load identified	d in the servic	e agreement a	is	

P.O. Box 98910

Las Vegas, NV 89151-0001

Tariff No. 1-B

PUCN Sheet No. 10 cancels 104 th Revised PUCN Sheet No. 10 Cancelling 103 rd Revised Tariff No. 1-A (withdrawn) STATEMENT OF RATES EFFECTIVE RATES APPLICABLE TO NEVADA POWER COMPANY **ELECTRIC SCHEDULES Bundled Rates BTGR BTER** TRED REPR **UEC** DEAA EE Total Rate Schedule Number & Type of Charge RS - Residential Service \$12.75 Basic Service Charge, per month Consumption Charge per kWh \$0.00245 \$0.10603 (R) \$0,03894 \$0.00062 \$0,00051 \$0,00039 (\$0.00687) \$0.06999 All Usage RM - Residential Service - Multi-Family \$9.00 Basic Service Charge, per month Consumption Charge per kWh \$0,00051 \$0.09873 (R) \$0.06296 \$0.03894 \$0.00062 \$0.00039 (\$0.00687)\$0.00218 All Usage ORS-TOU - Optional Residential Service - Time-of-Use \$12.75 Basic Service Charge, per month Consumption Charge per kWh \$0.00039 (\$0.00687) \$0.00245 \$0,35670 (R) \$0.00062 \$0,00051 \$0.03894 Summer On-Peak \$0.32066 \$0.00245 \$0.05275 Summer Off-Peak \$0.01671 \$0.03894 \$0.00062 \$0,00051 \$0,00039 (\$0.00687)(R)\$0,00039 (\$0.00687) \$0,00245 \$0.04652 (R) \$0.01048 \$0.03894 \$0,00062 \$0,00051 Summer REVRR (Residential Electric Vehicle Recharge Rider) \$0.00214 \$0.03894 \$0.00062 \$0.00051 \$0.00039 (\$0.00687) \$0.00245 \$0.03818 (R)Winter All other (R) \$0,00062 \$0.00051 \$0.00039 (\$0.00687)\$0,00245 \$0.03341 (\$0.00263)\$0.03894 Winter REVRR (Residential Electric Vehicle Recharge Rider) Option B \$33.60 Basic Service Charge, per month Consumption Charge per kWh \$0.00039 (\$0.00687) \$0.00245 \$0.49632 (R) \$0.00062 \$0.00051 Summer On-Peak \$0.46028 \$0.03894 (R) \$0.01797 \$0.03894 \$0.00062 \$0.00051 \$0.00039 (\$0.00687)\$0.00245 \$0.05401 Summer Off-Peak \$0.00245 \$0.04765 (R) Summer REVRR (Residential \$0.01161 \$0.03894 \$0.00062 \$0.00051 \$0.00039 (\$0.00687)Electric Vehicle Recharge Rider) (R) \$0.00565 \$0.03894 \$0.00062 \$0.00051 \$0,00039 (\$0.00687)\$0.00245 \$0.04169 Winter All other \$0,00062 \$0,00051 \$0.00039 (\$0.00687) \$0.00245 \$0,03656 (R) \$0.03894 Winter REVRR (Residential \$0.00052 Electric Vehicle Recharge Rider) ORM-TOU - Optional Multi-Family Residential Service - Time-of-Use Option A \$10.20 Basic Service Charge, per month Consumption Charge per kWh \$0,00062 \$0.00051 \$0.00039 (\$0.00687) \$0.00218 \$0.33831 (R) \$0.30254 \$0.03894 Summer On-Peak \$0.00218 \$0.06359 (R) (\$0.00687) \$0.02782 \$0.03894 \$0.00062 \$0.00051 \$0.00039 Summer Off-Peak Summer RMEVRR (Residential Multi-Family \$0.02048 \$0.03894 \$0.00062 \$0.00051 \$0.00039 (\$0.00687)\$0.00218 \$0.05625 (R) Electric Vehicle Recharge Rider) (\$0,00687) \$0.00218 \$0.04295 (R)\$0.00718 \$0.03894 \$0.00062 \$0.00051 \$0.00039 Winter All other Winter RMEVRR (Residential Multi-Family \$0.00190 \$0.03894 \$0.00062 \$0.00051 \$0,00039 (\$0.00687) \$0.00218 \$0.03767 (R) Electric Vehicle Recharge Rider) Option B \$17.88 Basic Service Charge, per month Consumption Charge per kWh \$0.00051 \$0,00039 (\$0.00687) \$0,00218 \$0.56258 (R) \$0.52681 \$0.03894 \$0.00062 Summer On-Peak \$0.00039 (\$0.00687) \$0.00218 \$0.07213 (R) \$0.03636 \$0.03894 \$0.00062 \$0,00051 Summer Off-Peak \$0.00039 (\$0.00687)\$0.00218 \$0.06393 (R) Summer RMEVRR (Residential Multi-Family \$0.02816 \$0,03894 \$0.00062 \$0,00051 Electric Vehicle Recharge Rider) \$0.00218 \$0.03840 (R)\$0.00263 \$0.03894 \$0.00062 \$0.00051 \$0.00039 (\$0,00687) Winter All other (\$0.00687) \$0.00218 \$0.03358 (R) Winter RMEVRR (Residential Multi-Family \$0.03894 \$0.00062 \$0,00051 \$0,00039 (\$0.00219) Electric Vehicle Recharge Rider) (Continued) Issued By: 05-13-16 Issued:

Shawn M. Elicegui

Senior Vice President

07-01-16

16-02

Effective:

Notice No.:

P.O. Box 98910

Las Vegas, NV 89151-0001

Tariff No. 1-B

cancels

13 th Revised

PUCN Sheet No. 10J(1)

cancels			Cancelline		th Revised			i Sheet No. I Sheet No.		
Tariff No. 1-A (withdra	wn)		Cancelling		th Revised		FUCE	SHEEL INU.	100(1)	ĺ
` '	EFFECTIVE			T OF RATE		R COMPA	NY			
	EFFECTIVE			CHEDULE		IC COMIT A	· · · ·			
				d Rates	_				,	
		Net		("NEM") Ra	ates .					
									T	
Schedule Number & Type of Ch		<u>BTGR</u>	BTER	TRED	REPR	UEC	DEAA	<u>EE</u>	Total Rate	
RS-NEM-Residential Service-Ne	et Metering								\$17.90	
Basic Service Charge, per month									Ψ17.50	
Consumption Charge per kWh All Usage		\$0.06777	\$0.03894	\$0.00062	\$0.00051	\$0.00039	(\$0.00687)	\$0.00245	\$0.10381	(R)
Al Gaage		40.04,,,	40.0111	*	•	•				, ,
Excess Energy Credit per kWh									(\$0.09199)	
RM-NEM-Residential Multi Fami	lly-Net Metering									
Basic Service Charge, per month									\$11.51	
Consumption Charge per kWh						** ***	/en energy	AD DOG40	00 00500	(D)
All Usage		\$0.06003	\$0.03894	\$0.00062	\$0.00051	\$0,00039	(\$0.00687)	\$0.00218	\$0.09580	(R)
Excess Energy Credit per kWh									(\$0.08581)	
ORS-TOU-NEM Optional Resi	(dential Service _	Time_of_lise_	Net Meterina							
Basic Service Charge, per month		31 000-							\$17.90	
Consumption Charge per kWh										
Summer On-Peak		\$0.31849	\$0.03894	\$0.00062	\$0,00051	\$0.00039	(\$0,00687)	\$0.00245	\$0.35453	(R)
Summer Off-Peak		\$0.02093	\$0.03894	\$0.00062	\$0,00051	\$0.00039	(\$0,00687)	\$0.00245	\$0.05697	(R)
Summer REVRR (Residential		\$0.01478	\$0.03894	\$0.00062	\$0,00051	\$0.00039	(\$0,00687)	\$0.00245	\$0.05082	(R)
Electric Vehicle Recharge Rider)		\$0.00188	\$0.03894	\$0,00062	\$0.00051	\$0.00039	(\$0.00687)	\$0.00245	\$0,03792	(R)
Winter All other Winter REVRR (Residential		(\$0.00237)	\$0.03894	\$0.00062	\$0.00051	\$0.00039	(\$0.00687)	\$0.00245	\$0,03367	(R)
Electric Vehicle Recharge Rider)		(40,00207)	40.0000 1	40,000	*******	,	,	,		
Excess Energy Credit per kWh										
Summer On-Peak									(\$0.13909)	
Summer Off-Peak									(\$0.06153)	
Summer REVRR (Residential Ele	ectric Vehicle Recl	arge Rider)							(\$0.06153)	
Winter All other									(\$0.04248)	
Winter REVRR (Residential Elec	tric Vehicle Recha	rge Riđer)							(\$0.04248)	ľ
ORM-TOU-NEM - Optional Muli	ti Family Residen	tial Service –	Time-of-Use	Net Metering	ı					
Basic Service Charge, per month									\$12.47	
Consumption Charge per kWh			** ***	00 00000	* 0.00004	#0.0000 0	(60.00007)	60 00040	en 25220	(D)
Summer On-Peak		\$0.32049	\$0,03894	\$0.00062	\$0.00051 \$0,00051	\$0,00039 \$0,00039	(\$0.00687) (\$0.00687)	\$0,00218 \$0,00218	\$0.35626 \$0.06670	(R) (R)
Summer Off-Peak	tulti Emmilia	\$0.03093 \$0.02378	\$0.03894 \$0.03894	\$0.00062 \$0.00062	\$0,00051	\$0.00033	(\$0.00687)	\$0.00218	\$0.05955	(R)
Summer RMEVRR (Residential M Electric Vehicle Recharge Rider)	uu-ranay	φυ.υ 2 010	PGOLO,VIP	ψ0.0000 <u>£</u>	φυμούσοι	40.00000	(40.0001)	72.202.10	,	,
Winter All other		\$0.00591	\$0.03894	\$0.00062	\$0,00051	\$0.00039	(\$0.00687)	\$0.00218	\$0.04168	(R)
Winter RMEVRR (Residential Mult	li-Family	\$0.00126	\$0.03894	\$0.00062	\$0,00051	\$0.00039	(\$0,00687)	\$0.00218	\$0.03703	(R)
Electric Vehicle Recharge Rider)	-									
Excess Energy Credit per kWh										
Summer On-Peak									(\$0.12973)	
Summer Off-Peak									(\$0.07153)	
Summer RMEVRR (Residential I	Electric Vehicle Re	charge Rider)							(\$0.07153)	
Winter All other									(\$0.04651)	
Winter RMEVRR (Residential Ele	ectric Vehicle Rech	arge Rider)	(Cant	inued)					(\$0.04651)	
			(Cont	macaj	1					
Issued:	05-13-16		Issue	d By:						
Effective:	07-01-16		Shawn M.	Elicegui						
Notice No.:	16-02		Senior Vice	President						
i .		1				i				

P.O. Box 98910

Las Vegas, NV 89151-0001

Tariff No. 1-B

cancels

Notice No.:

16-02

5 th Revised

PUCN Sheet No. 10J(2)

Cancelling 4 th Revised PUCN Sheet No. 10J(2) Tariff No. 1-A (withdrawn) STATEMENT OF RATES EFFECTIVE RATES APPLICABLE TO NEVADA POWER COMPANY **ELECTRIC SCHEDULES Bundled Rates** Net Metering ("NEM") Rates Total Rate UEC <u>DEAA</u> EE **BTGR** BTER TRED REPR Schedule Number & Type of Charge LRS - NEM - Large Residential Service - Net Metering \$93,56 Basic Service Charge, per month Consumption Charge per kWh (R) (\$0.00687) \$0.09411 \$0.05829 \$0.03894 \$0,00062 \$0.00051 \$0.00039 \$0.00223 All Usage (\$0.08441) Excess Energy Credit per kWh OLRS-TOU-NEM - Optional Large Residential Service - Time-of-Use Net-Metering \$93.56 Basic Service Charge, per month Consumption Charge per kWh \$0.00223 \$0.36306 (R) \$0.00051 \$0,00039 (\$0.00687) \$0.32724 \$0.03894 \$0.00062 Summer On-Peak \$0.04654 (R) \$0,00223 Summer Off-Peak \$0.01072 \$0.03894 \$0.00062 \$0.00051 \$0.00039 (\$0.00687)(\$0.00687) \$0.00223 \$0.04141 (R) \$0,00062 \$0.00051 \$0.00039 Summer REVRR (Residential \$0.00559 \$0.03894 Electric Vehicle Recharge Rider) (R) \$0,00051 \$0,00039 (\$0.00687)\$0,00223 \$0.04758 \$0.01176 \$0.03894 \$0.00062 Winter All other \$0.00223 \$0.04234 (R) \$0,00051 \$0.00039 (\$0,00687) Winter REVRR (Residential \$0,00652 \$0.03894 \$0.00062 Electric Vehicle Recharge Rider) Excess Energy Credit per kWh (\$0.12761) Summer On-Peak (\$0.05132) Summer Off-Peak (\$0.05132) Summer REVRR (Residential Electric Vehicle Recharge Rider) (\$0,05236) Winter All other (\$0.05236) Winter REVRR (Residential Electric Vehicle Recharge Rider) GS - NEM - General Service - Net Metering \$36.19 Basic Service Charge, per month Consumption Charge per kWh \$0.06361 \$0,00051 \$0,00039 (\$0.00658) \$0,00177 \$0,00082 All Usage \$0.02786 \$0.03884 (\$0.06081) Excess Energy Credit per kWh \$3.15 Meter Charge per additional meter per month (Continued) Issued By: Issued: 05-13-16 Shawn M. Elicegui 07-01-16 Effective:

Senior Vice President

P.O. Box 98910

Las Vegas, NV 89151-0001

Tariff No. 1-B

cancels

Tariff No. 1-A (withdrawn)

3 rd Revised 2 nd Revised PUCN Sheet No. 10J(3) PUCN Sheet No. 10J(3)

STATEMENT OF RATES

EFFECTIVE RATES APPLICABLE TO NEVADA POWER COMPANY

Cancelling

ELECTRIC SCHEDULES Bundled Rates

Net Metering ("NEM") Rates

Schedule Number & Type of Charge	BTGR	BTER	TRED	REPR	UEC	<u>DEAA</u>	EE	Total Rate	j
OGS-TOU-NEM Optional General Service	e – Time-of-Use N	et-Metering							1
Basic Service Charge, per month								\$36,19	1
Consumption Charge per kWh									1
Summer On-Peak	\$0.24034	\$0,03884	\$0.00082	\$0.00051	\$0.00039	(\$0,00658)	\$0.00177	\$0.27609	(R)
Summer Off-Peak	\$0.01379	\$0.03884	\$0.00082	\$0.00051	\$0.00039	(\$0.00658)	\$0.00177	\$0.04954	(R)
Summer GSEVRR (General Service	\$0.00826	\$0.03884	\$0,00082	\$0.00051	\$0,00039	(\$0.00658)	\$0.00177	\$0.04401	(R)
Electric Vehicle Recharge Rider)									
Winter All other	\$0.00122	\$0.03884	\$0.00082	\$0.00051	\$0.00039	(\$0.00658)	\$0.00177	\$0,03697	(R)
Winter GSEVRR (General Service	(\$0.00306)	\$0.03884	\$0,00082	\$0.00051	\$0,00039	(\$0.00658)	\$0,00177	\$0.03269	(R)
Electric Vehicle Recharge Rider)									
Excess Energy Credit per kWh									
Summer On-Peak								(\$0.09194)	
Summer Off-Peak								(\$0.05532)	1
Summer GSEVRR (General Service Electric	c Vehicle Recharge	Rider)						(\$0.05532)	
Winter All other								(\$0.04275)	
Winter GSEVRR (General Service Electric)	/ehicle Recharge R	Rider)						(\$0.04275)	
								#E 44	ĺ

Meter Charge per additional meter per month

\$5,11

Notes

- The charges shown above are subject to adjustments for taxes and assessments as specified in the Special Supplementary Tariff (PUCN Sheet No. 31) and Schedule MC (PUCN Sheet Nos. 9-9A.)
- BTGR = Base Tariff General Rate. The Total Rate includes the Memil Lynch Amortization (ML).
 - a. ML = Merrill Lynch. The Residential Rate is \$0.00083 per kWh and the Non-Residential Rate is \$0.00063 per kWh.
- BTER = Base Tariff Energy Rate
- 4. REPR = Renewable Energy Program Rate which includes The Solar Program, the Wind Demonstration and the Water Power Demonstration
- 5. DEAA = Deferred Energy Accounting Adjustment (see Schedule DEAA, PUCN Sheet No. 9B.)
- 6. UEC = Universal Energy Charge (see Special Condition 1 of the applicable rate schedule.)
- 7. TRED = Temporary Renewable Energy Development Charge
- 8. Please refer to the tariff for the applicable investment.
- Time-of-Use and Season periods are defined in the Special Conditions of the applicable rate schedule.
- 10. All rate schedules that contain a demand billing component are also subject to the Power Factor Adjustment charge (see the Special Conditions of the applicable rate schedule.)
- LGS-X Customers are subject to Customer specific facilities charges as identified in the schedule.
- 12. LGS-X Customers who request a separate billing for an additional contiguous property, will be charged \$110,00 per separate bill per month.
- 13. For any Customer requesting less than 8 MW of standby service. A Customer specific facilities charge will be included in the contract for standby service of 8 MW or above.
- 14. BTER rate for Interruptible Irrigation as calculated by the Regulatory Operations Staff of the Commission pursuant to NRS 704.225
- 15. Peak Hours are from 1:00 p.m. to 6:00 p.m. daily during the months of July and August. The Non-Curtailment Peak Rate and charges will be in addition to the Interruptible Irrigation rates and charges.
- 16. Other charges may apply, please see the applicable rate schedule.

(Continued)

Issued: 05-13-16 Issued By:

Effective: 07-01-16 Shawn M. Elicegui

Notice No.: 16-02 Senior Vice President