SOLAR INCENTIVE RATE IN WEST COAST STATES

One Community

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WHAT IS NET METERING

Net metering (also known as net energy metering or NEM) is a solar incentive that allows you to store energy in the electric grid. When your solar panels produce more electricity than you need, that energy is sent to the grid in exchange for credits. Then, at night or other times when your solar panels are under-producing, you pull energy from the grid and use these credits to offset the costs of that energy.

In general, most homes will produce excess electricity in the summer months and will use more electricity from the grid in the winter. Because these variations in production are fairly predictable, your utility won't send you a monthly check when you produce more than you need. Instead, you will build up extra credits during the summer months so that you can draw from them at night and during the winter months when you need them.

THE IMPORTANCE OF UNDERSTANDING AND RESEARCHING NET METERING

Net metering is how companies credit sustainable energy providers for the energy they provide back to the grid. These credits are what allow someone with solar panels to avoid the costs of purchasing and maintaining the batteries that would be needed to be entirely independent of the grid. Without a grid-tied system, batteries are necessary for low-sunlight times like winter when (in colder climates) long cloudy periods coupled with higher energy needs for heating can require more energy than the solar infrastructure can immediately provide. With a grid-tie system though, excess energy is provided to the grid in the summer for credits that can then be used in times like the winter. This can be used to maintain a net-zero power/cost situation for your energy needs.

The challenge with net metering is that the rate at which the utility company credits a user for energy can be different from the rate they charge for using their energy. For example, in the summer, company A may generate and deliver 100 kWh of energy to their utility provider B. B credits A at $0.5 per kWh of energy they receive. However, in the winter, company A uses an excess of 100kWh of energy from B, but B charges $1 per kWh for this energy that is used. Now, company A needs to pay B $50, even though they are using the same amount of energy that they produced.

If the goal is to maintain net-zero cost, company A in this scenario would need to install more solar panels to generate sufficient credits to cover their winter use. Even though the energy they are providing and using is an equal amount in both seasons, they would need to produce twice the energy that they use in summer to equal what they need credits for in winter. Because of this imbalance, understanding what your local solar energy credits will be is a very important factor in the initial solar farm planning.

This understanding is especially important because some states don't even offer net metering. Check out this article, "Net Metering for Home Solar Panels" to learn more and see a list of states that do and do not offer net metering.

For more information about net metering, click the link below:
https://www.energysage.com/solar/101/net-metering-for-home-solar-panels/

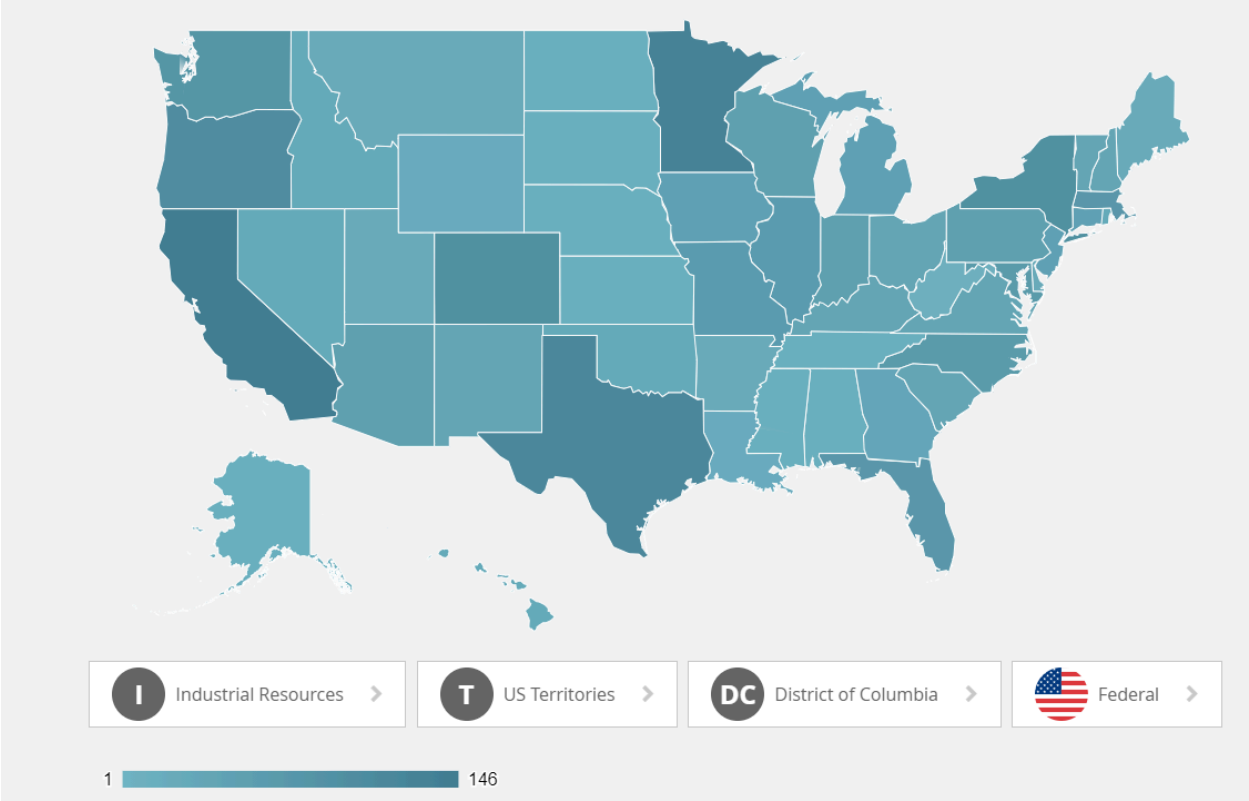


Figure 1: Policies & Incentives in the States

This is a great tool that lists all the solar incentive policies in each state: "Database of State Incentives for Renewables & Efficiency®".

NET METERING RESEARCH DETAILS

We all know that solar energy is the future, but why is it not the present? One of the main reasons is that the cost of the solar energy harvesting equipment is still high. In addition, instead of paying monthly payments, the investment needs to be made up front, at the beginning of the installation. As a result, investing in solar equipment is like investing in an annuity, where a lump sum of money is paid up front, and then a series of payments are paid back to you as returns. In the case of solar energy harvesting equipment, after the initial equipment and

installation bill, the monthly electric bills are greatly reduced or even eliminated in return. The good news is that solar panels are usually good for at least 25 years or more, and the investments are most likely to be repaid within 10 years according to *news.energysage.com*. Which means investing in solar equipment is almost guaranteed to be a win.

Furthermore, more and more people are realizing the importances of solar energy and the industry is progressing to reduce the cost of equipment. Governments are also passing regulations to make solar energy more affordable and accessible.

To better understand where the industry stands and how the current solar environment will impact developments like One Community, we researched West Coast power companies and regulations. For the states of Utah, California, Arizona, Washington, Oregon, and Idaho, most utility companies offer solar incentives in combination with net metering programs in order to reduce or eliminate monthly electric bills. However, the rates and programs are a little different across states and even within states. The goal for this research is to provide a general idea to the solar energy investors about their monthly cost after the initial investments. This research selects the major power providers in all six of these states (Utah, California, Arizona, Washington, Oregon, and Idaho), and lists and compares their net metering programs and incentive rates.

CURRENT CONDITION

Starting with the current project location, Kanab, Utah. The power provider for the location is Garkane Power Association Inc. Their energy charge and credit are:

MONTHLY BILL:
Base Rate $ 35.00
Energy Charge per kWh: $ 0.07500
Demand Charge > 3kW $ 7.20
Energy Credit per kWh $ 0.02600

In this case, Garkane's energy charges are 2.88 times their energy rate, which means the solar farm needs to be 2.88 times larger in order to achieve a net-zero bill. Thus, the cost of the project would also be 2.88 times that of a project with a 1-to-1 payback ratio. This is very costly and thus undesirable.

The reason that Garkane credits energy generation so low is because they do not generate power, rather, they purchase power from another generation facility. Therefore, they are crediting their customers' generation at the same rate as they purchase power from the generation facility.

In this way, they do not pay more to purchase power from general customers than from their power manufacturer. In addition, they are required by law to charge all of their customers at the same rate. As a result, negotiation of better rates becomes less likely.

Their proposed solution is a generation interconnection program. Through this program, One Community would sign an agreement to produce and provide a certain amount of power directly to the provider within a certain timeframe. In exchange, the power provider would give us a lower energy rate when power is needed from the grid.

However, the generation interconnection program turns out to still be very costly after seeing the existing interconnection offers that Garkane provided. Because of this, One Community will be considering fully off-grid power again or other locations in the West Coast states that would offer better deals like 1-to-1 credit rate. The current property may still be a viable option though if something changes with our options for Garkane between now and when we're ready to purchase it.

To learn more about their Net Metering program, go to this link:
https://www.garkaneenergy.com/sites/garkane/files/Rates/Net%20Metering1.pdf

To learn more about their Residential Power Rate, go to this link:
https://www.garkaneenergy.com/sites/garkane/files/Rates/Residential.pdf
Large Commercial Energy Charge per kWh: $ 0.0901
To learn more about their Large Commercial Energy Charge, go to this link:
https://www.garkaneenergy.com/sites/garkane/files/Rates/GS3.pdf

The table below shares our research on all the net metering rate data we found for all the major power utility companies in the states of Utah, California, Arizona, Washington, Oregon, and Idaho. Understanding the differences is important considering the poor cost vs. compensation numbers above for Garkane.

Table 1: Energy Rate and Solar Energy Credit of Power Utility Companies in the States

Solar Incentive Rate Comparison Table

Power Utility Company	Net Metering	Energy Charge ($/kWh)	Energy Credit ($/kWh)	Credit to Charge Ratio
Utah				
Rocky Mountain Power	Yes	$0.0580	$0.0565	~1:1
Mt. Wheeler Power INC	NA	$0.0465	NA	NA
Garkane Power Association Inc (Service Provider in Kanab)	Yes	$0.0750	$0.0260	34.67%
Flowell Electric Association & Dixie Escalante Rural Electric Association	NA	~0.06	NA	NA
Moon Lake ELectric Association Inc	Yes	$0.0394	$0.0222	56.35%
Bridger Valley Electric Association INC	Yes	$0.0290	$0.0196	67.66%
Provo Power	Yes	$0.0797	$0.0674	84.59%
California				
Pacific Gas and Electric (PG&E)	Yes	NA	~0.11	~1:1
Southern California Edison (SCE)	Yes	NA	NA	~1:1
San Diego Gas and Electric (SDG&E).	Yes	NA	NA	NA
Arizona				
Arizona Public Service Company (APS)	Yes	NA	$0.0941	NA
Tucson Electric Power Company (TEP)	Yes	$0.0450	$0.0868	To Be Confirmed
UNS Electric	Yes	$0.0582	$0.1035	To Be Confirmed
Nevada				
NVE South Service Territory	Yes	$0.1028	NA	1:1
NVE North Service Territory	Yes	$0.0863	NA	1:1
Boulder City Electric Utility	Yes	NA	NA	1:1
Caliente Public Utilities	Yes	$0.02-0.03	NA	1:1
Harney Electric Cooperative	Yes	$0.0945	NA	1:1
Lincoln County Power District No. 1	Yes	$0.0691	NA	NA
Mt. Wheeler Power	NA	$0.0465	NA	NA
Overton Power District No. 5	Yes	NA	NA	NA
Valley Electric Association	Yes	NA	NA	75.00%
Companies In Nevada With Less Solar Incentive Information				
Plumas Sierra Rural Electric Cooperative	NA	NA	NA	NA
Raft River Rural Electric Cooperative	NA	NA	NA	NA
Surprise Valley Electric Cooperative	NA	NA	NA	NA
Wells Rural Electric Company	NA	NA	NA	NA
Oregon				
Portland General Electric Company	Yes	NA	NA	1:1
Harney Electric Cooperative	Yes	$0.0945	NA	1:1
Central Electric Cooperative	Yes	NA	NA	1:1
Wasco Electric Cooperative	Yes	NA	NA	1:1
Lane Electric Cooperative	Yes	NA	NA	1:1
Washington				
Avista Corporation	Yes	NA	NA	NA
Puget Sound Energy	Yes	NA	NA	NA
Seattle City Light	Yes	NA	NA	1:1
Tacoma Power	Yes	NA	NA	1:1
Snohomish PUD	Yes	NA	NA	NA
Idaho				
Avista Corporation	Yes	NA	NA	NA
Idaho Power	Yes	NA	NA	NA
Rocky Mountain Power	Yes	NA	NA	NA
Score (in decreasing order)	Good	Medium-good	Low / Bad	Bad

UTAH

The three largest electricity providers in Utah are Rocky Mountain Power, Intermountain Power Agency, and Provo Power. Net metering program details of each company are listed below.

Rocky Mountain Power

Rocky mountain power takes majority of the market share in Utah, and the image below is their service area:

Figure 2: Rocky Mountain Power Service Area

The image below is taken from their net metering program service document. It shows the energy credit that they offer:

MONTHLY BILL: Energy charges for electricity consumption shall be computed in accordance with a Customer's applicable standard service tariff. Credits for Exported Customer-Generated Energy, if any, shall be computed at the following rates. Regardless of whether the Customer exports net generation during the month, the Customer shall be billed the minimum monthly amount from the applicable standard service tariff. All other charges shall be calculated in accordance with the Customer's applicable standard service tariff.

Exported Customer-Generated Energy Credit Rates:

Billing Months – June through September inclusive
5.817¢ per kWh for all exported kWh

Billing Months – October through May inclusive
5.487¢ per kWh for all exported kWh

Figure 3: Rocky Mountain Power Energy Rates and Solar Credit

To learn more about their Net Metering Program, click the link below:
https://www.rockymountainpower.net/content/dam/pcorp/documents/en/rockymountainpower/rates-regulation/utah/rates/137_Net_Billing_Service.pdf

On average, Rocky Mountain Power offers:

Solar Energy credit: $0.05652 / kWh

And comparing this to their energy rate for large general service:

Schedule 8 - Lg. General Service, 1,000 kW and Over, Distribution Voltage		
Customer Charge	$71.00	/month
Facilities Charge	$4.81	/kW
Power Charge		
June through September		
On-Peak	$15.73	/kW
Off-Peak	None	
October through May		
On-Peak	$13.92	/kW
Off-Peak	None	
Energy Charge		
June through September		
On-Peak kWh	5.8282	¢/kWh
Off-Peak kWh	2.9624	¢/kWh
October through May		
On-Peak kWh	5.1577	¢/kWh
Off-Peak kWh	2.6216	¢/kWh
Voltage Discount (≥ 2,300 V)	$1.13	/kW
June through September: On-Peak hours are from 3:00 p.m. to 10:00 p.m., Monday thru Friday, except holidays. All rem		
October through May: On-Peak hours are from 6:00 a.m.to 9:00 a.m., 6:00 p.m. to 10:00 p.m., Monday thru Friday, exce		

Figure 4: Rocky Mountain Power Large General Service Rates

To learn more about their large commercial rates, click the link below:
https://www.rockymountainpower.net/content/dam/pcorp/documents/en/rockymountainpower/rates-regulation/utah/Utah_Price_Summary.pdf

We see that the solar energy credit they offer and the energy rate they charge are close. In other words, energy credit is basically the same as the energy charge. Also, their net metering program document says, “the credit value in dollars computed for the Exported Customer-Generated Energy will be applied against the Power and Energy Charges on the Customer’s monthly bill. Excess credits will carry-over to the next monthly bill during the Annualized Billing Period. All unused credits accumulated by the customer-generator shall expire with the regularly scheduled meter reading at the conclusion of the Annualized Billing Period.”

INTERMOUNTAIN POWER AGENCY

Intermountain Power Agency consist of multiple smaller companies, and their service area looks like this:

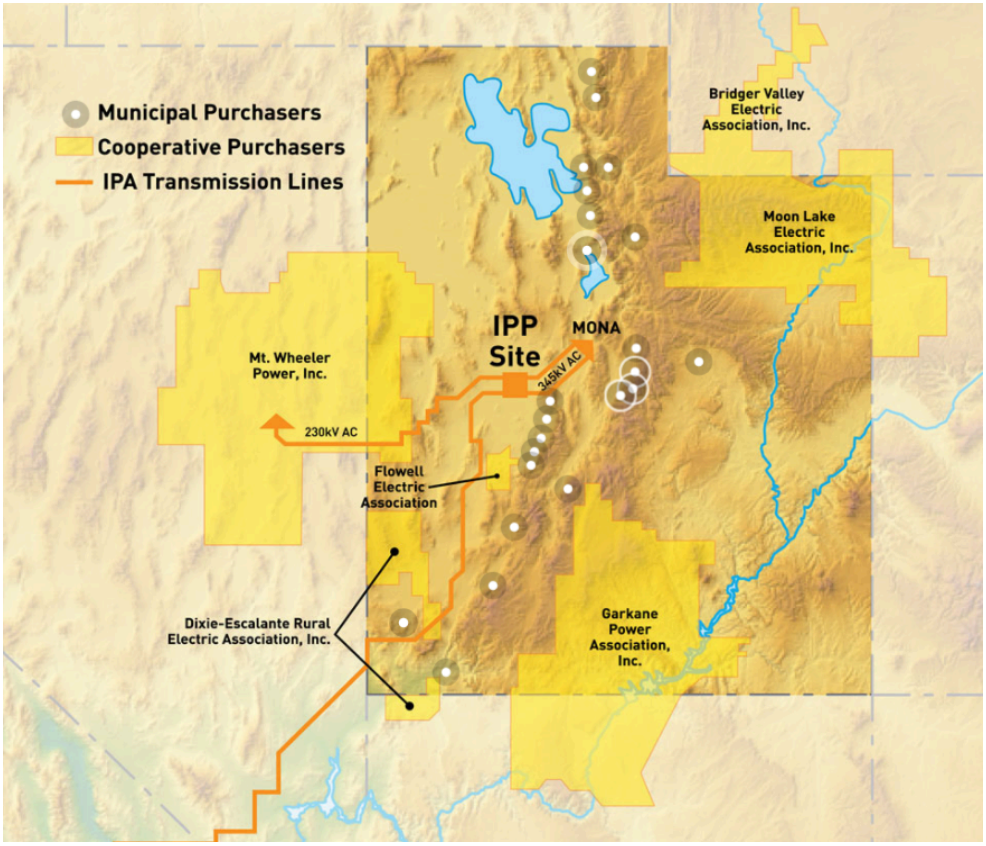


Figure 5: Intermountain Power Agency Service Map

Below are all the smaller companies within the Intermountain Power Agency:

MT. WHEELER POWER INC

Rate Code GS, Single-phase and Three-phase Small Commercial
- Energy Delivery Charge $20.00 per meter per month
- First 2,500 kWH 7.94 cents per kWh
- Over 2,500 kWh 6.67 cents per kWh

Rate Code LGS-C, Large General Service and Large Commercial Transformers
- Energy Delivery Charge $105.00 per meter per month
- Demand Charge $8.50 per month
- Energy Charge 4.65 cents per kWh

Solar Credit: not listed

To learn more about their rate, click the link below:
https://mwpower.net/sites/mwpower/files/Documents/Rate%20Schedule%20Effective%2004.01.18.pdf

GARKANE POWER ASSOCIATION INC (SERVICE PROVIDER IN KANAB)

To learn more about their Net Metering Program, click the links below:
https://www.garkaneenergy.com/sites/garkane/files/images/PDF/SchCOG34-UT%5B1%5D_2015.pdf
https://www.garkaneenergy.com/sites/garkane/files/ACG33%20%28Net%20Metering%29%20Final.pdf

Energy Credit: $0.026/kWh for both Utah and Arizona
Energy Charge per kWh: $ 0.07500
Large Commercial rate per kWh: $ 0.0901

To learn more about their Residential Power Rate, click the link below:
https://www.garkaneenergy.com/sites/garkane/files/Rates/Residential.pdf
To learn more about their Large Commercial rate, click the link below:
https://www.garkaneenergy.com/sites/garkane/files/Rates/GS3.pdf

FLOWELL ELECTRIC ASSOCIATION & DIXIE ESCALANTE RURAL ELECTRIC ASSOCIATION

Power Rate: about 6 cents per kWh
No info on energy credit

To learn more about their rates, click the link below:
https://www.dixiepower.com/services/solar-program/#0

MOON LAKE ELECTRIC ASSOCIATION INC

Solar Energy Credit: $0.0222 per kWh.
Energy Charge: $ 0.03940 per kWh.

To learn more about their net metering program, click the link below:
https://www.mleainc.com/Documents/rateSchedule/NM3.pdf

BRIDGER VALLEY ELECTRIC ASSOCIATION INC

Net Metering Program
Avoided Cost is the twelve month average of the energy component of the Cooperative's wholesale power rate for the previous year.
The current Avoided Cost is $0.0196 per kilowatt-hour.
Energy Credit: $0.0196 per kWh
Energy Charge: $0.02897 per kWh

For more information about their net metering program, visit:
https://www.bvea.coop/images/pdf/DescriptionNetmetering.pdf

PROVO POWER

New Net Metering Customers (on or after October 5, 2016):
Billing Rates for power used:
Customer Service Charge - $ 10.630 per service connection
Energy Charge - Block 1 - 500 kWh $ 0.0797per kWh
Energy Charge - Block 2 - 501-1000 kWh $ 0.1019 per kWh
Energy Charge - Block 3 - all additional kWh $ 0.1209 per kWh
Energy credit: $0.06742 per kWh

For more information about their net metering program, visit:
http://provopower.org/wp-content/uploads/2018/07/Rate-Schedule-Net-Metering-Rate-Summary.pdf

CALIFORNIA

The largest three power providers: Pacific Gas and Electric (PG&E), Southern California Edison (SCE), San Diego Gas and Electric (SDG&E).

PACIFIC GAS AND ELECTRIC (PG&E)

This image below shows PG&E's service area:

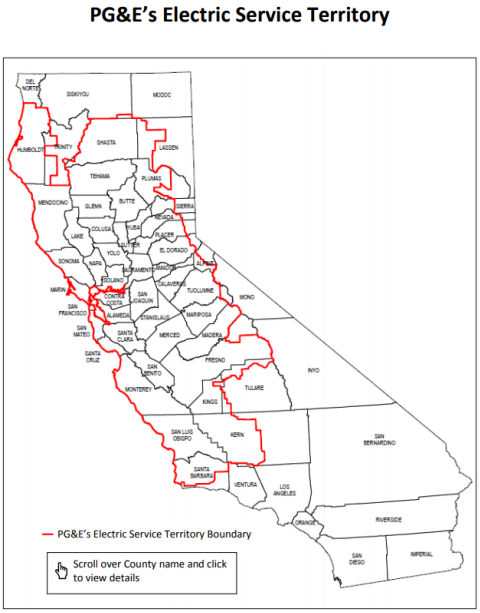


Figure 6: Pacific Gas and Electric Service Map

According to their net metering program, "we pay you fair market value for any balance of surplus energy that you have at the end of your 12-month billing cycle...Over a 12-month billing cycle, if you've generated more electricity than you've used, you are paid the fair market value."

Basically, rate:credit ~= 1:1
Solar credit: ~0.11/kWh
Program Charge: 0.014/kWh

For more information on their rates and energy credit, visit:
https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_E-ECR.pdf

SOUTHERN CALIFORNIA EDISON (SCE)

Figure 7: Southern California Edison Service Map

Net Energy metering program:

Application fee: $800

Basically rate:credit ~= 1:1

For information about their net metering program. visit:
https://www.sce.com/sites/default/files/inline-files/Understanding_Your_NEM_2_Billing_Statement%2B%281%29_0.pdf

SAN DIEGO GAS AND ELECTRIC (SDG&E).

Figure 8: San Diego Gas and Electric Service Map

For more information about their Rate Schedules, visit:
http://regarchive.sdge.com/tm2/pdf/ELEC_ELEC-SCHEDS_DR-SES.pdf
https://www.sdge.com/sites/default/files/NEM_FS_Commercial_TOU.pdf
https://www.sdge.com/sites/default/files/NEM_FS_Commercial.pdf

For more information about their billing Q&A:
https://www.sdge.com/residential/savings-center/solar-power-renewable-energy/net-energy-metering/billing-information/billing-faq

SDG&E's net metering program is a bit more complicated than other providers in California. This is due to the fact that SDG&E requires that its customers enroll in what are called time-of-use (TOU) rate plans. TOU rates are structured in such a way that customers receive different credit rates over the course of a day according to the "usage" at that particular time. For example, during the summer months, "super off-peak" hours (hours of lowest energy usage) typically go from midnight to early morning. After this, usage rates move into "off-peak" hours and then "on-peak" (period of highest usage) before going back down in the late evening and starting the cycle over again at midnight. These sections of the day net the customer a different rate according to how much energy costs at that particular time.

According to the website EnergySage, which offers net metering information for states across the country, "because SDG&E's NEM 2.0 program uses TOU rates, solar homeowners

won’t always get the maximum value out of their solar electricity – grid electricity during the early to mid-afternoon hours will cost less, so the solar electricity sent back to the grid during those times will receive a lower net metering credit. That being said, a good solar installer can help you design a solar system that generates more power during the high-cost peak hours, reducing your monthly utility electricity needs.” For this reason, SDG&E customers interested in solar energy and net metering should consult their website and choose a plan that best fits their needs.

ARIZONA

Arizona is served by three primary investor-owned utilities: Arizona Public Service Company (APS), Tucson Electric Power Company (TEP), and UNS Electric

ARIZONA PUBLIC SERVICE COMPANY (APS)

Non-Residential Solar Program Eligibility

- Have enough outdoor space to accommodate a minimum 50kW or larger size system (about 20 parking spots)
- Not have existing covered parking on-site
- Serve APS limited-income customers

RCP is a net billing solar purchase energy rider. Basically a net metering program with a different name, it measures the excess power and gives a monthly bill credit based on the current RCP purchase rate. Any remaining credit will roll over to the next month's bill. At the end of the year, APS will issue you a refund check if your monthly bill credit is more than $25.

Bill credit $0.09405 per kWh

For more information about their solar generation program, visit the link below. This document was published Oct 2020:
https://www.aps.com/-/media/APS/APSCOM-PDFs/Utility/Regulatory-and-Legal/Regulatory-Plan-Details-Tariffs/Residential/Renewable-Plans-and-Riders/rcp_RateSchedule.ashx?la=en

The energy charge for large general service in 2017 was:

aps

RATE SCHEDULE E-32 L
LARGE GENERAL SERVICE (401 kW +)

	Summer	Winter	
Energy Charge	$0.05540	$0.03712	per kWh

Figure 9: Arizona Public Service Company Large General Service Schedule

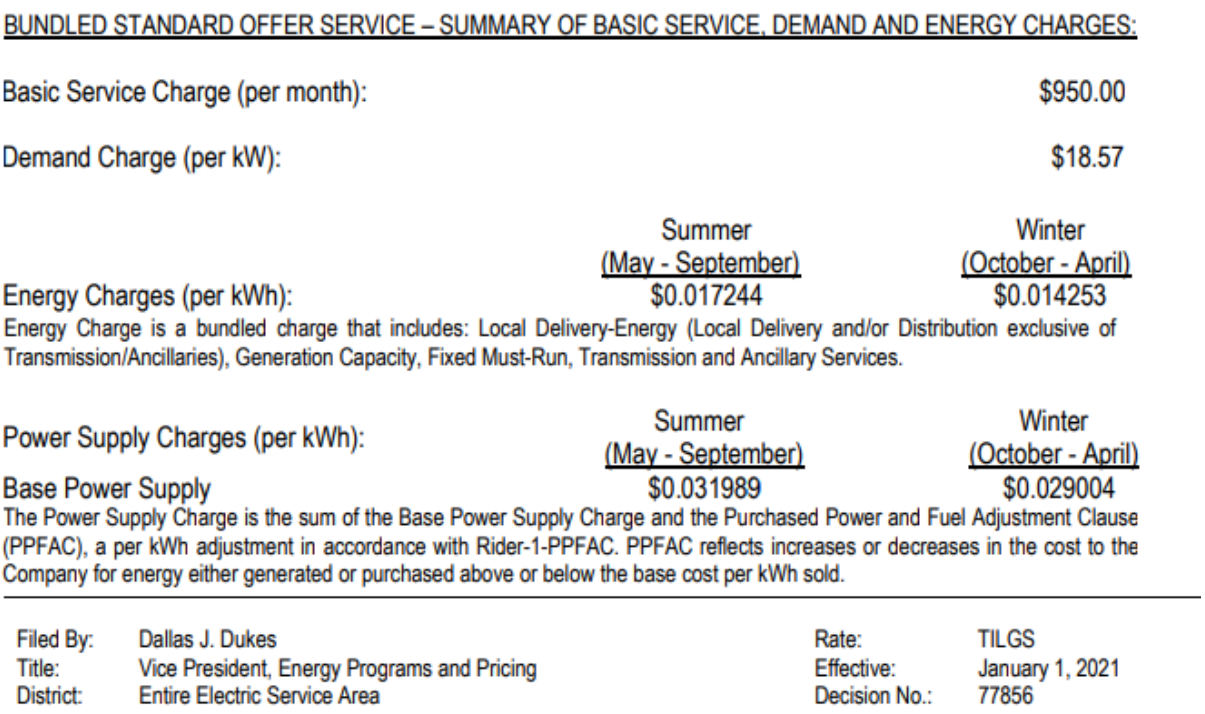
More recent rate schedule for large general service not found. But the bill credit in 2020 is much higher than what the company charged in 2017. The current energy charges are most likely close to but not less than the bill credit.

TUCSON ELECTRIC POWER COMPANY (TEP)

The current energy export rate of $0.0868 per kWh, effective October 1, 2019, will continue through September 30, 2021.

For more information about TEP's energy export, visit: https://www.tep.com/rcp/#:~:text=The%20current%20energy%20export%20rate,incentives%20during%20the%20coronavirus%20pandemic.

The large general service rate schedule (Jan 1, 2021):



BUNDLED STANDARD OFFER SERVICE – SUMMARY OF BASIC SERVICE, DEMAND AND ENERGY CHARGES:

Basic Service Charge (per month):	$950.00
Demand Charge (per kW):	$18.57

	Summer (May - September)	Winter (October - April)
Energy Charges (per kWh):	$0.017244	$0.014253

Energy Charge is a bundled charge that includes: Local Delivery-Energy (Local Delivery and/or Distribution exclusive of Transmission/Ancillaries), Generation Capacity, Fixed Must-Run, Transmission and Ancillary Services.

Power Supply Charges (per kWh):	Summer (May - September)	Winter (October - April)
Base Power Supply	$0.031989	$0.029004

The Power Supply Charge is the sum of the Base Power Supply Charge and the Purchased Power and Fuel Adjustment Clause (PPFAC), a per kWh adjustment in accordance with Rider-1-PPFAC. PPFAC reflects increases or decreases in the cost to the Company for energy either generated or purchased above or below the base cost per kWh sold.

Filed By:	Dallas J. Dukes	Rate:	TILGS
Title:	Vice President, Energy Programs and Pricing	Effective:	January 1, 2021
District:	Entire Electric Service Area	Decision No.:	77856

Figure 10: Tucson Electric Power Company Large General Service Schedule

For more information about their large general service rate schedule, visit: https://www.tep.com/wp-content/uploads/220-TILGS.pdf

As shown in the image above, the sum of energy charges and power supply charges is around $ 0.045per kWh, which is again lower than the energy export rate they offer. It is not likely for power providers to pay more than they charge, therefore, customers with interest need to consult with Tucson Electric Power for more accurate rates and plans.

Their contact page: https://www.tep.com/contact-us/

UNS ELECTRIC

The current RCP is $0.1035 per kWh, since October 1, 2019, will continue through September 30, 2021.

A more recent rate schedule was not found, but here is the rate schedule for large general service (Aug 22, 2016):

BUNDLED STANDARD OFFER SERVICE - SUMMARY OF BASIC SERVICE, DEMAND AND ENERGY CHARGES

Basic Service Charge: $300.00 per month

Demand Charge: $14.51 per kW

Energy Charge (per kWh):

	Delivery Services-Energy[1]	Power Supply Charges[2] Base Power	PPFAC[2]	Total[3]
All kWh	$0.004890	$0.053290	Varies	$0.058180

1. Delivery Services-Energy is a bundled charge that includes: Local Delivery, Generation Capacity and Transmission.
2. The Power Supply Charge shall be comprised of the Base Power Charge and the Purchased Power and Fuel Adjustment Clause (PPFAC), a per kWh adjustment in accordance with Rider-1. The PPFAC reflects increases or decreases in the cost to the Company for energy either generated or purchased above or below the base cost per kWh sold. Please see Rider-1 for current rate.
3. Total is calculated above for illustrative purposes, and excludes PPFAC, because the PPFAC changes monthly pursuant to Rider-1 PPFAC. While only non-variable components are included in the illustration above, a Customer's actual bill in any given billing month will reflect the applicable PPFAC for that billing month.

Filed By: Kentton C. Grant
Title: Vice President
District: Entire Electric Service Area

Rate: EGLGS
Effective: August 22, 2016
Decision No: 75697

Figure 11: UNS Electric Large General Service Schedule

For more information about their large general service rate, visit:
https://www.uesaz.com/wp-content/uploads/2016/08/220-EGLGS.pdf

As the images shown above, the total energy charge of $0.058180 / kWh is lower than the current RCP rate of $0.1035 per kWh. Despite the total energy charge data is from 2016. The RCP rate, or energy credit is much higher than the charge. More accurate rates and schedules are needed.

Their contact: https://www.uesaz.com/contact/

NEVADA

Unlike Utah, California, and Arizona, Nevada has much more power providers within the state. Most of them cover about the same service area, with NVE North Service Territory standing out to have the most service area coverage. Below is the picture of all certified power providers in Nevada.

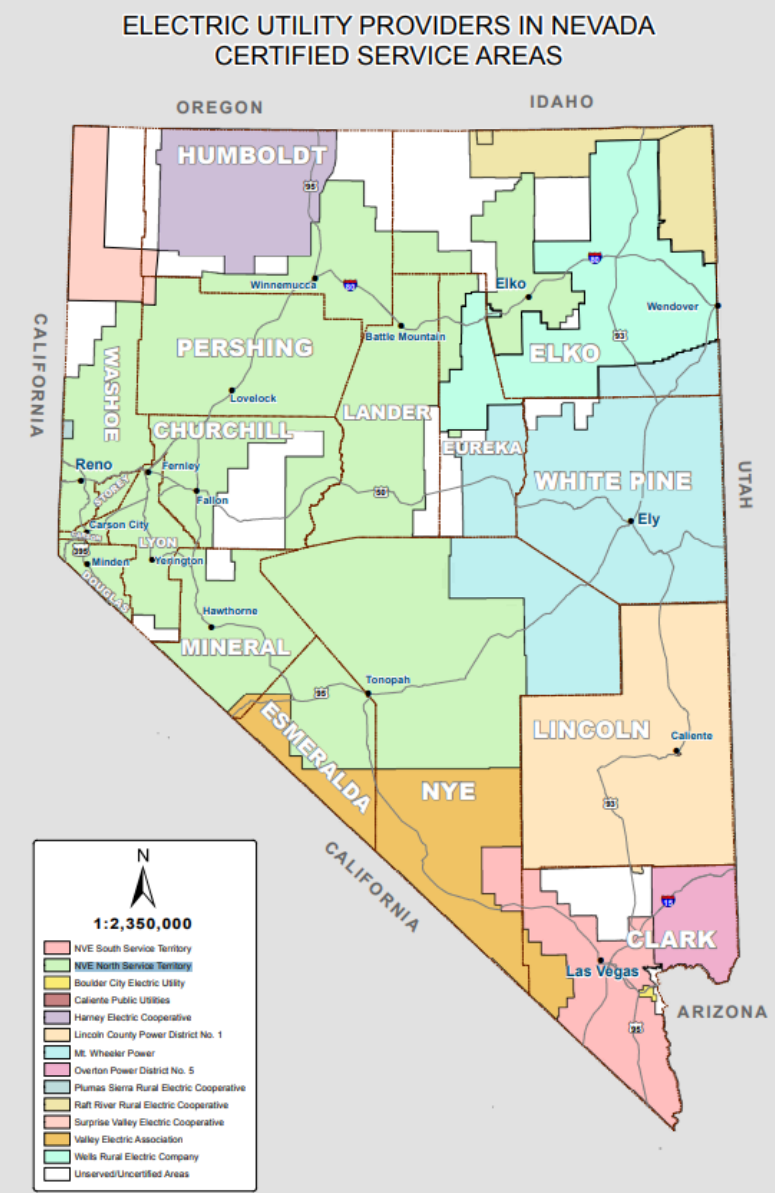


Image #: Electric Utility Providers In Nevada Certified Service Areas

Image Source:
https://es.nvenergy.com/publish/content/dam/nvenergy/brochures_arch/help/brochures/nevadas_utilities_map.pd

NVE SOUTH SERVICE TERRITORY

Southern Nevada
Residential: $0.10282 / kWh
Small Business: $0.06057 / kW
The Energy credit is 1:1, meaning excess generation is credited same as retail rate

Effective: 4/1/2021 - 6/31/2021
For more information about their net metering program, visit:
https://www.nvenergy.com/account-services/energy-pricing-plans/net-metering/nmr-b

NVE NORTH SERVICE TERRITORY

Northern Nevada
Residential: $0.08630 / kWh
Small Business: $0.07349 / kWh
The Energy credit is 1:1, meaning excess generation is credited same as retail rate

Effective: 4/1/2021 - 6/31/2021

For more information about their net metering program, visit:
https://www.nvenergy.com/account-services/energy-pricing-plans/net-metering/nmr-b

BOULDER CITY ELECTRIC UTILITY

Customers will be credited at a rate equal to average cost for wholesale electrical energy. Excess energy credits can be carried forward indefinitely.
The Energy credit is 1:1, meaning excess generation is credited same as retail rate

For more information about their net metering program, visit:
https://www.bcnv.org/DocumentCenter/View/623/Boulder-City-Net-Metering-Policy-PDF

CALIENTE PUBLIC UTILITIES

According to their net metering program, “Bill credits for the excess generation are credit to a customer's bill at the same retail rate”

That rate is currently approximately $0.02 to $0.03 per kWh
The Energy credit is 1:1, meaning excess generation is credited same as retail rate

For more information about their net metering program, visit: https://www.cpuc.ca.gov/NEM/

HARNEY ELECTRIC COOPERATIVE

Power RATE 9.45¢ for each kWh.

The Generator pays the applicable retail rate for all energy used by the Generator
The Energy credit is 1:1, meaning excess generation is credited same as retail rate

For more information about their interconnection program, visit:
http://harneyelectric.coopwebbuilder2.com/sites/harneyelectric/files/HEC%20Files/Policies/OPERATIONAL%20POLICY%2047%20NM%20Fillable.pdf

Below are lists of smaller companies that did not list solar energy credit on their website.

LINCOLN COUNTY POWER DISTRICT NO. 1

Commercial Solar Electric: $500/kWDC (Maximum $5,000)

No Solar Credit info listed

For more information about their Power Rates, visit:
https://lcpd1.com/sites/lcpd1/files/2020-04/Rate%20Schedules.pdf
For more information about their net metering program, visit:
https://lcpd1.coopwebbuilder3.com/sites/lcpd1/files/Solar%20Supplement%20to%20Interconnection%20Standards%20Rev%203.pdf

MT. WHEELER POWER

No solar credit info listed

For more information about their current rates, visit
https://www.mwpower.net/sites/mwpower/files/Documents/Rate%20Schedule%20Effective%2004.01.18.pdf

OVERTON POWER DISTRICT NO. 5

Solar credit info not listed

For more information about their net metering program, visit:
https://www.opd5.com/wp-content/uploads/OPD-S-9.101-Net-Metering-4-7-2021-final.pdf

PLUMAS SIERRA RURAL ELECTRIC COOPERATIVE

Solar credit info not listed

For more information about their interconnection program, visit:
https://www.psrec.coop/wp-content/uploads/Interconnection_Procedures_Manual-2019-More-Than-25KW.pdf

RAFT RIVER RURAL ELECTRIC COOPERATIVE

Solar credit info not listed

For more information, visit:
https://www.rrelectric.com/

SURPRISE VALLEY ELECTRIC COOPERATIVE

Solar credit info not listed

For more information, visit:
http://www.surprisevalleyelectric.org/

VALLEY ELECTRIC ASSOCIATION

The Excess Energy Credit is seventy-five percent (75%) of the Retail Rate of which the Member-generator pays VEA for delivered energy. This credit can be applied to energy offset only. NEM = Residential or Commercial with a system size not exceeding 25kW, per Corporate Policy

For more information about their net metering program, visit:
https://vea.coop/applications/net-metering/

WELLS RURAL ELECTRIC COMPANY

Solar credit info not listed

For more information about their rates, visit:
http://www.wrec.coop/rates/

OREGON

According to Oregon's government website, "Oregon is served by three natural gas, three investor-owned electric utilities, and 38 consumer or publicly-owned electric utilities." Due to the large number of power companies in the state, only a few companies have been researched below.

PORTLAND GENERAL ELECTRIC COMPANY

The Energy credit is 1:1, as the net energy is billed and cleared at the end of each year

For more information about their net metering program, visit:
https://assets.ctfassets.net/416ywc1laqmd/6VdcgRq1GjVQIaOdRGuhm3/e2133ac5adfe3ea0aeee3ab36f9f6982/sched_203.pdf

HARNEY ELECTRIC COOPERATIVE

Power RATE 9.45¢ for each kWh.

According to their net metering program document, "Billing for the net difference of the in and out flows shall be at the Co-op's prevailing retail energy rate for the class of service. Billing strictly for the energy provided by the Generator, while the Generator pays the applicable retail rate for all energy used by the Generator, shall be at the Co-op's prevailing avoided wholesale power cost." Which means that their energy credit is 1:1, meaning you are credited one kWh for every excess kWh.

For more information about their net metering program, visit:
http://harneyelectric.coopwebbuilder2.com/sites/harneyelectric/files/HEC%20Files/Policies/OPERATIONAL%20POLICY%2047%20NM%20Fillable.pdf

CENTRAL ELECTRIC COOPERATIVE

According to their net metering program, "If the generation exceeds electricity in a billing month, that energy is credited to your account at the "avoided cost" (wholesale cost). The 'avoided cost' is calculated using the previous twelve (12) month average annual cost of wholesale power."

Energy credit not listed, but ratio is 1:1 because credited as annual average

For more information about their net metering program, visit:
https://www.cec.coop/wp-content/uploads/sch_N_2020.pdf

WASCO ELECTRIC COOPERATIVE

The credit for any excess generation shall be disbursed to customers with its annual avoided energy cost, which is the average cost of power (kwh) and demand (kw) to the cooperative.

Energy credit not listed, but ratio is 1:1 because credited as annual average

For more information about their net metering program, visit:
https://www.wascoelectric.com/wp-content/uploads/net-metering-rate-schedule.pdf

LANE ELECTRIC COOPERATIVE

Excess energy generated can offset or displace a portion of these wholesale electric power purchases. Consequently, the value of excess energy from a facility is the calculated cost of equivalent wholesale electric power purchases that were offset or displaced

Energy credit not listed, but ratio is 1:1 because credited as annual average

For more information about their net metering program, visit:
https://laneelectric.com/wp-content/uploads/Pol311-Net-Metering-ADOPTED-10-2018-Updated-4-8-19.pdf

WASHINGTON

According to utc.wa.gov, the electric utility companies in Washington are Avista, PacifiCorp, Puget Sound Energy, Bonneville Power Administration(BPA), Seattle City Light, Tacoma Power, Snohomish PUD, Washington PUD, Washington Rural Electric Cooperative Association, and BC Hydro. All of them offer net metering, but they do not have much information on their website. Consultation with the utility company is recommended before starting the project.

AVISTA CORPORATION

Energy credit not listed,

For more information about their rates, visit:
https://www.myavista.com/-/media/myavista/content-documents/our-rates-and-tariffs/wa/wa_063.pdf?la=en
https://www.myavista.com/energy-savings/green-options/onsite-generation/getting-connected

PUGET SOUND ENERGY

From Puget Sound Energy's net metering agreement, "If excess electricity generated by the Net Metering System during a billing period exceeds the electricity supplied by the Company during the same billing period, the Customer-Generator will be credited for the excess kilowatt-hours generated during the billing period, making the kilowatt-hours available to offset electricity consumption during following bill periods."

Energy credit not listed,

For more information about their net metering program, visit:
https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/rates-regulation/washington/rates/135_Net_Metering_Service.pdf

SEATTLE CITY LIGHT

The Net Metering program provides kWh credits on your bill for the energy you produce. These credits are valued at your retail rate of electricity

The Energy credit is 1:1, meaning you are credited one kWh for every excess kWh.

For more information about their net metering program, visit:
http://www.seattle.gov/city-light/residential-services/home-energy-solutions/solar-power#citylightsolarprograms

TACOMA PUBLIC UTILITIES

Energy credit not listed,

For more information about their net metering program, visit:
https://www.mytpu.org/wp-content/uploads/new-metering-interconnection.pdf

Tacoma Public Utilities offers 1 for 1 net metering. This means you are paid the same rate for excess solar energy that you export to the utility grid during the middle of the day as what you pay for power purchased from the grid. In the case of Tacoma Public Utilities, this is approximately $0.08 per kWh.

For more information about their net metering program Q & A, visit:
https://www.solarreviews.com/going-solar-with-tacoma-public-utilities#:~:text=Yes%2C%20Tacoma%20Public%20Utilities%20offers,is%20approximately%20%240.08%20per%20kWh.

SNOHOMISH PUD

According to their net metering program, “The customer shall receive a credit for all electric energy produced during a billing period in excess of the amount of electric energy supplied by the PUD during that period, such credit to be applied to the customer’s future electric bills.”

Energy credit not listed

For more information about their net metering program, visit:
https://www.snopud.com/AboutUs/Rates/sked200.ashx?p=3357

IDAHO

There are three main Power utility companies in Idaho, they are Avista Corporation, Idaho Power, and Rocky Mountain Power. They all offer a net metering program, but their program rate and credit are not clear in their net metering agreement. Consultation with the utility company is recommended before starting the project.

AVISTA CORPORATION

Energy credit not listed,

For more information about their net metering program, visit:
https://www.myavista.com/-/media/myavista/content-documents/our-rates-and-tariffs/wa/wa_063.pdf?la=en
https://www.myavista.com/energy-savings/green-options/onsite-generation/getting-connected

IDAHO POWER

According to their net metering program, “If electricity generated by the Customer and delivered to the Company during the Billing Period exceeds the electricity supplied by the Company during the Billing Period, the Excess Net Energy shall be carried forward as a kWh credit to offset energy usage in a subsequent Billing Period. Excess Net Energy credits are subject to the following provisions. Credits can only be used to offset billed kWh consumption.”

Energy credit not listed,

For more information about their net metering program, visit:
https://docs.idahopower.com/pdfs/aboutus/ratesregulatory/tariffs/198.pdf

ROCKY MOUNTAIN POWER

Customers taking retail service under Schedules 1, 36, 23 or 23A shall be financially credited for excess monthly exported energy at the Customer's standard service schedule retail rate.

Energy credit not listed,

For more information about their net metering program, visit: https://www.rockymountainpower.net/content/dam/pcorp/documents/en/rockymountainpower/rates-regulation/idaho/rates/136_Net_Billing_Service.pdf

CONCLUSION

It is important to explore what the net metering options are for your location if you plan to sell power back to the grid. The best way to find out what your situation will be is to first find out which company is the power provider for your location/property. Then, try searching for your power utility company's net metering information. If their net metering policy does not state that they are crediting customer generation at the energy retail price, and they do not state what rate they are crediting customer generation at, it may be best to contact them directly.

General research into West Coast power companies showed that most offer net metering service, and companies that offer net metering service usually offer 1:1 net metering. We then researched within an 8-hour driving range from Los Angeles, looking into more than 40 utility companies. Of those, 11 companies wrote phrases like "customer generation is credited at the retail rate" or something similar in their net metering document. The rest either didn't have easily accessible information about what they offered, did not offer net metering service, or did not offer a 1:1 credit rate.

For those that had easily accessible information, 1:1 net metering was the gold standard. This is because 1:1 means the rate of selling energy to the utility company is the same as what is charged for using their energy. Users sell excess solar energy generation to the grid in exchange for credit, and this credit is later used to purchase power from the grid when direct solar energy

isn't available or is too little. In this way, solar energy users can size their solar farms for exactly what they need and avoid costly battery backup systems.

The table above shows the specifics of all this research, but rates may change and you should also confirm all details with your specific company before making any decisions.

Even if the utility company offers low customer generation credit, there is a possibility for getting a higher credit rate if the solar energy user contacts the utility company and applies for a rate change. This is an option for the current project location power provider, Garkane Energy, so it is possible that other companies offer something similar.

AN EXAMPLE OF HOW RATES MAY BE NEGOTIATED

For One Community's specific proposed location, Garkane Power Association has the cost of energy at $0.07500/kWh and the energy being credited is only $0.02600/kWh. In other words, for the same amount of energy, the customer pays 2.88 times more than they are credited. Other utilities in the state of Utah though, like Rocky Mountain Power, offer 1:1 (or very close to 1:1) net metering, but they don't supply power to our proposed location.

The reason that Garkane credits energy generation lower than their retail rate is because they need to purchase power from another generation facility, and they would credit the same rate to their customer generation as the rate they purchase power from the generation facility. Furthermore, they are required by law to charge everyone in their grid at the same rate. Therefore, negotiation for a rate change becomes less likely. As a result, it would be extremely costly to be under their net metering program because they only credit our generation 35% of their retail price. This means we need to increase our solar array size to compensate for the buy-sell difference.

This case of Garkane shows that companies without their own power generating facilities are less likely to offer 1:1 credit because they would be paying their power supplier for the customer usage. Therefore, solar energy investors are advised to work with large power providers that have their own power plant. In this way, the company would have more room to offer better rates for their customers.

However, Garkane possesses an alternative: a generation interconnection program. Under this program, One Community would be working with Garkane and their power provider in a wholesale agreement to sell a certain amount of power directly to the provider within a certain timeframe. With this agreement, the provider would work with Garkane to give us a better rate when power is needed from the grid. The primary benefit of this program is that the credit rate and purchasing rate can be negotiated.

In order to know the exact rates though, ownership of the land or a lease agreement is needed prior to filing the generation interconnection program application. Garkane would then work with their power provider to give us an offer and negotiate for a final price. Although the exact rates cannot be obtained before the application, Garkane agrees to provide some existing offer agreements for One Community to get a general idea of the expected rates. Even with this "better offer," the on-grid option with Garkane is still very expensive. Because of this, One Community is now considering the off-grid option, with batteries and diesel generators, over the on-grid option.

For cases where the utility company does not want to change the rate, the good news is that, since the federal government is pushing into the clean energy route, the credit rates for these areas are expected to improve. Every utility company not already doing so can be expected to eventually give better solar incentives, and these will most likely be in the form of raising their credit rate.