

Preston N. Carter (ISB No. 8462)
Deborah E. Nelson (ISB No. 5711)
Givens Pursley LLP
601 W. Bannock St.
Boise, ID 83702
Telephone: (208) 388-1200
Facsimile: (208) 388-1300
prestoncarter@givenspursley.com
den@givenspursley.com
14017301_7 [13915-2]

RECEIVED

2017 DEC 22 PM 1:57

IDAHO PUBLIC
UTILITIES COMMISSION

Attorneys for Idaho Clean Energy Association, Inc.

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF IDAHO POWER
COMPANY'S APPLICATION FOR
AUTHORITY TO ESTABLISH NEW
SCHEDULES FOR RESIDENTIAL AND
SMALL GENERAL SERVICE
CUSTOMERS WITH ON-SITE
GENERATION

Case No. IPC-E-17-13

DIRECT TESTIMONY OF KEVIN KING

ON BEHALF OF

IDAHO CLEAN ENERGY ASSOCIATION, INC.

ORIGINAL

1 Q. Please state your name and address.

2 A. My name is Kevin King and my business address is 401 N Main St, Meridian, ID 83642.

3 Q. Please describe your professional background.

4 A. I have been involved in the rooftop solar and, more generally, the clean energy sector in
5 Idaho since 2009. I currently own three local companies: EvenGreen Technology, a design build
6 Solar and Energy Efficiency Company; Gem State Solar, which designs and installs solar light
7 tubes and attic fans; and Solar Tools USA, a solar tool manufacturing company. I hold an Idaho
8 electrical contractors license and am registered as an Idaho building contractor. I am certified
9 with Lithium Chemistry batteries. I hold a US Patent for tools used in the solar industry.

10 Through my professional experience, I have become familiar with the rooftop solar
11 industry in Idaho, including the regulatory environment. In 2013, I worked closely with Idaho
12 Power on the integration guidelines for net metering.

13 Q. On whose behalf are you testifying?

14 A. I am testifying on behalf of the Idaho Clean Energy Association (ICEA).

15 Q. Please describe the Idaho Clean Energy Association.

16 A. The Idaho Clean Energy Association is a nonprofit dedicated to the advancement of
17 renewable energy, energy efficiency, and their associated technologies in the State of Idaho. We
18 provide a voice for Idaho businesses in the clean energy space.

19 Q. What is your position with the Idaho Clean Energy Association?

20 A. I have served on the Board of Directors for close 5 years. In 2015, ICEA formed a Solar
21 Task Force to facilitate communication among Idaho solar installers so that ICEA could present
22 a position representative of the industry in policy and regulatory matters that affect the industry. I
23 lead and serve as a spokesperson for ICEA's Solar Task Force.

1 Q. Are other witnesses testifying on behalf of ICEA?

2 A. Yes. Mike Leonard will provide testimony regarding the impact of the filing on his solar
3 installation business, Aurora Solar Power and Design. Steve White is a Chartered Financial
4 Analyst with experience advising clients on whether to invest in rooftop solar; he will describe
5 how the filing impacts decisions on whether to invest in rooftop solar.

6 Q. What is the purpose of your testimony?

7 A. The purpose of my testimony is to describe the impact of the Idaho Power's current filing
8 on Idaho businesses, particularly those which offer rooftop solar.

9 Q. Please outline the topics of your testimony.

10 A. My testimony will provide the following:

11 1) A description of the rooftop solar industry in Idaho;

12 2) A description of common transactions between rooftop solar customers and rooftop
13 solar companies;

14 3) The impacts this filing will have on the rooftop solar industry in Idaho in the short,
15 medium, and long term;

16 4) Concerns regarding Idaho Power's proposed generic docket; and

17 5) Recommendations for future net metering proceedings.

18 I will also briefly respond to Idaho Power's allegations that participants in the rooftop
19 solar industry are misleading customers. I do not see this issue as relevant to the proceeding and
20 do not wish to distract the Commission from Idaho Power's application. However, I feel
21 compelled to respond to what I view as inaccurate statements made by Idaho Power.

22 **1) The Rooftop Solar Industry in Idaho**

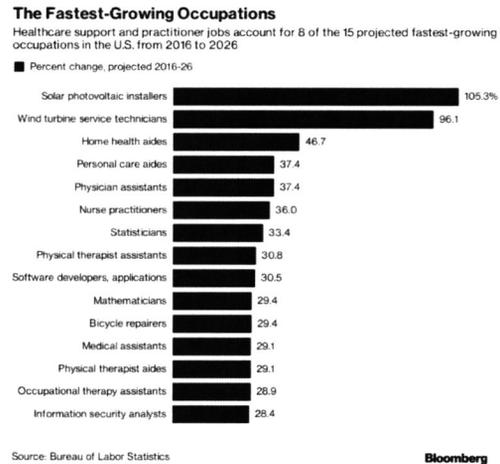
23 Q. Please generally describe the market participants in the rooftop solar industry in Idaho.

1 A. The rooftop solar market in Idaho is relatively young, compared to surrounding states,
2 but it is growing. The industry is mostly made up of small businesses, which do not all follow the
3 same model. Broadly speaking, participants in the industry include design and build companies,
4 which design and build rooftop solar installations for customers; rooftop solar installers, which
5 install rooftop solar installations; and solar sales companies, which provide outreach and
6 information to the public and potential customers. Banks, credit unions, and other financing
7 companies provide financing. Design and build companies and installers often use engineers,
8 electricians, and other third parties to complete various phases of the project. Components of the
9 rooftop solar systems are typically ordered from out-of-state suppliers or wholesalers, although
10 several wholesalers have moved into the area. Schools, government buildings, and non-profit
11 organizations have also purchased rooftop solar installations. It is a young industry, still in flux,
12 but it provides economic activity on several levels.

13 Q. How does the rooftop solar industry, and clean energy businesses generally, contribute to
14 economic development here in Idaho?

15 A. Clean energy contributes to economic development in Idaho in three ways: providing
16 jobs, recruiting new businesses, and keeping investment dollars local.

1 **Jobs.** Clean energy represents a
 2 significant and growing number of jobs in Idaho.
 3 According to a Department of Energy report
 4 published in March 2017, there are 1,645 jobs in
 5 the wind and solar sector in Idaho. Specifically,
 6 solar and wind offer some of the greatest job
 7 growth potential across all occupations. In
 8 October, Bloomberg published its prediction of



9 the fastest growing occupations for 2016 to 2026. The two professions at the top of the list were
 10 Solar PV installers and Wind turbine service technicians. The article is attached as Exhibit 801.

11 A clean energy company is considered a producing company, much like a construction
 12 company. When a customer invests in rooftop solar, that money supports not only solar installer
 13 jobs but also indirect jobs, such as our local suppliers and the services we hire. So the growth or
 14 possible decline of our clean energy businesses has a ripple affect across multiple other jobs in
 15 Idaho.

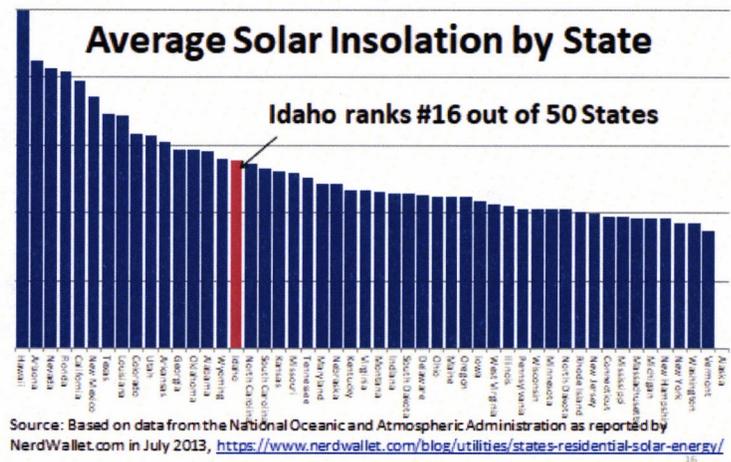
16 **Attracting new businesses.** In terms of attracting businesses to Idaho, the ability to
 17 access clean energy is becoming a significant factor. Edison Energy reports that 72 percent of
 18 large companies headquartered in the United States are actively pursuing additional renewable
 19 energy purchases. Nearly half of Fortune 500 companies have a sustainability or renewable
 20 energy target, according to Advanced Energy Economy. Among these, 22 have committed to 100
 21 percent renewable energy. Some of the companies in Idaho that have set a 100% renewable
 22 energy goal are Hewlett Packard and Clif Bar. Others include WalMart, Apple, Amazon, Whole
 23 Foods, and many more. Idaho is ranked #48 out of 50 in terms of the ease at which companies

1 can procure renewable energy. See Exhibit 802. We solar installers believe our industry can play
2 a growing role in the ability of Idaho to attract new businesses.

3 **Local investments.** On-site generation is an investment alternative which supports our
4 local economy. For example, if a person invests in a fixed income fund, that capital typically gets
5 spread across companies that may span the world. If instead the person chooses to invest in
6 rooftop solar, that money helps solar installers pay their employees, our vendors, and the
7 associated local taxes.

8 Q. Can you describe the growth in demand for rooftop solar and how that has impacted jobs
9 from your first-hand experience?

10 A. In 2009, my company had 3
11 employees. Now we have over 20
12 employees who range from salespeople,
13 engineers, MBA, designers, electricians,
14 and laborers. Three years ago, my company
15 was getting about 5 inquiries per month
16 from customers interested in rooftop solar.

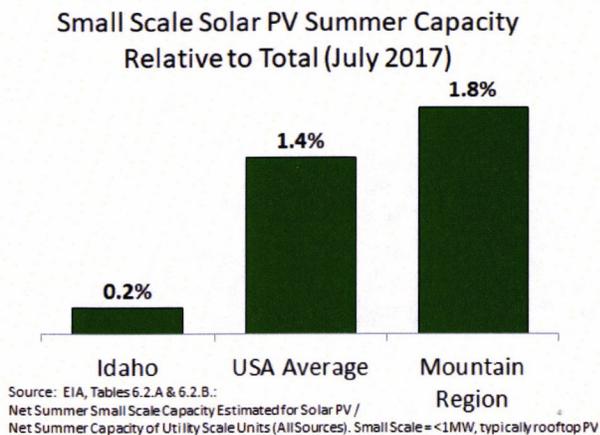


17 Market demand for solar continued to grow, and my business has received increasing numbers of
18 customer inquiries. We now have a steady 30 inquiries per month.

19 Q. Is there potential for growth in the solar industry in Idaho?

20 A. Definitely. Idaho has great weather for solar. Relative to other states, Idaho ranks #16 in
21 terms of solar insolation. Yet Idaho lags behind other states in terms of the penetration level of
22 installed rooftop solar. Among the states with less solar insolation, the majority have more solar
23 PV per capita. If Idaho were to achieve the national average of small scale solar capacity per

- 1 capita, there is opportunity for a multifold increase in Idaho for rooftop solar related jobs.
2 Exhibits 803 and 804 illustrate these points.



3
4 Q. Please describe your customer base for rooftop solar here in Idaho.

5 A. I believe there is a misconception that only wealthy people are buying rooftop solar, but
6 that is simply not the case here in Idaho. Our customers can be placed into three general
7 categories, based on their primary motives for installing rooftop solar.

8 **Investors.** At my company, our top source of referrals is financial advisors because they
9 see rooftop solar as an attractive way for clients to invest.

10 **Owners of Inefficient Homes.** These are typically folks in rural, older homes which
11 have very high electricity requirements relative to square footage and high electricity bills
12 relative to household income. One of the big changes I've seen is the growing demand from
13 these customers as the economics for solar have improved and the availability of financing has
14 made rooftop solar more accessible. I would describe these customers as independently minded
15 and forward thinking. They are anxious about the rate at which their electricity bills have
16 increased because they literally cannot afford to see their bills increase beyond a certain point.
17 So, for example, a customer might be paying \$200/month to power their manufactured home;

1 with financing, they might pay \$200/month for a solar PV system for 20 years. After 20 years,
2 rather than facing a monthly bill to the utility that the customer cannot afford, the customer has
3 paid off the loan and can enjoy much lower energy costs. Approximately 30% of my current
4 customers are in this category.

5 **Retirement planning.** As people plan for retirement, they often want to levelize their
6 costs of living. These folks are looking at living on a fixed income, and they are concerned their
7 income won't keep up with power rate inflation. They see an investment in on-site generation as
8 an opportunity to be less beholden to the utility's rate increases. They see solar PV as a means to
9 reduce the need to purchase energy from the grid, which allows them to budget their future
10 income and improve their monthly cash flow.

11 These three categories describe the majority of customers my company serves. We also
12 receive inquiries from customers motivated by environmental concerns (roughly 5% for my
13 company) and other motives.

14 **2) Common Transactions with Customers**

15 Q. What types of financial and other arrangements are common in the Idaho rooftop solar
16 industry?

17 A. Rooftop solar companies offer several different arrangements to fit customer needs. Some
18 customers purchase rooftop solar installations outright, without financing. Others finance rooftop
19 solar installations, typically paying a fixed rate to a bank, credit, union, or financing company for
20 a term, after which they will own the installation free and clear. Some banks offer special
21 financing arrangements for rooftop solar arrangements. Schools, government buildings, and
22 organizations sometimes finance rooftop solar installations through grants or other programs.

23 Q. In general, how do rooftop solar customers reduce their electric bills from the utility?

1 A. When a customer installs rooftop solar, the customer reduces their need to purchase
2 power from the grid in the future. This reduction can occur in two ways – often called “Behind
3 the Meter” and “Bi-directional Offsets.”

4 **Behind the Meter.** For rooftop solar customers, most of the electricity they generate is
5 produced and consumed behind the meter, so the customer avoids downloading electricity from
6 the grid. Thus, most of the reduction in the customer’s electric bill is from reduced consumption
7 behind the meter. This is similar to replacing an old incandescent light bulb with LED’s, it’s just
8 a different mechanism for reducing consumption from the grid.

9 **Bi-Directional Offsets.** Some net metering customers also export electricity to the grid,
10 which may enable the customer to offset future consumption and therefore their net usage. Not
11 all customers export to the grid, and there are seasons during which these customers export very
12 little if at all. For example, during the summer months it is more likely that a net metering
13 customer is using the grid bi-directionally part of the day, although during the winter months it is
14 more likely the customer is only using the solar generation behind the meter.

15 **3) The Impacts of Idaho Power’s Filing**

16 **a) Immediate**

17 Q. Let’s discuss the filing currently before the PUC. Did that filing have an immediate
18 impact on rooftop solar businesses?

19 A. Yes. During the summer, Idaho Power sent a letter to net metering customers and posted
20 documentation online which conveyed that customers who had signed up for net metering by
21 December 31, 2017 would remain on the current rate schedule. The utility described its concerns
22 with net metering and its motives for putting customers signing up after that date into a separate
23 class. My experience is that customers got the impression from Idaho Power’s communication

1 that they would be grandfathered provided they had signed up by December 31. Solar installers
2 began receiving a surge of inquiries from people anxious to have installations completed before
3 December 31, 2017.

4 Q. Is a surge in installations good for business?

5 A. This type of surge is not good for our businesses because it does not increase the total
6 number of customers who buy solar. It just squeezes that demand into a tight timeframe. We
7 installers pay more for overtime and subcontractors to meet the timeline imposed by Idaho
8 Power. Note that, though it would be better for the industry to have steady work, ours is a
9 competitive market and we cannot collude on how we go to market. Installers are going to
10 compete not to lose those customers who want to buy sooner rather than later.

11 Customers who cannot get service prior to a cut-off date then perceive they missed the
12 window, so this type of surge is often followed by a slump. Also, members of our industry
13 provide multiple types of service. For example, a fellow member of the Idaho Clean Energy
14 Association, Bluebird Solar & Light, informs me they lost business for their lighting and battery
15 projects because the staff had to focus on rooftop solar obligations to meet the surge of
16 customers.

17 Q. In 2013, the PUC held proceedings on IPC-E-12-27, which proposed changes to net
18 metering rates. Did those proceeding have any impact on solar installation business in Idaho?

19 A. Yes, there was a chill on the market for about six months during the 2013 net metering
20 proceedings as customers waited to learn what new net metering rates would be. I am personally
21 aware of three solar installation companies that went out of business during that timeframe and
22 those of us that didn't go out of business suffered financially for many months after the chill
23 before we were able to recover.

1 Q. Do you have any reason to believe that, if Idaho Power’s current filing is approved, the
2 impact to the solar installation business will be any different now?

3 A. No I do not. We have seen an initial surge, but I believe this is due to the grandfathering
4 proposal and materials Idaho Power provided to customers. If the filing is approved, I believe we
5 will experience a chill similar to or greater than the 2013 proceeding.

6 **b) Medium-term**

7 Q. If the current filing were approved, how would that affect rooftop solar installers in the
8 timeframe following approval?

9 A. In its filing, Idaho Power has proposed creating a separate customer class for new net
10 metering customers, and then opening a generic docket to determine how that new class will be
11 treated. This would create a “limbo period” during which potential rooftop solar customers know
12 they will be treated differently, but do not know how they will be treated. Based on my
13 experience, customers who would otherwise invest in rooftop solar would hold off. Based on my
14 involvement as the ICEA spokesperson, I predict the following:

- 15 • For my business, EvenGreen Technology, we predict a 60% decrease in our net metering
16 related business relative to what we would otherwise sell if the PUC were to approve the
17 filing and allow the threat of detrimental changes to net metering rates to hang over our
18 industry.
- 19 • AltEnergy Incorporated predicts up to a 50% decline in its net metering related business
20 if this filing were approved.
- 21 • Bluebird Solar & Light predicts a 75% decline in their residential rooftop solar business
22 relative to what they would otherwise sell in the absence of this filing.

1 • Auric Solar employees about 40 people in Idaho in rooftop solar related jobs. If the
2 Commission approves this filing, Auric has indicated that it will be forced to close its
3 business in Idaho.

4 Our businesses cannot maintain our employees and other fixed costs for the months to years
5 required to resolve what new rates or rate structures will be.

6 Q. Does the limbo period proposed by this filing differ from the general uncertainty inherent
7 to rate making?

8 A. Yes. The current filing fails to narrow the scope of changes that my potential customers
9 should consider. Potential customers will know they have been singled out for adverse
10 treatment, but do not know the range of possible outcomes. Potential customers will make
11 choices in fear of a worst case scenario. Therefore we solar installers bear the cost of a worst
12 case scenario which may never occur. Given the harm to solar installers is real, the evidence
13 justifying the filing should be substantial.

14 Q. Do other factors affect solar installers and their potential customers in the medium term?

15 A. Yes. Creating an extended limbo period is particularly costly to Idaho installers and
16 potential customers over the coming years.

17 The federal Investment Tax Credit available for residential and commercial installations
18 of solar energy systems will decline over the next four years. For solar installers who have
19 invested for many years to build a market for rooftop solar in Idaho, these coming years
20 represent a particularly important opportunity to recuperate our investments. Imposing a limbo
21 period at this time also discourages Idahoans from taking advantage of federal funds available to
22 others throughout the United States.

23 Q. Idaho Power has not proposed pricing changes at this time. Does that prevent disruption

1 to the rooftop solar industry?

2 A. No. As I discuss above, making a separate customer class itself creates uncertainty.
3 Failing to provide the range of possible price and rate structure changes *increases* the uncertainty
4 rather than reducing it. The lack of immediate pricing changes does not prevent disruption to the
5 rooftop solar industry.

6 Q. How would approval of this filing affect the three types of potential customers for rooftop
7 solar which you previously identified?

8 A. The first customer category, the Investors, weigh the risk and return of investing in on-
9 site generation. Approval of this filing would cause them to see the investment as very risky, so
10 they would need significantly higher returns to motivate them to invest. Many would wait for
11 better visibility to future rates, many would opt to invest into other less risky investments.

12 The Owners of Inefficient Homes and the people planning for retirement would be most
13 affected. As described earlier, we currently do a lot of business with customers who have high
14 electric bills and want to minimize their exposure to power inflation rates because they are
15 concerned their income cannot keep up with rising electricity rates. These customers want more
16 control over their costs, not less. Customers would not install solar if they perceive the threat that
17 they would still be beholden to Idaho Power to help the utility recuperate revenue associated
18 with electricity which the customer avoided downloading. These are risk averse customers, and
19 the filing creates a limbo period of high risk.

20 **c) Long-term**

21 Q. Can you identify long-term problems associated with creating a separate customer class
22 for net metering customers?

23 A. Yes. First, if a new customer class is created, a standard customer can choose to join the

1 proposed new rate classes with a minimal investment into on-site generation. I recall from the
2 Idaho Power 2013 net metering docket that the company's rate proposal would have created a
3 financial incentive for high usage customers to switch into the proposed net metering rate. If the
4 rate design for net metering increases fixed costs and reduces volumetric charges, then many
5 customers would find a financial advantage in shifting rate classes. For example, high monthly
6 fixed cost would remove the opportunity for many small-home customers to reduce their high
7 electricity bills with on-site generation, but lower volumetric charges would create opportunities
8 for high usage customers to benefit from switching rate schedules.

9 Idaho Power has focused on revenue lost when customers reduce their electric bills via
10 on-site generation. Mobility between rate schedules also creates the opportunity for customers to
11 take advantage of differences in rate structure and therefore lower their bills. I urge the PUC to
12 consider the current dollar value of issues associated with bi-directional use of the grid by net
13 metering customers, and compare that to potential cost shifting that would occur when some
14 portion of Idaho Power's half million residential customers lower their bills by shifting from
15 standard to a new net metering rate design by using very small solar systems. The greater the
16 difference between net metering and standard rate structure, the greater the potential for
17 unintended cost shifting. The smaller the difference, the less need for this filing.

18 Q. Any others?

19 A. Yes. Any new class of net metering customers will be small. Members of a smaller class
20 are more exposed to pricing and other changes than members of a larger class. The small size of
21 the net metering class, the disparity in usage levels within the class, and the potential for changes
22 in composition of the class would lead to rates that are more volatile and standard rates. Putting
23 net metering customers into separate classes would diminish the predictability and stability of net

1 metering rates. This will cause long-term disruptions in the rooftop solar industry.

2 Q. Are you familiar with the filing Idaho Power made in 2012, and the PUC's resulting
3 Order No. 32846?

4 A. Yes. The PUC denied Idaho Power's request to create a new customer class for net
5 metering customers in part because creating a new class would discourage investment in
6 distributed generation.

7 Q. Would approval of the current filing discourage investment in distributed generation?

8 A. Yes. Approval of the current filing will have immediate, medium-term, and long-term
9 impacts that will disrupt the rooftop solar industry in Idaho and discourage investment in
10 distributed generation.

11 **4) Concerns with the Proposed General Docket**

12 Q. Do you have concerns about the generic docket proposed by Idaho Power if its request to
13 create a separate customer class is granted?

14 A. Yes. The current filing does not provide a rate structure for us to analyze the downside
15 impacts of putting net metering customers in a separate class, so we should consider lessons
16 learned from the net metering rate design proposed by the Company in IPC-E-12-27. One
17 example of the downside impact was that, if the proposed rate structure had been implemented,
18 many net metering customers would have been better off financially to turn off their solar
19 systems, systems for which they had already paid, rather than be subject to the proposed new
20 rates for net metering. Page 15 of the direct testimony of Courtney R. White in that proceeding,
21 excerpted below, illustrates this point.

14 This analysis indicates that if the proposed terms are implemented, over 20% of
15 the net metering customers in the population evaluated **would be financially better off**
16 **(their total bills to the Company would be less) if they turned off their customer-**
17 **owned generation systems** in order to be billed under the same terms as standard
18 customers rather than pay the unfavorable rates proposed for net metering. **A rate**
19 **structure is not equitable if the choice to produce electricity makes a customer**
20 **financially worse off.**

1

2 Ms. White's testimony is publically available on the PUC's website.

3 Q. How might changes to the compensation structure affect the ability of rooftop solar
4 customers to reduce their electric bill from the utility?

5 A. Changes can affect both methods of recovering investment, both Behind the Meter and
6 Bi-Directional Offsets.

7 Regarding regulatory changes affecting Behind the Meter savings, changes that would
8 disallow customers from reducing their usage behind the meter at retail rate would remove the
9 most fundamental economic incentive for on-site generation. Customers are not willing to pay
10 twice for their electricity. A customer is not going to pay for a solar system which he or she will
11 use behind the meter and then turn around and pay Idaho Power for revenue lost because the
12 customer avoided downloading electricity.

13 Regarding regulatory changes affecting Bi-Directional Offsets, if electricity uploaded to
14 the grid is valued at less than retail, it would greatly diminish the return on investment for most
15 solar installations. The more the investment relies on bi-directional use of the grid, the more it
16 would be affected. Such changes would decrease overall demand for rooftop solar installations
17 and affect the size of systems that would provide good returns, further discouraging investment
18 in rooftop solar installations.

1 Q. Related to this filing, has Idaho Power indicated if they intend to propose changes that
2 would affect Behind the Meter savings?

3 A. Yes, Idaho Power has conveyed intent that net metering customers should not be allowed
4 to benefit from reduced usage behind the meter in the same manner other customers are able to
5 benefit. For example, Idaho Power presents its view in the Idaho Statesman Guest Opinion by
6 Idaho Power Vice President Adam J. Richins, August 11, 2017, attached as Exhibit 805:

7 It costs significantly more — approximately \$65 per month in total — for

8 Idaho Power to supply grid services to the average residential customer.

9 Under the current rate structure, the \$60 that is not paid by a net metering

10 customer is ultimately shifted to other residential customers to pay. This is

11 called cost shifting, and it results in higher prices for other customers.

12 By this definition, cost shifting occurs whenever a customer turns off the lights. Cost
13 shifting occurs when a vacation property is seldom used. See Exhibit 806. Cost shifting occurs
14 when any standard customer pays less than the average cost per customer. Our potential
15 customers for rooftop solar typically have been paying more than average, and they value the
16 freedom of choice to pay less. Idaho Power targets net metering customers and conveys that cost
17 shifting is specific to net metering customers who pay less than average. This is misleading and
18 simply not true.

19 Q. If the filing were approved and in the future the fixed fee per month for net metering
20 customers were raised to be higher than that for standard customers, what customers might be
21 most adversely affected ?

22 A. Raising the fixed fee per month would most adversely affect our ability to serve
23 customers with low usage. Our business opportunities would narrow to large properties. If the

1 fixed fee were increased and volumetric rates for net metering were lower than standard rates,
2 our business would narrow to small systems for large properties because those customers would
3 benefit from the lower volumetric charges.

4 **5) Recommendations for Future Proceeding**

5 Q. Idaho Power has conveyed concern that residential customers who reduce their usage are
6 not paying the utility's average cost per customer. Is a filing specific to net metering the
7 appropriate venue for addressing that concern?

8 A. No. The ability to benefit from reduced consumption behind the meter is not specific to
9 net metering. If the Commission wishes to address the question of whether residential or small
10 general service customers are accurately contributing to the class cost of service, ICEA would
11 respectfully ask that the policy be considered in a non-discriminatory manner and that the issue
12 be addressed in the context of all residential or small general service customers.

13 Q. Idaho Power appears to be particularly concerned that some net metering customers
14 reduce their net usage to zero. Does that make net metering customers different than standard
15 customers?

16 A. No. Standard customers have the choice to reduce their usage to zero without penalty, as
17 long as they pay the Commission approved monthly customer charges. Some residential
18 customers consume far more than average, some far less. The degree to which a customer
19 reduces usage behind the meter should not be a basis for charging net metering customers
20 differently.

21 Q. What action does ICEA request that the PUC take?

22 A. ICEA requests that the Commission deny Idaho Power's current filing and set guidelines
23 for future proceedings addressing net metering policy.

1 Q. Could you please summarize ICEA's recommendations with regard to future proceedings
2 addressing net metering policy?

3 A. Any future docket addressing net metering policy should have boundaries guiding the
4 process in order to minimize disruption and unjustified harm to the businesses impacted by net
5 metering rate design. ICEA respectfully recommends the following boundaries:

- 6 • **Demonstrated Problem.** Evidence of a material problem should be demonstrated before
7 proposing changes to net metering rate design.
- 8 • **Non-discriminatory.** Customers should be free to benefit from reduced consumption
9 without discrimination.
- 10 • **No cart-before-horse.** Analysis giving fair weight to both costs and benefits should
11 precede any changes to rate structure.
- 12 • **Referee.** We ask for the regulatory version of a referee to govern the process, which
13 should include representation from stakeholders.
- 14 • **No Surge & Slump.** Any docket proposing changes to net metering rates should not
15 propose an effective date until after the potential approval of the filing. Or, if a cut-off
16 deadline is implemented, it should be based on the date a net metering application is
17 postmarked. This is a cutoff deadline commonly used across the nation that will help
18 decrease the surge and slump and other problems.
- 19 • **Don't rush it.** The process should allow time for thorough consideration of costs and
20 benefits, potential repercussions, and stakeholder perspectives.
- 21 • **Orderly transition.** Customers should be assured that for an extended period of time
22 they would be able to remain on rates current at the time their net metering application is
23 postmarked.

1 no one knows what future rates will be, it is unfair to imply that customers should be discouraged
2 from considering the services my industry offers.

3 Idaho has one of the lowest penetration rates for solar PV in the nation, and I have seen
4 no evidence to support that Idahoans should uniquely be discouraged from investing. There are
5 over a million homes with rooftop solar in the United States; the implication that rooftop solar is
6 a bad investment specifically for Idaho Power's residential and small general service customers
7 is unfounded.

8 The PUC has not been given sufficient evidence to determine that customers should be
9 discouraged from investing in rooftop solar. I would urge the Commission not to signal
10 customers that their investment decisions should go on hold.

11 Q. Would approval of the filing reduce the uncertainty for customers considering
12 investments in on-site generation?

13 A. This filing increases the potential for inaccurate predictions because it widens the range
14 of uncertainty and reduces predictability of future rates. Whether we like it or not, customers
15 look to installers for guidance or validation of their assumptions when investing. There is no one
16 right answer, so customers will get a wide range of predictions regarding the timing, degree, and
17 design of future net metering rates.

18 Approval of this filing puts a difficult burden on installers regarding our obligation to
19 help customers evaluate what future rates will be. If the PUC were to approve this filing, is the
20 expectation that we installers would advise customers to wait until future rates are determined?
21 Our businesses cannot do that and survive. The industry cannot sell a product that has such a
22 high level of uncertainty and unknowns. Is it appropriate to base our guidance on reports that
23 show the majority of Value of Solar studies indicate solar is worth more than retail, or are we

1 solar installers obligated to inform customers that Idaho Power would like to change net
2 metering rates in a manner that would undo the fundamental basis for investing, the ability to
3 produce and consume one's own electricity without penalty? Anything less than forthright is bad
4 for business, yet telling customers to hold off is fatal to business.

5 Q. Would you like to respond more generally to Idaho Power's assertion that installers
6 mislead customers?

7 A. Yes. I have zero motive to lie to a customer - If a customer were to invest with us and
8 then thinks we misled them, that single customer could have more impact on my business's
9 reputation than my company's entire marketing budget. With that said, I have 5 star reviews on
10 every platform for my business. If I were misleading my customers just so they would buy solar,
11 after almost 10 years of doing business someone would have called me out. In reality, my
12 customers continue to refer my company to others they know.

13 Each day, customers ask installers for simple numbers – what's a typical payback or a
14 typical cost/kWh, how much are electricity rates going to rise, etc. A challenge for installers is
15 that simple answers can get taken out of context. On the other hand, it is not practical to present
16 to the public, in a concise, understandable way, the universe of relevant information. This is a
17 challenge in all competitive markets, not just rooftop solar. In light of this challenge, many
18 installers make rough assumptions so that customers can self-screen their interest. Before the
19 customer invests, an installer typically has a more detailed discussion to address the customer's
20 specific project and the risks and associated assumptions.

21 If Idaho Power were truly concerned about the misleading of onsite generation customers
22 by solar installers, they would or should consider providing solar installers with more accurate
23 information. For example, I personally spoke to a couple Idaho Power representatives about the

1 future inflation rate of power, meaning how much power is going to increase each year in the
2 upcoming years. This is a value necessary to provide calculations for IRR, NPV and ROI which
3 are standard investment calculations. Assumptions vary from solar installer to solar installer
4 because we have no guidance from the power company on this value. In my conversation with
5 the Idaho Power representatives, I was told that they did not agree with the power inflation rate I
6 was using. However, the representatives were not willing to provide their estimate of power
7 inflation rates or the data used to support it.

8 Q. Does this conclude your direct testimony?

9 A. Yes.

CERTIFICATE OF SERVICE

I certify that on December 22, 2017, a true and correct copy of the DIRECT TESTIMONY OF KEVIN KING was served upon all parties of record in this proceeding via the manner indicated below:

Commission Staff

Diane Hanian, Commission Secretary
Idaho Public Utilities Commission
472 W. Washington Street
Boise, ID 83702

Diane.holt@puc.idaho.gov

(Original and 9 copies provided)

Sean Costello, Deputy Attorney General
Idaho Public Utilities Commission
472 W. Washington Street (83702)
P.O. Box 83720

Boise, ID 83720-0074

Sean.costello@puc.idaho.gov

Electronic Mail

Lisa D. Nordstrom
Idaho Power Company
1221 West Idaho Street (83702)
P.O. Box 70
Boise, ID 83707

lnordstrom@idahopower.com

dockets@idahopower.com

Matthew A. Nykiel
Benjamin J. Otto
Idaho Conservation League
P.O. Box 2308

102 E. Euclid, #207

Sandpoint, ID 83864

mnykiel@idahoconservation.org

botto@idahoconservation.org

Briana Kobor
Vote Solar
360 22nd Street, Suite 730
Oakland, CA 94612

briana@votesolar.org

Hand Delivery & Electronic Mail

Electronic Mail

Timothy E. Tatum
Connie Aschenbrenner
Idaho Power Company
1221 West Idaho Street (83702)
P.O. Box 70
Boise, ID 83707

ttatum@idahopower.com

caschenbrenner@idahopower.com

Abigail R. Germaine
Boise City Attorney's Office
150 N. Capitol Blvd.
P.O. Box 500

Boise, ID 83701-0500

agermaine@cityofboise.org

Vote Solar
c/o David Bender
Earthjustice
3916 Nakoma Road
Madison, WI 53711
dbender@earthjustice.org

Electronic Mail (continued)

Idaho Irrigation Pumpers Association, Inc.
c/o Eric L. Olsen
Echo Hawk & Olsen, PLLC
505 Pershing Ave., Suite 100
P.O. Box 6119
Pocatello, ID 83205
elo@echohawk.com

Elias Bishop
Auric Solar, LLC
2310 S. 1300 W.
West Valley city, UT 84119
Elias.bishop@auricsolar.com

Idaho Clean Energy Association
c/o David H. Arkoosh
Law Office of David Arkoosh
P.O. Box 2817
Boise, ID 83701
david@arkooshlaw.com

Zack Waterman
Idaho Sierra Club
503 W. Franklin Street
Boise, ID 83702
Zach.waterman@sierraclub.org

Snake River Alliance NW Energy Coalition
c/o John R. Hammond Jr.
Fisher Pusch LLP
101 South Capital Blvd., Suite 701
Boise, ID 83702
jrh@fisherpusch.com

Anthony Yankel
12700 Lake Avenue, Unit 2505
Lakewood, OH 44107
tony@yankel.net

Idahydro and Idaho Clean Energy Association
c/o C. Tom Arkoosh
Arkoosh Law Offices
802 W. Bannock Street, Suite 900
P.O. Box 2900
Boise, ID 83701
Tom.arkoosh@arkoosh.com
Erin.cecil@arkoosh.com

Sierra Club
c/o Kelsey Jae Nunez
Kelsey Jae Nunez LLC
920 N. Clover Drive
Boise, ID 83703
kelsey@kelseyaenunez.com

Michael Heckler
3606 N. Prospect Way
Garden City, ID 83714
Michael.p.heckler@gmail.com

Snake River Alliance
wwilson@snakeriveralliance.org

NW Energy Coalition
diego@nwenergy.org

Electronic Mail (Continued)

Intermountain Wind and Solar, LLC
c/o Ryan B. Frazier
Brian W. Burnett
Kirton McConkie
50 East South Temple, Suite 400
P.O. Bo 45120
Salt Lake City, UT 84111
rfrazier@kmclaw.com
bburnett@kmclaw.com

Tom Beach
Crossborder Energy
2560 9th Street, Suite 213A
Berkeley, CA 94710
tomb@crossborderenergy.com

Intermountain Wind and Solar, LLC
c/o Doug Shipley
Dale Crawford
1952 West 2425 South
Woods Cross, UT 84087
doug@imwindandsolar.com
dale@imwindandsolar.com



Preston N. Carter

EXHIBIT 801

Fastest Growing Occupations

Fastest growing occupations: 20 occupations with the highest percent change of employment between 2016-26.

Click on an occupation name to see the full occupational profile.

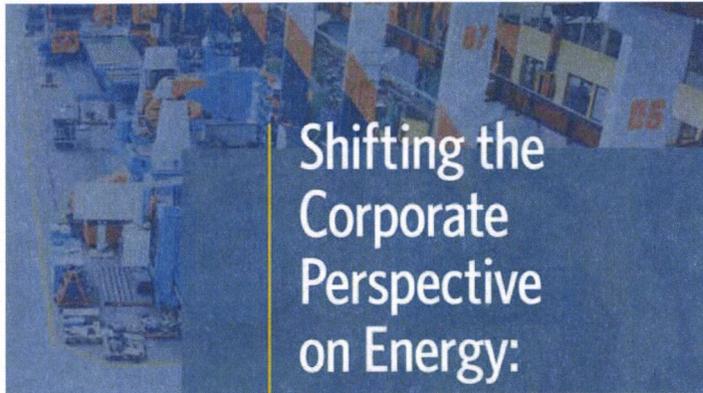
OCCUPATION	GROWTH RATE, 2016-26	2016 MEDIAN PAY
Solar photovoltaic installers	 105%	\$39,240 per year
Wind turbine service technicians	 96%	\$52,260 per year
Home health aides	 47%	\$22,600 per year
Personal care aides	 37%	\$21,920 per year
Physician assistants	 37%	\$101,480 per year
Nurse practitioners	 36%	\$100,910 per year
Statisticians	 33%	\$80,500 per year
Physical therapist assistants	 31%	\$56,610 per year
Software developers, applications	 30%	\$100,080 per year
Mathematicians	 29%	\$105,810 per year
Bicycle repairers	 29%	\$27,630 per year
Medical assistants	 29%	\$31,540 per year
Physical therapist aides	 29%	\$25,680 per year
Occupational therapy assistants	 29%	\$59,010 per year
Information security analysts	 28%	\$92,600 per year

OCCUPATION	GROWTH RATE, 2016-26	2016 MEDIAN PAY
<u>Genetic counselors</u>	 28%	\$74,120 per year
<u>Operations research analysts</u>	 27%	\$79,200 per year
<u>Forest fire inspectors and prevention specialists</u>	 27%	\$36,230 per year
<u>Health specialties teachers, postsecondary</u>	 26%	\$99,360 per year
<u>Derrick operators, oil and gas</u>	 26%	\$48,130 per year

Last Modified Date: Tuesday, October 24, 2017

U.S. Bureau of Labor Statistics | Office of Occupational Statistics and Employment Projections, PSB Suite 2135, 2 Massachusetts Avenue, NE Washington, DC 20212-0001
www.bls.gov/oooh | Telephone: 1-202-691-5700 | [Contact OOH](#)

EXHIBIT 802



[White Papers / Executive Reports] [Blog]



December 12, 2016

Shifting the Corporate Perspective on Energy: A Service, Not a Commodity

Learning to view and treat energy as a service, rather than as a commodity – is a shift that warrants C-suite-level attention and a new enterprise-wide strategy. This is leading large organizations to take a closer look at their energy costs to find new ways to capitalize on emerging options to gain control over this significant expenditure.

A new business model, “Energy-as-a-Service”, is allowing Best-in-Class companies to fundamentally change their relationship with energy by changing the way they procure and manage energy. This white paper explores the factors that are driving large energy users to view energy as a service rather than a commodity to lower their enterprise energy costs and while improving their competitive advantage.

DOWNLOAD OUR WHITE PAPER

JOIN OUR EMAIL LIST

Enter your email ...

CONNECT WITH US



SUBSCRIBE TO OUR RSS FEEDS 

CATEGORIES

[White Papers / Executive Reports](#)

[Edison Energy's Ask the Expert](#)

[Case Studies](#)

[Blog Posts](#)

[Podcasts](#)

[Videos](#)

[Webinars](#)

TOPICS

RENEWABLE ENERGY [64]

OFF-SITE RENEWABLES [54]

C&I COMPANIES [51]

Exhibit 802
Case No. IPC-E-17-13
K. King, ICEA



[BLOG] UNION OF CONCERNED SCIENTISTS

Renewable Energy for Companies: Which States Make It Easiest (or Hardest)?

JOHN ROGERS, SENIOR ENERGY ANALYST, CLEAN ENERGY | JANUARY 13, 2017, 10:16 AM EST

Like 0 Tweet  SHARE

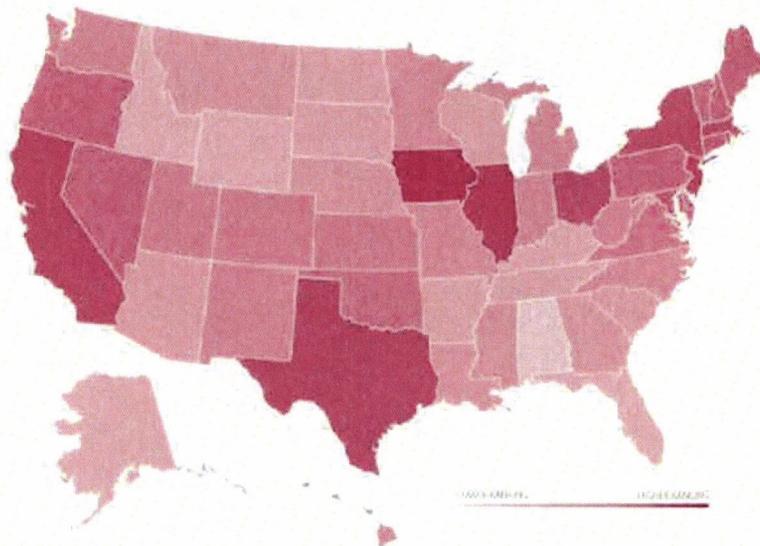
If you're a company looking to get your hands on some renewable energy, to power your operations with sources like wind and solar, turns out some states make that a lot easier than others. Here's what a new study says about different options for businesses interested in going clean, energy-wise.

The new study, *Corporate clean energy procurement index: State leadership and rankings*, offers an array of useful perspectives. It comes from the Retail Industry Leaders Association (RILA), the Information Technology Industry Council (ITI), and Clean Edge, the research and advisory firm behind various useful rankings of clean energy progress.

The analysis is aimed at assessing states "based upon the ease with which companies can procure [renewable energy] for their operations located within each state." The index has 15 metrics in three categories: purchasing from utilities, purchasing from third parties (someone other than your electric utility), and using "Onsite/Direct Deployment Options"—putting solar or wind right on your stores, factories, and warehouses.

And here's what they found:

CORPORATE CLEAN ENERGY PROCUREMENT INDEX: OVERALL RESULTS



RILA ITI

RANK	STATE	INDEX SCORE
1	Iowa	74.71
2	Illinois	68.79
3	New Jersey	66.85
4	California	65.24
5	Texas	63.50
6	Massachusetts	60.64
7	New York	60.13
8	Ohio	59.96
9	Rhode Island	57.28
10	Connecticut	56.49
11	Maryland	56.04
12	Delaware	54.93
13	New Hampshire	53.31
14	Maine	52.95
15	Pennsylvania	51.53
16	Oregon	50.98
17	Nevada	49.99
18	Vermont	48.55
19	Oklahoma	48.18
20	Virginia	48.08
21	Kansas	48.05
22	Colorado	39.01
23	Utah	37.60
24	New Mexico	37.39
25	Hawaii	37.01
26	West Virginia	36.43
27	Washington	36.43
28	Indiana	35.30
29	Michigan	35.06
30	North Carolina	34.81
31	Minnesota	33.42
32	Missouri	33.56
33	Louisiana	29.93
34	Mississippi	29.56
35	Montana	27.42
36	South Carolina	27.34
37	Georgia	27.24
38	Nebraska	26.33
39	Arizona	24.33
40	Wisconsin	21.94
41	South Dakota	21.91
42	Arkansas	20.43
43	North Dakota	19.95
44	Tennessee	19.74
45	Florida	15.78
46	Kentucky	15.75
47	Alaska	13.58
48	Idaho	13.60
48	Wyoming	13.60
50	Alabama	1.82

Source: RILA, ITI, Clean Edge 2017

The top states are all over the map, literally—from #1 Iowa and #2 Illinois in the middle of the country, to New Jersey, California, and Texas.

As the top performers show, no one region has a lock on making corporate renewables purchases easy. But the authors note that some regions do better:

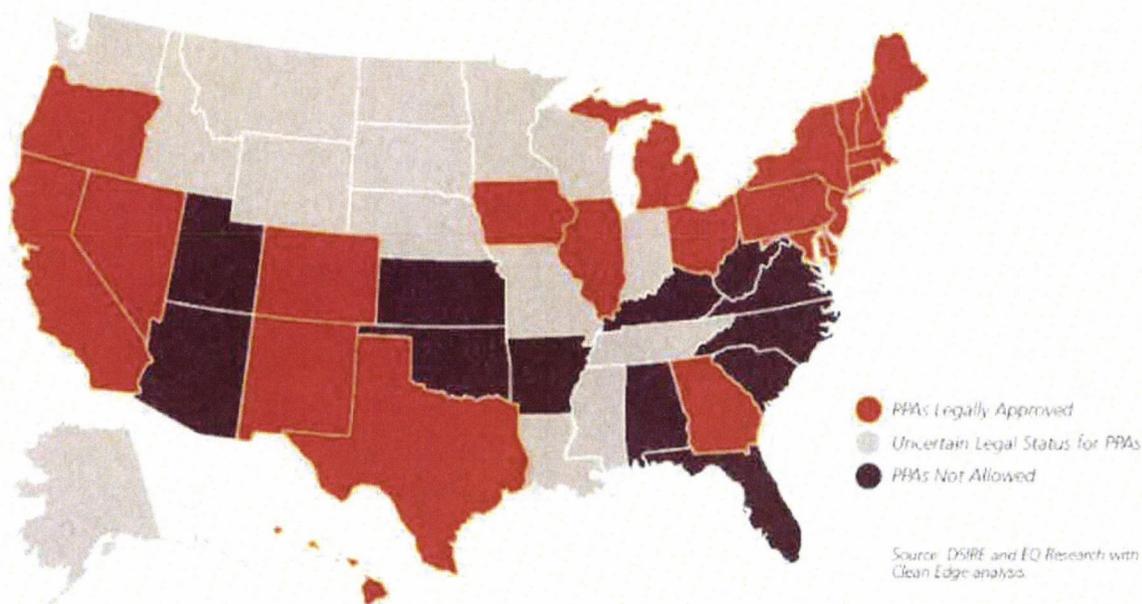
The Northeast, Midwest, and Mid-Atlantic regions are generally the most favorable regions in the U.S. for corporate customers seeking to power their operations with renewable energy...

Let businesses capture the economic development benefits of renewables... or not

The analysis assesses how much choice and competition for renewable energy purchases exist by state. One indicator of that is whether companies are allowed to enter into PPAs (power purchase agreements) with third parties, which let companies take advantage of the stable prices renewables are uniquely qualified to offer, to lock in electricity rates over the long term.

The answer is yes, no, or maybe:

ALLOWANCE OF THIRD-PARTY PPAs FOR DISTRIBUTED GENERATION



Source: RILA, ITI, Clean Edge 2017

As a taste of some of the corporate procurements, the report includes examples of large-scale purchases by some pretty big names:

EXAMPLES OF UTILITY-SCALE OFFSITE DEPLOYMENT CONTRACTS

TYPE OF CONTRACT	PARTIES INVOLVED	HOW IT WORKS	EXAMPLE	DESCRIPTION
DIRECT UTILITY PURCHASING	Corporate, Utility	A local utility signs a PPA on behalf of a corporate buyer.	 Procter & Gamble purchases biomass power from Constellation in Georgia	In February 2015, Procter & Gamble contracted with Constellation to build a 50 MW biomass cogeneration plant near P&G's facility in Georgia. P&G will receive steam from the plant, while Georgia Power purchases electricity from it.
GREEN TARIFF PROCUREMENT	Corporate, Utility, Developer (not required)	A corporate buyer utilizes a special utility tariff to provide funding for a new renewable facility located within the utility's service territory.	 Apple receives power from solar farms in Nevada	In 2013 and 2015, Apple reached agreements to pay a premium through NV Energy's Green Energy Rider to purchase 100% renewable energy from approximately 70 MW worth of solar panels in Nevada.
OFFSITE POWER PURCHASE AGREEMENT (PPA)	Corporate, Developer	A corporate buyer agrees to purchase the electricity produced by a renewable facility over a span of years, usually 10-20 years. This provides funding to construct the facility.	 Google purchases 225 MW of wind power in Texas	In January 2016, Google reached an agreement with Invenergy to purchase the generation from the Bethel Wind Energy Facility, southwest of Amarillo, Texas.
DIRECT INVESTMENT	Corporate, Developer	A corporate buyer directly invests in and owns an offsite facility.	 IKEA wind farms in Illinois and Texas	IKEA worked with Apex Clean Energy to fund 263 MW of wind turbines in Illinois and Texas. The facilities are fully owned by IKEA but were constructed and are managed by Apex.

Source: Clean Edge research

Source: RILA, ITI, Clean Edge 2017

Broadening the pie

The authors don't stop at assessing where we are, but suggest opportunities for a cleaner future. In particular, to help businesses trying to get access to renewable energy, they say, here are a few ideas for what states can do:

1. "Remove barriers to corporate deployment" of renewables, both onsite and elsewhere

2. “Support the development of next-generation options” for helping corporate buyers use renewables to save money or hedge against swings in electricity costs
3. “Expand energy choice options” for commercial and industrial customers in markets that haven’t “restructured”, ones in which electric utilities still own power plants, not just the electric distribution systems
4. “Ensure that an adequate market exists for renewable purchasing” through utilities or others
5. Ensure that, in any type of market, renewables “can scale up rapidly”

And, as the report says, while it’s focused on helping the businesses that are members of RILA and ITI in cleaning up their own acts, its findings are also “broadly applicable to many stakeholders, including other business sectors, the military, higher education, and state and local government.”

Businesses seeing the power and value of renewable energy have been important drivers for our transition to energy choices that cut air and water pollution, improve public health, strengthen energy security, and drive economic development.

States can make it easier for leading businesses to play that important role, or not. Clearly many states see the value in making it as easy as possible to get businesses of all stripes and sizes to help us move to clean energy. This new report gives us a chance to see which states those are, and to celebrate them.

Like 0 Tweet  SHARE

Posted in: Energy

Support from UCS members make work like this possible. Will you join us? Help UCS advance independent science for a healthy environment and a safer world.

Hide Comments

Comment Policy

UCS welcomes comments that foster civil conversation and debate. To help maintain a healthy, respectful discussion, please focus comments on the issues, topics, and facts at hand, and refrain from personal attacks. Posts that are commercial, self-promotional, obscene, rude, or disruptive will be removed.

Please note that comments are open for two weeks following each blog post. UCS respects your privacy and will not display, lend, or sell your email address for any reason.

States Use Renewable Energy to Win Corporate Business

by [Celina Bonugli](#) [1] - February 03, 2017

U.S. states [often](#) [2] [tussle](#) [3] over who can attract the most innovative, high-growth businesses. Increasingly, governors can point to a new factor that makes their state competitive: affordable renewable energy.



U.S. solar farm. Photo by U.S. Department of the Interior/Wikimedia Commons

Advanced Energy Economy cites that nearly half of Fortune

500 companies have a sustainability or renewable energy target; 22 have committed to 100 percent renewable energy. These companies include Walmart, General Motors, Amazon and others who have also signed on to the [Corporate Renewable Energy Buyers' Principles](#) [4].

That said, not all states are created equal in their ability to provide corporations with the renewable energy they want at the scale they need.

A [report](#) [5] this month from Retail Industry Leaders Association (RILA) and Information Technology Industry Council (ITI) ranks all 50 U.S. states based on 15 indicators for how easily companies can purchase renewable energy to power their operations. The top five states were Iowa, Illinois, New Jersey, California and Texas.

The report notes that the “structure of a state’s electricity market can directly influence where corporations choose to invest in renewable projects.” Overall, states with deregulated electricity markets earned higher rankings because companies in those states had “retail choice,” meaning

customers can choose which energy provider supplies their electricity. States with regulated markets, where a monopoly utility provides power to all customers and chooses the source of this power, may initially appear limited. However, the rankings concluded that even fully regulated states can succeed in offering large-scale renewable energy to big customers. Iowa is a regulated state and still came out on top.

Regulated States Use Green Tariffs to Create Renewable Energy Purchasing Opportunities

Green tariffs are one option states with regulated markets can pursue to provide renewable energy to corporations. A green tariff is a large-scale purchasing program where customers can work with their utility to source up to 100 percent of their electricity from renewable resources through a fixed rate. There are [now 10 green tariff programs](#) [6] in operation across the United States responsible for approximately 450 megawatts (MW) of new renewable energy production. This renewable power avoids an estimated 554,000 metric tons of CO₂ annually, [the equivalent](#) [7]of taking almost 118,000 vehicles off the road each year.

Using Green Tariffs to Attract Business

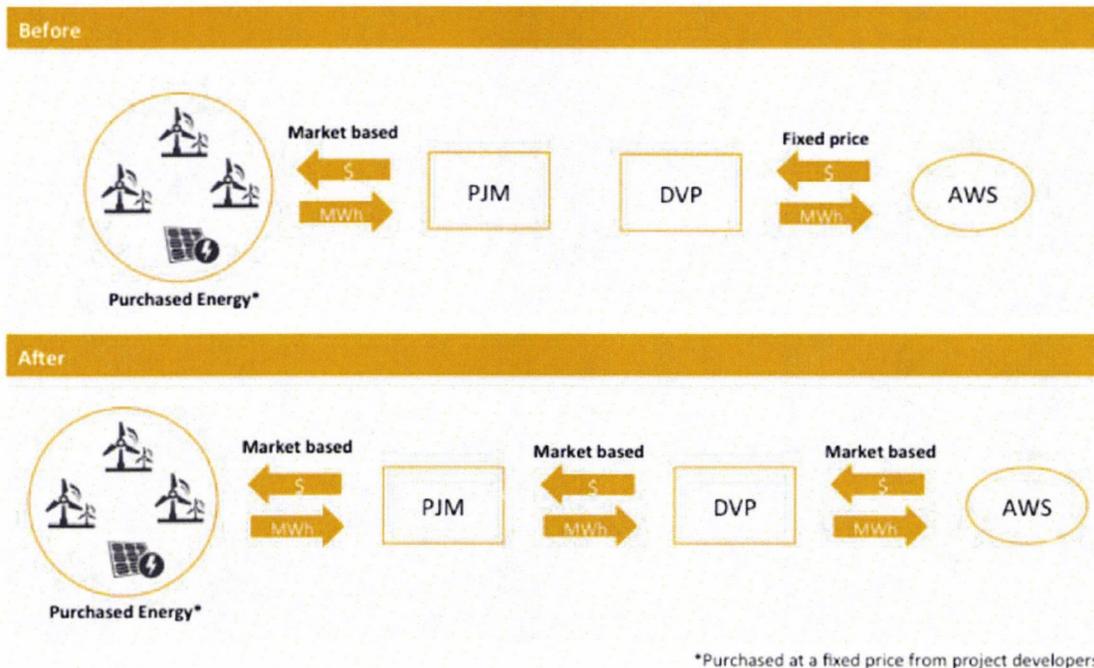
Virginia and New Mexico exemplify how states in regulated markets can utilize renewable energy options to attract big business.

Amazon Web Services (AWS) has several data centers in Virginia. Although AWS can directly enter into independent contracts with renewable energy facilities in Virginia, the company must then sell this energy onto the electric power market—in this case [PJM](#) [8]—rather than consume it. AWS's data centers must source their power from Dominion Virginia Power (DVP), the state's retail electric utility.

Recognizing that the energy supply of these data centers was essential to achieving AWS's commitment to source 100 percent renewable energy, the company approached Dominion seeking options. In collaboration with AWS, Dominion created an alternative to their existing green tariff, Schedule RG, and proposed an improved option, a market-based electricity rate known as Schedule MBR.

Schedule MBR provides a link between production and consumption. Under Schedule MBR, large corporate buyers can contract with independent renewable energy facilities and pay a retail

electricity rate through Dominion that closely matches the PJM market prices the renewable energy projects earn. Through this electricity rate, Schedule MBR essentially acts as a hedge against volatility in the electricity pricing market. Rocky Mountain Institute [illustrates this](#) [9]:



While Schedule MBR can be used to access any energy from the PJM market, the intent was to provide more access to renewables. With its approval last September, AWS was able to enter into five new solar farm agreements. These solar farm deals will generate [180 MW hours of new solar power](#) [10], enough energy to supply more than 36,000 U.S. homes in a year.

Schedule MBR establishes a mechanism for customers to access the type of fuel source they desire. This mechanism is sought by other regulated utilities, many of which are looking to create a similar market-based product.

New Mexico is also responding to the growing corporate demand for renewable energy.

Last year, Facebook approached utilities in two different states, asking each to provide a product that that would supply a 2017 planned data center with 100 percent renewable energy.

Public Service Company of New Mexico (PNM) quickly responded, creating the state's first green tariff, the Green Energy Rider. By using the Green Energy Rider, PNM will procure an initial amount of 30 MW of solar energy from independent facilities to service the data center.

PNM will eventually ensure enough renewable energy sources are acquired to meet the data center's 110 MW average daily load. According to PNM's [application](#) [11], this data center will also attract an initial capital investment of more than \$250 million and create 4,000 – 5,000 jobs.

In a Facebook post celebrating the deal, Governor Susana Martinez [said](#) [12] coordination between utilities and government could attract businesses to New Mexico. "By working together at all levels of government, and with private partners like PNM, we have helped make New Mexico a home for one of the largest tech companies in the world," she said.

An Essential Renewable Energy Solution

Edison Energy [reports](#) [13] that 72 percent of large companies headquartered in the United States are actively pursuing additional renewable energy purchases. For the foreseeable future, these large companies will continue to buy a substantial portion of their power from their local utility.

States with regulated markets will need to be creative and flexible in order to retain and attract this business. Utilities, regulators and large customers must continue to work together to make renewable energy procurement easy and affordable.

Check out the [Corporate Renewable Energy Strategy map](#) [4], which highlights these opportunities as they emerge.

Source URL: <http://www.wri.org/blog/2017/02/states-use-renewable-energy-win-corporate-business>

Links

[1] <http://www.wri.org/profile/celina-bonugli>

[2] <https://www.bloomberg.com/news/articles/2013-02-13/perry-cited-texas-tax-differences-in-california-recruiting-trip>

[3] <https://governor.iowa.gov/2016/04/gov-branstad-joins-midamerican-energy-in-announcing-36-billion-investment-in-additional-wind>

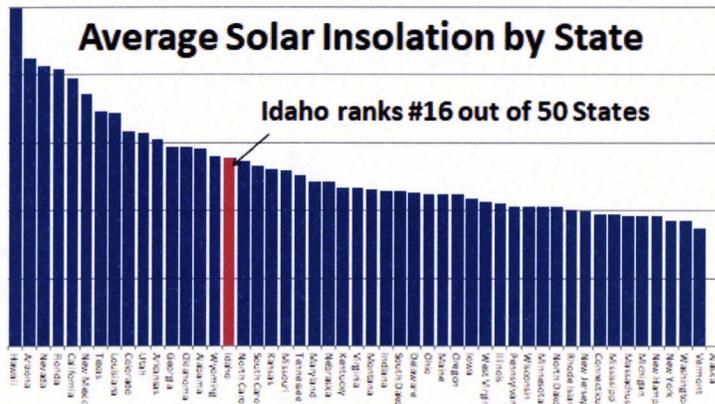
[4] <http://buyersprinciples.org/corporate-re-strategy-map/>

[5] <http://cleandedge.com/reports/Corporate-Clean-Energy-Procurement-Index>

[6] <http://www.wri.org/blog/2016/10/green-tariffs-take-us-expand-access-renewable-energy>

- [7] <https://www.epa.gov/sites/production/files/2016-02/documents/420f14040a.pdf>
- [8] <https://www.ferc.gov/market-oversight/mkt-electric/pjm.asp>
- [9] http://blog.mi.org/blog_2016_06_03_amazon_and_dominion_va_power_reach_breakthrough_re_agreement
- [10] <https://aws.amazon.com/about-aws/sustainability/>
- [11] <http://164.64.85.108/index.asp>
- [12] <https://www.facebook.com/SusanaMartinezFan/posts/10154421877898971>
- [13] <http://www.edisonenergy.com/blog/shifting-corporate-perspective-energy-service-not-commodity/>

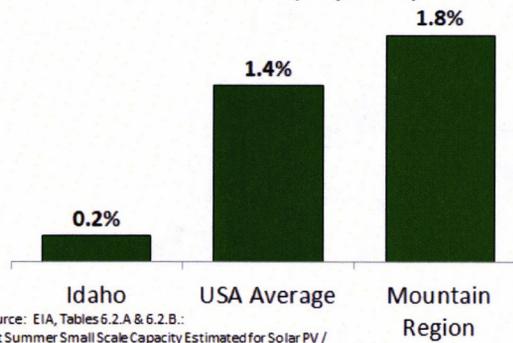
EXHIBIT 803



Source: Based on data from the National Oceanic and Atmospheric Administration as reported by NerdWallet.com in July 2013, <https://www.nerdwallet.com/blog/utilities/states-residential-solar-energy/>

EXHIBIT 804

Small Scale Solar PV Summer Capacity
Relative to Total (July 2017)



Source: EIA, Tables 6.2.A & 6.2.B.:
Net Summer Small Scale Capacity Estimated for Solar PV /
Net Summer Capacity of Utility Scale Units (All Sources). Small Scale = <1MW, typically rooftop PV

EXHIBIT 805

DAVID YURMAN

SHOP HOLIDAY



Adam J. Richins

GUEST OPINIONS

Ensuring fairness for all Idaho Power customers as net metering grows

BY ADAM J. RICHINS

AUGUST 11, 2017 09:55 PM

Electricity has traveled on a one-way street for the better part of a century. Customers have received electricity generated by Idaho Power into their homes, and they've paid a monthly bill to cover costs of the grid that delivers it. Today, over 530,000 Idaho Power customers receive one-way energy services that are safe, reliable and fair-priced.

In recent years, electricity has started to travel on a two-way street. We have about 1,400 customers who generate some of their own electricity (mostly by installing rooftop solar) and send what they don't use back to the grid. This two-way use is known as net metering. We believe this is an important customer option, and we have supported net metering customers for years.



There is a misconception, however, that Idaho Power's net metering customers are "off the grid." In fact, these customers rely on the grid every hour of every day — they send energy to the grid when they don't need it at their home, and they receive energy from the grid during cloudy days, at night, when starting up major appliances and when balancing their home's energy use. They also receive a full retail credit on their bill for energy they send to the grid. Net metering customers' use of the grid is simply different than that of traditional residential customers.

If both net metering and traditional residential customers use the grid, shouldn't both pay for their share? We think so. But it's not occurring under the current rate structure.

Breaking News

Be the first to know when big news breaks

Enter Email Address

SIGN UP

To illustrate this point, let's discuss a column that was sent to the Idaho Statesman last week on this topic. The writer stated that some rooftop customers pay only \$5 a month for their use of the grid. We agree, and that's the concern. It costs significantly more — approximately \$65 per month in total — for Idaho Power to supply grid services to the average residential customer. Under the current rate structure, the \$60 that is not paid by a net metering customer is ultimately shifted to other residential customers to pay. This is called cost shifting, and it results in higher prices for other customers.

Cost shifting is not unique to Idaho Power. In fact, many public utility commissions around the country are reviewing their net metering

Haley: US Will Remember UN Vote on US Embassy...



policies because of cost shifting. Idaho Power believes now is the time to take a first step in addressing this important issue in Idaho.

Although we will continue to support customer choice, we believe both customer choice and fair cost allocation can and should coexist. Customers with their own generation should not pay more than their fair share for the grid, and neither should customers who don't have their own generation.

We recently filed a request with the Idaho Public Utilities Commission seeking modifications to our net metering service. Idaho Power believes any changes in policy should occur over time and gradually, so we are not seeking any pricing changes at this time; rather, we are asking the commission to determine whether customers with on-site generation should have a rate structure that is different from the standard service rates. If the commission approves this request, Idaho Power will work with stakeholders and customers in a future rate proceeding that would determine what the appropriate pricing should be.

Please go to idahopower.com/netmetering to check out the filing.

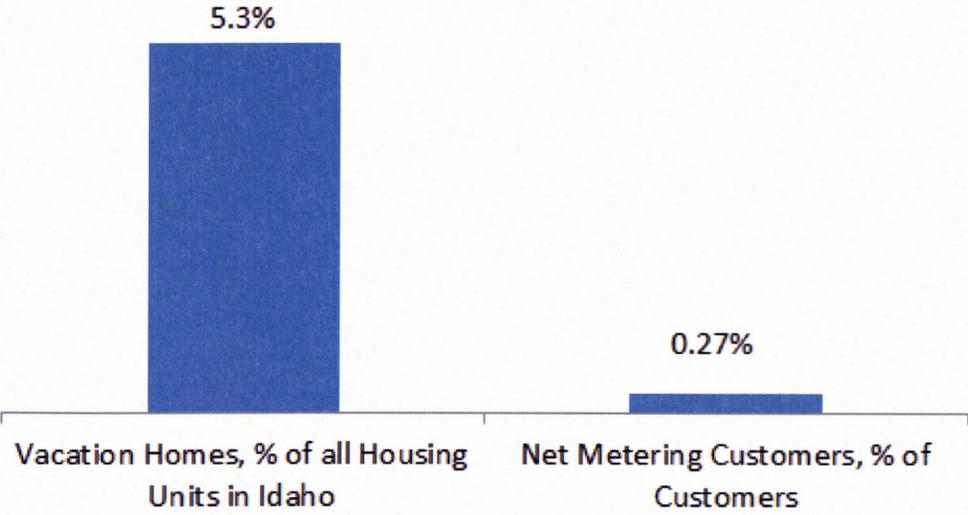
Adam J. Richins is Idaho Power's vice president of customer operations and business development.

Haley: US Will Remember UN Vote on US Embassy ...



EXHIBIT 806

Vacation Homes relative to Net Metering Customers



Sources: U.S. Census Data on houses for "Seasonal, Recreational, or Occasional Use" ;
IPC filing stating 1468 active & pending NEM, IPC website stating 534,534 customers

EXHIBIT 807

Principles for the Evolution of Net Energy Metering and Rate Design



This document provides a consensus view of solar advocates for regulators and stakeholders considering rate design and compensation for distributed solar generation, including potential alternatives to net energy metering. Traditional net energy metering (NEM) is fundamentally a bill credit that represents the full retail value of distributed electricity delivered to the distribution system, and has been a critical policy for valuing and enabling distributed generation. As penetration of solar and other distributed energy resources increases, states and utilities have begun to examine, and in some cases implement, alternative rate and compensation mechanisms.

The principles below are intended to be consistent with the imperative of public utility commissions and energy service providers to maintain reliable, cost-effective service to all customers while protecting the rights of customers to generate their own energy in a manner that provides both system and public benefits, including environmental protection and economic development.

They provide high level criteria for the conditions under which states may wish to consider alternatives to NEM, and high level principles for what distributed solar compensation mechanisms should look like where alternatives to NEM are appropriately considered.

Specifically the paper is organized into four sections:

- ❖ Basic principles, foundational to considerations for considering rate design and compensation for distributed solar generation.
- ❖ Criteria and Conditions for the Consideration of Alternatives to Net Energy Metering
- ❖ Guiding Principles for Solar Rate Design, and
- ❖ Guiding principles for Alternative Compensation

Basic Principles¹

- ❖ Customers have a right to reduce their consumption of grid-supplied electricity with energy efficiency, demand response, storage, or clean distributed generation. Thus, a customer should always receive the full retail price value for behind the meter

¹ The Criteria and Principles herein do not distinguish between regulated and restructured states. However, rate designs, cost allocation methods, avoided costs and cost/benefit analyses must recognize whether the utility is distribution-only or vertically integrated.

Principles for the Evolution of Net Energy Metering and Rate Design

choices that reduce grid-supplied energy consumption, whether installing energy efficiency measures, or consuming on-site generation.

- ❖ Solar rate design and compensation mechanisms should support customer economics to invest in solar that are sustainable, consistent with the full stream of values provided by the system, and fair to all stakeholders.
- ❖ Net energy metering is a proven mechanism for driving solar deployment, liked and understood by customers, and is preferred in most circumstances.
- ❖ Most studies have shown that the benefits of distributed solar generation equal or exceed costs to the utility or other customers where penetration is low. Assertions that current or future solar customers have shifted or will shift costs to others, and/or create new costs, must be demonstrated with valid, transparent data that reflects the values, avoided utility costs, and results of deploying solar at the distribution level, as well as the utility cost of providing service.
 - A cost of service study that fails to consider the benefits of distributed solar generation (DSG) cannot establish a cost-shift.
 - Regulators should require an independent cost-benefit analysis before considering substantial rate design or compensation changes based on cost-shift assertions.
 - The benefits of existing distributed solar should be recognized when considering any asserted cost shift.
 - The time frame for review of costs and benefits must be on par with the life of the particular type of Distributed Energy Resources (DER) assets, e.g. 20-30 years, and be forward looking, not a snapshot of one year of sunk costs as is typical in a general rate case (GRC).
 - Regulators should seek to ensure in GRC, Integrated Resource Plans (IRP) and other relevant proceedings that future avoided costs found in cost/benefit studies related to DSG and other DER are *actually* avoided (e.g. the canceled PG&E transmission projects saving \$200 million and the Brooklyn-Queens Demand Management project avoiding costly upgrades).
 - Since some level of quantifiable cross-subsidization is inherent in all rate design, particularly for large diverse classes, an independent finding of a *material* cost shift should be required before regulators authorize substantial changes to rates or rate design.
- ❖ Net metering can be accomplished through simple energy netting, or in combination with monetary compensation depending on the rate design:
 - For non-time differentiated residential and small commercial rates, i.e. rates based on energy consumed at any time, energy netting on a kWh basis over the billing period is good policy particularly at low to moderate penetration levels, and pending demonstration of a material impact.

Principles for the Evolution of Net Energy Metering and Rate Design

- For time-differentiated rates, monetary compensation is an accepted feature of some current NEM structures and may be necessary to preserve the full value of excess energy.
- ❖ Opportunities for retail customers and third party DSG and other DER developers to provide additional services (e.g. voltage & frequency regulation, VAR support) should be encouraged, especially in States moving towards a service oriented utility/regulatory model, though access to markets, and appropriate compensation mechanisms.
- ❖ Consideration of creating separate rate classes for customers that choose to utilize DER technologies must be based upon a factual demonstration of significantly different load and cost characteristics using publicly available actual data, and should generally be discouraged as potentially discriminatory.

Criteria and Conditions for the Consideration of Alternatives to Net Energy Metering

- ❖ Penetration level should be the leading threshold criteria for consideration of alternatives to NEM.
- ❖ Customers who installed solar under net metering should be grandfathered for a reasonable period of time. Customers have a reasonable expectation that rate structures (as opposed to rates themselves) will not change dramatically. Gradualism is an important rate design principle, and a gradual phase-in to any new compensation methodology should be provided at the end of the grandfathering period.
- ❖ Process: Early, i.e. pre-litigation, data collection and analysis under the guidance of the State Commission can provide opportunities for collaboration toward the development of a factual basis for future changes to rate designs, compensation, and other mechanisms.
- ❖ Simplicity, Gradualism, and Predictability: The simplicity of the NEM compensation mechanism facilitates customer adoption of distributed solar. Any future design should consider customer needs for simplicity and any changes should be applied gradually and predictably.
- ❖ Shadow billing and voluntary pilot programs to analyze opportunities to increase the benefits that net metered systems provide to the grid, and to assess the actual impacts of proposed changes (for example, time-of-use (TOU) pilot programs) should be considered before making substantial mandatory changes to compensation or rate design.
- ❖ Hold harmless policies should be in place for low-to-moderate income (LMI) customers.
- ❖ NEM imports & exports are generally netted monthly in most states, and tried up annually. More granular netting generally reduces solar customer economics, but may be worthy of consideration when penetration levels increase, or in conjunction with deployment of other DERs such as storage.

Principles for the Evolution of Net Energy Metering and Rate Design

Guiding Principles for Solar Rate Design

- ❖ Rate design should seek to send clear price signals to customers that encourage sustainable, cost-effective investments in solar and complementary technologies.
- ❖ Rate designs should not create barriers to the deployment of distributed solar generation or DER technologies other than solar.
- ❖ Rate designs that provide greater incentives for DER technology deployment (e.g. more steeply inverted block rates) can be considered to encourage early adoption of efficiency, distributed generation and storage technologies.
- ❖ Rate designs that emphasize temporal cost-causation (time-varying, critical peak pricing and critical peak rebates) are generally consistent with solar deployment, and may be quite beneficial to customer and system alike when solar is integrated with DERs like storage or demand response.
- ❖ Rate designs that emphasize higher fixed (e.g. customer, service and facility or basic service) charges than necessary for recovery of strictly customer-related costs like service drop, billing, and metering, or quasi-fixed (e.g. mandatory residential demand) charges do not reflect cost causation, disproportionately impact low and moderate income customers, and should be discouraged.
- ❖ Regulatory review of rate design alternatives should consider impacts on low-income customers; e.g. utility fixed or quasi-fixed charge proposals usually put solar and efficiency technologies further out of reach of LMI customers.
- ❖ Any consideration of standby, backup or other supplemental charges for solar customers must (1) be consistent with PURPA requirements, (2) be based upon a customer's ability to control self-generation similar to a conventional fossil resource (e.g. diesel or natural gas), and (3) reflect the probability of customer generation unavailability in the development of any rates.

Guiding principles for Alternative Compensation

- ❖ A fair value of solar (or "stacked benefit") compensation rate can be considered for distributed solar generation exports, at higher penetration levels. Such value should be determined taking into account both short term and long term (life of system) benefits of distributed solar generation.
- ❖ Buy all/Sell all (BA/SA or "VOST") compensation approaches should be at the option of the retail customer, i.e. VOST should not be the only customer option. Critical considerations impacting system economics and the ability to finance include the frequency and effect of future changes to the value proposition. In addition, consideration must be given to the effect on customers of the lack of energy hedging (customer-generated solar energy does not offset the customer's utility-supplied energy).
- ❖ Alternative Compensation methods should take into account the efficacy of integrating solar with other forms of DER (e.g. storage) in the grid of the future, assuring that barriers to new technologies are not created.

Principles for the Evolution of Net Energy Metering and Rate Design

- ❖ Solar specific surcharges such as installed capacity fees are discriminatory, generally unsupported by facts, and impede distributed solar generation system economics.