

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

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| In the Matter of the 2018 Long-Term Forecast Report of Ohio Power Company and Related Matters. |))) | |
| |) | Case No. 18-501-EL-FOR |
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| In the Matter of the Application of Ohio Power Company for Approval to Enter into Renewable Energy Purchase Agreements for Inclusion in the Renewable Generation Rider. |))))) | |
| |) | Case No. 18-1392-EL-RDR |
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| In the Matter of the Application of Ohio Power Company for Approval to Amend its Tariffs. |))) | |
| |) | Case No. 18-1393-EL-ATA |

**DIRECT TESTIMONY OF KATIE BOLCAR REVER ON BEHALF OF INTERSTATE
GAS SUPPLY, INC. AND IGS SOLAR, LLC**

I. INTRODUCTION AND SUMMARY

Q: Please state your name and business address.

A: My name is Katie Bolcar Rever and my business address is 6100 Emerald
Parkway in Dublin, OH 43016.

Q: By whom are you employed and in what capacity?

A: I am employed by IGS Energy as the Director for Legislative and Regulatory
Affairs, primarily supporting IGS Solar.

Q: On whose behalf are you testifying?

1 **A:** I am testifying on behalf of IGS Energy.

2 **Q:** **Please summarize your qualifications.**

3 A: In my capacity as the Director of Legislative and Regulatory Affairs with IGS
4 Energy, I am responsible for representing IGS's position on regulatory and
5 legislative issues that impact our solar business in states throughout the country.

6 Prior to joining IGS Energy, I was the Senior Director of State Affairs with the
7 Solar Energy Industries Association (SEIA). During my four years at SEIA, I
8 worked with solar companies, utilities, regulators, legislators and other
9 stakeholders to promote diverse, competitive, and cost-effective solar markets
10 through SEIA's regulatory and legislative activities in New Jersey, New York, and
11 Massachusetts as well as in Pennsylvania, Maryland, Georgia, and South
12 Carolina. I have a strong familiarity with solar policies in a number of other state
13 markets as well.

14 Prior to SEIA, I was a Presidential Management Fellow with the U.S. Department
15 of Energy for four years where I worked on U.S. and international deployment
16 issues for solar and energy efficiency technologies.

17 I have a Master of Public Policy and a Master of Environmental Management
18 from Duke University where I focused on energy policy and economics. My
19 undergraduate degree is in Biology and Environmental Sciences from the
20 University of Virginia.

21 **Q:** **Have you previously testified before this Commission?**

1 A: No, I have not testified in Ohio, although I participated as a panelist in Power
2 Forward.

3 **Q: Have you previously testified in other states?**

4 **A:** Yes. I have testified in front of the New Jersey Board of Public Utilities in two cases,
5 BPU Docket No. EO12080721 and BPU Docket Number EO16050412.

6 **Q: Please describe AEP's proposal.**

7 A: At a high level, AEP is proposing to that the Commission find a need to construct
8 900 MWs of renewable generation resources. 400 MWs of solar and 500 MWs of
9 wind. Under the proposal, AEP would agree to pay the resources a fixed rate per
10 Mwhour and resell the power into the wholesale market. Rather than bearing the
11 risk that the PPA price is equivalent to the market price, AEP will recover any
12 shortfall from its distribution customers.

13 **Q: Please describe the nature of Ohio's restructuring policy for energy markets.**

14 A: Ohio is a competitive state for electricity, where electric generation is competitively
15 supplied via an open market place. All of the investor owned electric utilities in the
16 State of Ohio have divested their electric generation, and no longer own or receive
17 a regulated rate of return on generation assets. For more specific information on
18 the status of Ohio's regulator policy please see the testimony of IGS Energy
19 witness Matt White.

20 **Q: What is the most effective way to promote solar generation in states with**
21 **competitive electric markets?**

1 The most effective way to deploy solar assets is through pro-competitive solar
2 policies- not through utility subsidized solar generation as AEP is proposing. Many
3 similarly deregulated states, including, Massachusetts, Pennsylvania, Maryland,
4 and New Jersey to name a few, have sought to promote the deployment of solar
5 technologies through the competitive markets rather than the regulated model that
6 AEP is proposing. As I will discuss further, many of those states have adopted pro-
7 competitive solar development policies rather than constructing solar through the
8 traditional regulated rate model.

9 **Q. What is the difference between a pro-competitive policy vs. an anti-**
10 **competitive solar policy?**

11 A. Pro-competitive solar policies are policies that treat all solar developers the same.
12 Further, with pro-competitive solar policies, to the extent incentives or
13 compensation mechanisms are available for solar, those mechanisms are
14 available to anyone that wishes to develop solar. AEP's proposal would provide
15 special compensation to only select sets of companies which is clearly not a
16 competitive solar policy.

17 **Q. What types of policies have states with competitive markets adopted that**
18 **have led to robust solar development?**

19 A. In competitive states with robust solar development, two primary policies are used
20 to effectively promote solar development: 1) appropriately-sized state incentives
21 that are equally available to all those that wish to develop solar and 2) net metering
22 and other policies that allow customers to receive fair compensation for the

1 electricity that is delivered onto the grid. State incentives are largely made
2 available through state law and established by state legislature; state utility
3 Commissions often have more discretion over net-metering and other policies that
4 determine the economic value of solar interconnected into the grid.

5 **Q. In your opinion should utility owned or planned generation be a means to**
6 **promote solar development in a state that has adopted a competitive market**
7 **construct?**

8 A. No. Over the long run utility owned or planned solar actually discourages the
9 development of solar in competitive states, both because it often reduces the value
10 of state incentives available through renewable energy credit markets and
11 otherwise pushes competition for solar development out of the market.

12 **Q: What are some steps the Public Utility Commission of Ohio can take to**
13 **promote solar development in Ohio.**

14 A: State incentives for solar are often proscribed through law and the purview of the
15 State legislature. Mr. White will discuss further the status of Ohio's renewable
16 energy policy and how that may affect solar development in Ohio so that is not the
17 focus of my testimony.

18 Therefore, the focus of my testimony will be to recommend that the Commission's
19 focus should be to reduce the barriers to customer sited generation. Moreover, I
20 hope that AEP will work toward reducing those barriers, rather than its historical
21 practice of erecting barriers to distributed energy resources

1 **Q. Do you think there are much more effective ways to increase solar**
2 **development in Ohio rather than approving AEP's proposal?**

3 Yes. First, as described in the testimony of Mr. White, it is highly questionable that
4 AEP can legally build 400 MW of solar and charge those costs to all customers.
5 Therefore, rather than approving AEP's plan that would put the risk and cost of
6 solar development on all customers, the Commission should eliminate the existing
7 barriers to deploying behind the meter solar to those very customers. In doing so,
8 AEP can empower individual customers to deploy solar to meet actual demand –
9 whether it is greater than or less than what AEP is proposing.

10 **II. BARRIERS TO BEHIND THE METER SOLAR THAT AEP SHOULD WORK**
11 **TO REMOVE**

12 **Q: What are some steps the Commission can take to allow for pro-competitive**
13 **development?**

14 **A:** Through my experience working on state solar policies across the US as with a
15 diverse set of competitive companies through my time at SEIA and IGS, impactful
16 ways the Commission could remove barriers to customer-sited behind the meter
17 solar are:

18 1) Improve net metering, specifically by adopting an annual netting period for net
19 metering, rather than the current structure that only allows for monthly netting.

20 2) Establish distribution rate design for commercial customers that acknowledges
21 the role that solar plays in reducing distribution system peak demand; and

22 3) Continue to transform the manner in which it performs wholesale settlements.

1 **Q. Is net metering policy holding back solar development in Ohio?**

2 **A.** Yes. A major barrier to solar development in Ohio is Ohio's net metering policy.
3 Quite simply, Ohio customers get little to no value for delivering electricity onto the
4 grid. While the Commission's recent order on this subject is a step in the right
5 direction, there is more that could be done to improve net metering in Ohio.

6 **Q: Would allowing for an annual netting period for net metering help incentivize**
7 **solar in Ohio?**

8 **A:** Yes, the simplest and easiest policy step the Commission could take to increase
9 solar development in Ohio is to move from a monthly netting of net metering credits
10 to annual netting of net metering credits.

11 **Q: What does it mean to annually net net-metering credits?**

12 **A:** For customers with on-site solar, there are times of the day when a customer
13 produces more electricity than they consumer and times when a customer
14 consumes more electricity than they produce. Under the current net metering
15 structure in Ohio, the customer's electric bill for the month is calculated by netting
16 the difference between how much electricity they produced for the month vs. the
17 amount of electricity they consumed for the month. So if the customer consumed
18 100 KWH and produced 90 KWH, the customer would be billed 10 KWH. Under
19 the current Ohio structure if the customer produces more electricity than they
20 consume for the month, the excess electric generation will be paid out in a net
21 metering credit equal to the value of the SSO generation rate net of capacity.

1 With annual netting of credits, if the customer produced more solar in a month than
2 they consume, they carry the excess production to off-set production in future
3 months for up to a year. So, for instance, if the customer produces more electricity
4 in April than they consume, they can carry that excess generation over to off-set a
5 month when they consume more than they produce.

6 **Q: Please explain why an annual netting period is so important.**

7 A: The most important driver of solar development is the cost to install each kW of
8 solar – and as a general rule of thumb, the larger the system for any particular
9 customer, the lower the average \$/kW because larger systems achieve better
10 economies of scale for the given set of fixed costs associated with each customer.
11 Annual netting of net metering credits would allow customers to economically size
12 their systems to meet their annual load – not to meet their lowest monthly load of
13 the year.

14 IGS has spoken to actual customers in Ohio where, using a monthly netting period,
15 we would have to install a much smaller system for the customer. In reality, the
16 system must be designed to not export any material amount of electricity. These
17 systems have proven uneconomical for the customer. However, if we were sizing
18 the system to meet an annual netting period, we would install a larger system size,
19 increasing the economies of scale and permitting the customer to displace a
20 greater amount of fossil fuel-based power they take from the grid, thus enabling us
21 to make an attractive offer for the customer. In our experience, the practical effect
22 of monthly netting, is that solar has not been economical for many customers in

1 Ohio where it would have been if annual netting was allowed. By making a simple
2 change to annual netting in the net metering policy – a netting period that is on par
3 with other competitive market places – the Commission could empower customers
4 to choose to deploy solar behind their meters.

5 **Q. Is Ohio out of line with other PJM states with respect to allowing annual**
6 **netting of net-metering?**

7 Yes. It is my understanding that in every deregulated state in PJM, annual netting
8 of net metering credits is the norm. Those states include Pennsylvania, Maryland,
9 New Jersey, and Illinois. This a foundational policy to promoting competition and
10 enabling customer choice for solar located behind a customer's meter is through
11 net metering.

12 **Q. Is creating annual netting of net-metering credits the most important thing**
13 **the Commission can do to promote competitive solar in Ohio?**

14 Yes. Behind the meter solar is close to reaching grid parity in Ohio. Although the
15 Commission just approved its net metering rules, the most important step that AEP
16 could make towards creating a customer-driven competitive marketplace is to
17 support a change from a monthly netting period to an annual netting period. This
18 minor change in the policy would provide customers in Ohio the needed nudge to
19 install solar on their premise.

20 **Q: Please explain how your second recommendation – modifying commercial**
21 **customer's rate design – would help promote commercial solar development**
22 **in Ohio?**

1 A: The distribution rate design in Ohio is discriminatory for many commercial
2 customers that install solar. This is largely based on the manner in which AEP
3 establishes distribution rates for commercial customers. Specifically, commercial
4 and industrial customers' distribution rates are mainly based upon a customer's
5 demand. But, unlike generation capacity responsibility, AEP utilizes a customer's
6 peak/average usage regardless of when it occurs. An example illustrates this
7 point. If a customer with peak demand of 3 megawatts, with a near perfect load
8 factor, installs 1 megawatt of rooftop solar, they will have a peak usage of
9 approximately 2 megawatts during the time period when the sun is shining. But,
10 when the sun sets, the customer's usage from the grid will rise to 3 megawatts.
11 Even though the increase in demand occurs during the off peak hours when the
12 grid is not under stress, AEP will establish the customer's distribution rate based
13 upon this demand.

14 **Q: Have any other states established specific rates for commercial and**
15 **industrial customers who install solar?**

16 A: Yes. California's investor owned utilities have a long history of offering 'solar
17 friendly' rates for commercial and industrial customers. Using cost-based rate
18 design, these IOUs have established 'solar friendly' rates for these customers that
19 shift capacity-related costs from demand charges – a part of the electricity bill that
20 cannot be predictably offset by solar – to Time of Use energy rates, which solar
21 can predictably offset via net metering.

1 **Q: With regards to your third recommendation – would better aligning PJM**
2 **settlement statements with actual energy consumption and capacity**
3 **reduction help promote solar in the state?**

4 A: Yes. In its most recent net-metering rules proceeding, and other proceedings, the
5 Commission has indicated that it is moving towards assigning all customers
6 individual capacity tags rather than profiled capacity. However, the reality is that
7 this functionality has not yet been deployed for the vast majority of Ohio residential
8 and small commercial customers. This inhibits the ability for retail energy suppliers
9 to offer innovative products and services to customers based upon actual energy
10 usage information

11 Unfortunately, because most residential and small commercial customer receive
12 profiled capacity, they simply cannot receive value for the capacity reduction
13 provided from their solar generation facility. Typically, a customer's solar
14 generation facility will produce electricity during the peak periods on the grid.
15 However, customers are assigned a profiled capacity tags receive no reduction in
16 their capacity tags even though they are reducing consumption and producing
17 electric during peak periods.

18 While I appreciate the Commission's intent to move towards individual capacity
19 tags for all customers, expediting this transition will help promote solar in Ohio -
20 particularly for residential and small commercial customers. In the mean-time the
21 lack of individual capacity tags for most customers is more of a reason to move

1 towards an annual net-metering policy to ensure all customers receive they full
2 value of their solar productions.

3 **III. BEHIND THE METER SOLAR GENERATION BRINGS MANY BENEFITS**

4 **Q: Please describe the benefits of customer-sited behind the meter**
5 **generation.**

6 A: Because customer-sited behind the meter solar is both connected to the
7 distribution system and co-located with load, it provides certain benefits that
8 transmission-sited solar does not bring, particularly in the area of avoided
9 distribution expenses. Depending on transmission constraints and where
10 transmission-sited solar is located, customer-sited solar can also bring additional
11 transmission benefits beyond those brought by transmission-sited solar.

12 **Q: Would IGS oppose non-rate regulated transmission-sited solar in Ohio?**

13 A: No, IGS would not oppose transmission-sited solar developed via the competitive
14 market in Ohio. It is the rate regulated aspect of AEP's proposal that IGS
15 opposes. IGS Energy would support a suite of policies that would enable the
16 deployment of a balanced and diverse mix of solar deployment.

17 **IV. CONCLUSION**

18 **Q. If the Commission wishes to promote solar in Ohio, are their more effective**
19 **means to do so rather than approving AEP's proposal?**

20 A: Yes. The most effective means to develop solar in a state is to adopt policies
21 that all customers and solar develops can take advantage of, not just a select set

1 of preferred companies. The policies outlined above, most notably annual
2 netting of net metering customers, are policies the Commission can put in place if
3 it wishes to increase the development of solar in Ohio.

4 Other states through-out the region including Massachusetts, New Jersey and
5 Maryland are great examples of how pro-competitive policies are effectively used
6 to promote solar development, without the need for utility owned solar. If the
7 desire is to encourage solar, it makes little sense to approve AEPs proposal,
8 placing great expense and risk on AEP's ratepayers, when there are pro-
9 competitive policies that can achieve the same policy goals by implementing
10 policy that are better suited for Ohio's competitive market construct.

11 **Q: Does this conclude your testimony?**

12 **A:** Yes, it does.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing *Direct Testimony of Katie Bolcar Rever on Behalf of Interstate Gas Supply, Inc.* was served upon the following parties of record this 2nd day of January 2019, *via* electronic transmission, hand-delivery or first class mail, U.S. postage prepaid.

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/s/Joseph Olikier

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Summary: Testimony Testimony of Katie Bolcar Rever on Behalf of Interstate Gas Supply, Inc. and IGS Solar, LLC electronically filed by Mr. Michael A Nugent on behalf of IGS Solar, LLC and Interstate Gas Supply, Inc.