

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE COMMONWEALTH OF KENTUCKY**

ELECTRONIC APPLICATION OF  
KENTUCKY POWER COMPANY FOR (1)  
A GENERAL ADJUSTMENT OF ITS  
RATES FOR ELECTRIC SERVICE; (2)  
APPROVAL OF TARIFFS AND RIDERS;  
(3) APPROVAL OF ACCOUNTING  
PRACTICES TO ESTABLISH  
REGULATORY ASSETS AND  
LIABILITIES; (4) APPROVAL OF A  
CERTIFICATE OF PUBLIC  
CONVENIENCE AND NECESSITY; AND  
(5) ALL OTHER REQUIRED APPROVALS  
AND RELIEF

Case No. 2020-00174

Direct Testimony of Benjamin D. Inskeep

On Behalf of Kentucky Solar Industries Association, Inc.

October 7, 2020

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1 **I. INTRODUCTION**

2 **Please state your name, business address and current position.**

3 Benjamin D. Inskip, 1155 Kildaire Farm Road, Ste. 202, Cary, North Carolina, 27511. My  
4 current position is Principal Energy Policy Analyst with EQ Research LLC.

5 **Please describe your educational and occupational background.**

6 I earned a Bachelor of Science in Psychology from Indiana University in 2009 and a Master of  
7 Science in Environmental Science and a Master of Public Affairs from Indiana University in 2012.

8 I was employed at the North Carolina Clean Energy Technology Center at North Carolina  
9 State University from June 2014 through February 2016, where I co-created and served as lead  
10 author and editor of *The 50 States of Solar*, a quarterly report series tracking net metering policies  
11 and rate design changes impacting residential solar; worked on the *Database of State Incentives*  
12 *for Renewables and Efficiency (DSIRE)* project; and provided technical support, analysis, and  
13 workshops to state and local governments on reducing solar soft costs through the U.S. Department  
14 of Energy’s SunShot Solar Outreach Partnership.

15 In my current position, I coordinate EQ Research’s general rate case subscription service,  
16 provide regulatory and compliance consulting services to community choice aggregation  
17 programs, contribute as a researcher and analyst to other policy service offerings such as a  
18 legislative and regulatory tracking services, and perform customized research and analysis for  
19 clients.

20 **Have you previously testified before the Kentucky Public Service Commission (“PSC” or**  
21 **“Commission”)?**

22 No.

23 **On whose behalf are you testifying?**

1 I am testifying on behalf of Kentucky Solar Industries Association, Inc. (“KYSEIA”).

2 **What is the purpose of your testimony in this proceeding?**

3 My testimony discusses the national context for net energy metering (“net metering” or “NEM”)  
4 policies. I also discuss Legacy Rights for existing net metering customers.

5 I recommend that the Commission:

- 6 • Adopt a 25-year Legacy period with respect to rate design, netting period, and  
7 compensation rate for customers taking service under Net Metering Service (“N.M.S.”) II,  
8 should the Commission approve tariff N.M.S. II or an alternative tariff that replaces tariff  
9 N.M.S. I.
- 10 • Allow net metering customers to maintain their Legacy Rights if they subsequently install  
11 a battery energy storage system (“BESS”).
- 12 • Allow net metering customers to expand the size of a Legacy net metering system up to  
13 the customer’s annual electricity usage or 45 kW, whichever is less, without forfeiting any  
14 Legacy Rights. Regardless of whether the Commission adopts this recommendation, it  
15 should allow customers to replace components of a net metering system, such as solar  
16 panels, without forfeiting Legacy Rights even if it results in modest increases in the total  
17 system capacity.

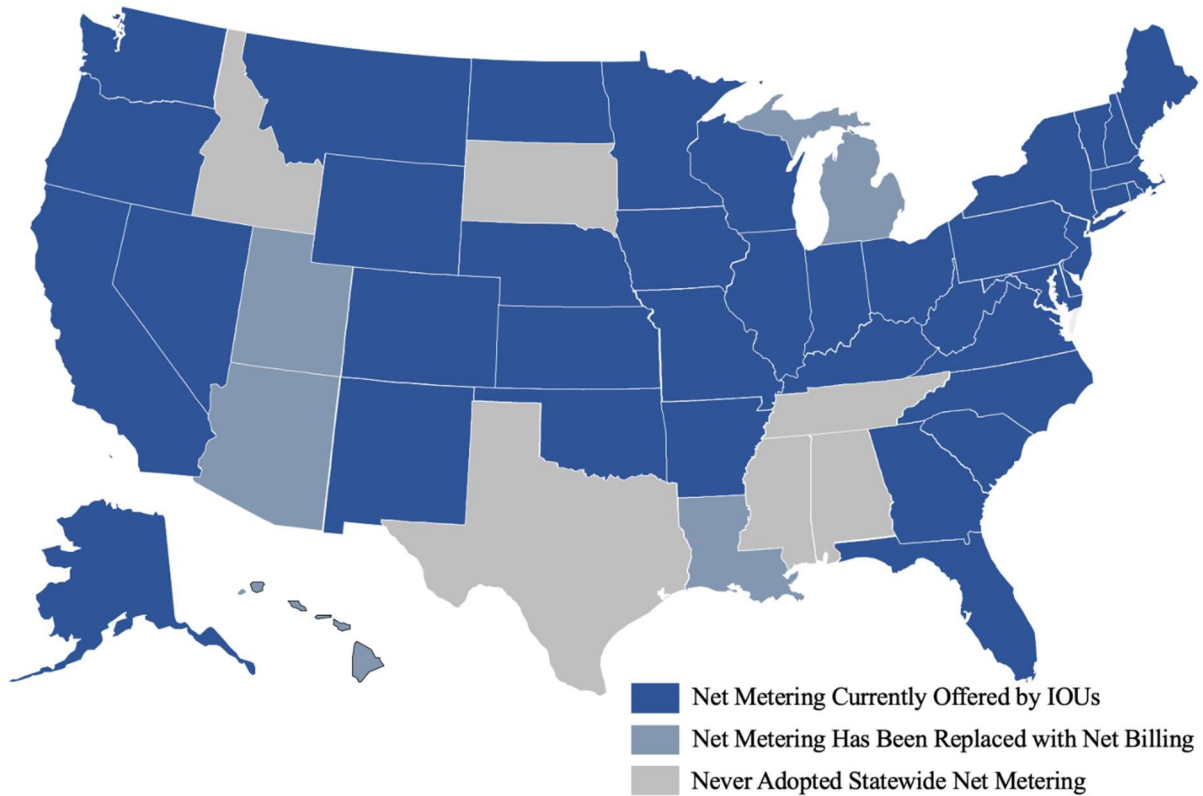
18 **II. NATIONAL TRENDS RELATED TO NET METERING**

19 **How prevalent are net metering policies in the United States?**

20 Net metering continues to be one of the most widespread and important distributed generation  
21 (“DG”) policies across U.S. states and utilities. At its peak, investor-owned utilities (“IOUs”) in at  
22 least 43 states and the District of Columbia offered net metering to customers. Currently, IOUs in  
23 at least 39 states and the District of Columbia offer net metering to new residential and small

1 commercial customers, as identified in Figure 1. Five states have transitioned from net metering  
2 to net billing for new residential and small commercial customers as of October 7, 2020. One state  
3 (Georgia) has recently created a new net metering program for its IOU, and two states (Nevada  
4 and Maine) ended net metering for a period of time and then restored net metering, albeit with  
5 some modifications.

6 **Figure 1. Net Metering and Net Billing Availability for Residential and Small Commercial**  
7 **Investor-Owned Utility Customers**



8  
9 **What is net billing?**  
10 As commonly used, net billing is when a utility compensates a DG customer for excess generation  
11 using a rate other than the retail rate for consumption, after netting production and consumption

1 over intervals shorter than the billing period (e.g., 15-minute or 1-hour intervals).<sup>1</sup> As under net  
2 metering, a net billing customer is still able to self-consume electricity generated by the DG  
3 system. However, in contrast to net metering, a net billing arrangement credits a customer for net  
4 exports that occur during intervals shorter than the billing period at a rate that is below the  
5 applicable retail rate. Some states use “inflow/outflow billing,” or similar terminology, in place of  
6 net billing.

7 **What factors help to explain why net metering policies have been popular and widely**  
8 **adopted to date?**

9 Net metering offers a number of key advantages that have contributed to it becoming widely  
10 adopted, popular among customers, and effective at growing DG:

- 11 • **Understandable to customers.** Net metering makes sense to consumers. The simplicity  
12 of the 1:1 crediting of exports against imports makes this policy understandable to  
13 customers and makes it easier to estimate the financial attractiveness of a rooftop solar  
14 investment.
- 15 • **Technologically simple.** It does not take new or expensive metering equipment, such as  
16 advanced metering infrastructure (“AMI”), to implement net metering. Net metering can  
17 use existing metering equipment.
- 18 • **Fair compensation.** The 1:1 crediting of exports against imports over a billing period is  
19 generally perceived and accepted as a fair compensation rate by customers. In addition,  
20 numerous studies from across the country have shown this crediting rate is a reasonable  
21 approximation of the value provided by rooftop solar, particularly at low levels of rooftop  
22 solar deployment, as explained in further detail below.

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<sup>1</sup> See, e.g., Tom Stanton, “Review of State Net Energy Metering and Successor Rate Designs,” National Regulatory Research Institute (2019), at 11.

- 1 • **Certainty.** Since compensation for monthly excess generation generally takes the form of  
2 kWh credits (or the equivalent expressed in dollars, based on the applicable retail rate),  
3 future changes to the utility’s underlying kWh rates do not impact the economics of the  
4 system, giving a customer additional “peace of mind” about their financial investment.
- 5 • **Local economic development.** Net metering policies have proven effective at  
6 transforming nascent rooftop solar markets into significant job creators. Rooftop solar  
7 installer jobs are inherently local jobs and cannot be outsourced across state lines or  
8 overseas. Refer to the testimony of KYSEIA Witness Van Nostrand for additional  
9 information on solar jobs in Kentucky and neighboring states.

10 **Have states studied the costs and benefits of net metering or the value provided by solar net**  
11 **metering systems?**

12 Yes, there have been numerous studies in recent years that have examined the costs and benefits  
13 of net metering or the value of solar DG.

14 **What have these studies found regarding the costs and benefits or the value of solar DG?**

15 Generally, these studies have found that net metering provides net benefits to all customers or only  
16 small net costs, prior to taking into consideration larger policy objectives that extend beyond  
17 narrow cost-effectiveness tests (Figure 2). Similarly, studies calculating the value of solar DG have  
18 often found the value exceeds the current retail rate. One recent review found that 14 out of 24  
19 value of solar analyses conducted in 2012-2018 calculated that the value of solar was at or above  
20 the retail rate, and only one analysis calculated a value that was below 50% of the residential retail  
21 rate (Figure 3).

22 There is considerable variation across these studies in the methodology used, the categories  
23 of costs and benefits or values included, and the entity performing the study, which can all

1 significantly impact the conclusions reached. Therefore, it is important that the specific context of  
 2 a utility or state be fully evaluated in a rigorous and transparent way by an independent or neutral  
 3 entity to determine what the impacts of net metering are in a specific jurisdiction.

4 **Figure 2. Summary of State Cost-Benefit Study Results<sup>2</sup>**

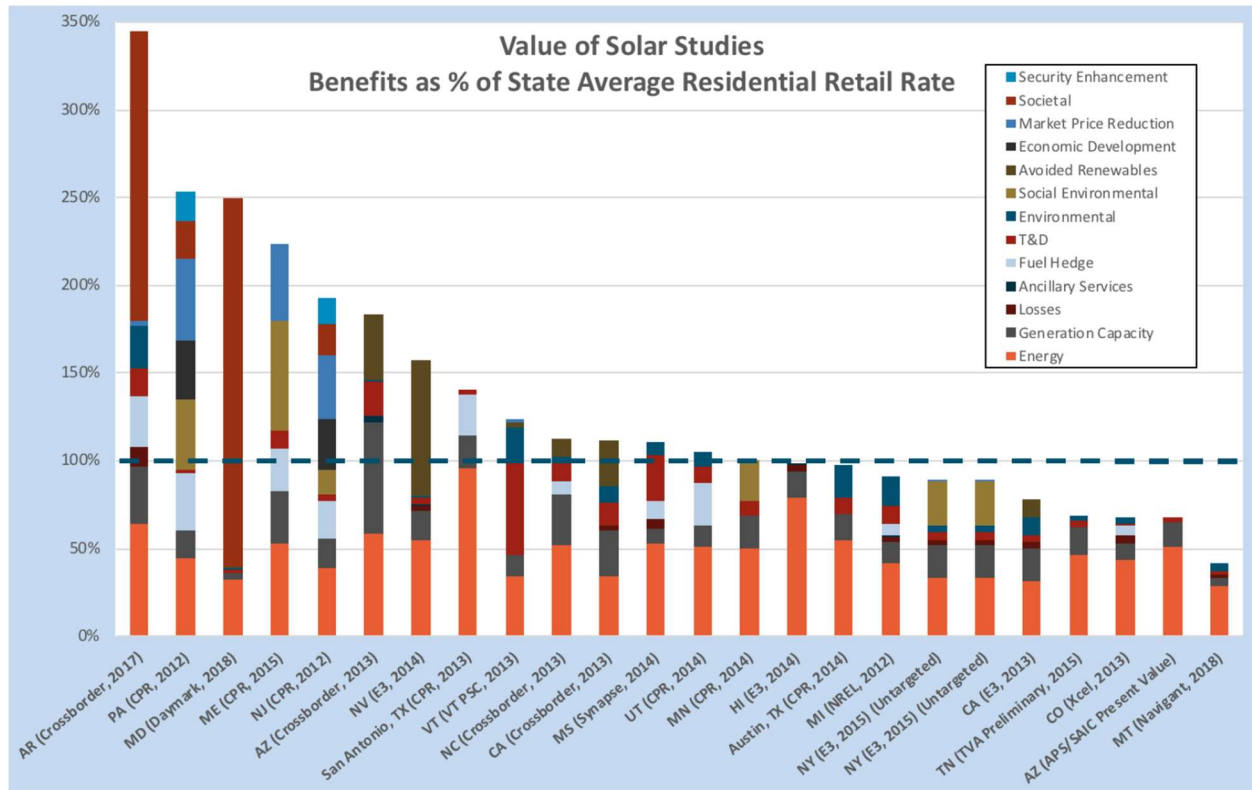
State	Year	Prepared by	Principal Findings
<b>NEM Cost-Benefit Analysis</b>			
Arkansas	2017	Crossborder	Benefits of residential distributed generation (DG) exceed the costs; do not impose a burden on other ratepayers.
Nevada	2016	E3	Cost-shift amounts to a levelized cost of \$0.08/kWh for existing installations.
Louisiana	2015	Acadian	Costs associated with solar NEM installations outweigh their benefits.
South Carolina	2015	E3	NEM-related cost-shifting was <i>de minimus</i> due to the low number of participants.
Mississippi	2014	Synapse	NEM provides net benefits under almost all of the scenarios and sensitivities analyzed.
Vermont	2014	PSD	NEM results in “close to zero” costs to non-participating ratepayers, and may be a net benefit.
<b>VOS/NEM Successor</b>			
District of Columbia	2017	Synapse	Utility system VOS is \$132.66/MWh (2015\$); cost-shifting remains relatively modest.
Georgia	2017	Southern Company	Provides a methodology for assessing costs and benefits; no specific estimate is produced.
Hawaii	2015	CPR	Provides a methodology for assessing costs and benefits. Preliminary results suggest a net benefit.
Maine	2015	CPR	Value of distributed PV is \$0.337/kWh (levelized).
Oregon	2015	CPR	Provides a methodology for assessing costs and benefits; no specific estimate is produced.
Minnesota	2014	CPR	Provides a methodology for assessing VOS; no specific estimate is produced.
Utah	2014	CPR	VOS is \$0.116/kWh levelized.
<b>DER Value Frameworks</b>			
California	2016	CPUC	Provides a methodology for assessing costs and benefits; no specific estimate is produced.
New York	2016	NY DPS	Provides a methodology for assessing costs and benefits; no specific estimate is produced.

5

<sup>2</sup> ICF International, “Review of Recent Cost-Benefit Studies Related to Net Metering and Distributed Solar” (May 2018).



1 **Figure 3. State Value of Solar Study Results<sup>3</sup>**



2

3 **In what ways have states modified net metering policies in recent years?**

4 I developed a table (Exhibit BDI-2) to identify which states have approved modified net metering  
 5 policies or established a process for creating modified net metering or a net metering successor  
 6 policy. It is important to reiterate that the vast majority of states continue to offer net metering to  
 7 customers.

8 Exhibit BDI-2 shows that five states (Arizona, Hawaii, Louisiana, Michigan, Utah) have  
 9 adopted net billing arrangements to replace an existing net metering policy. At least 10 states  
 10 (Arkansas, California, Connecticut, Illinois, Indiana, Iowa, Kentucky, New Hampshire, New  
 11 York, South Carolina) have articulated a process by which a modified net metering policy or net

<sup>3</sup> Kush Patel, “Act 236: Version 2.0,” Energy+Environmental Economics (August 7, 2018).  
[http://energy.sc.gov/files/Act%20236%20Follow%20Up%20-%20Stakeholder%20Meeting%2008.07.18\\_Final.pdf](http://energy.sc.gov/files/Act%20236%20Follow%20Up%20-%20Stakeholder%20Meeting%2008.07.18_Final.pdf)

1 metering successor policy can be established, although the extent of the modifications remains  
2 largely unknown for most of these states.

3 **What do you mean by a “modified net metering” policy?**

4 I use the term “modified net metering” to refer to recent policy changes that continue the  
5 fundamentals of net metering, including monthly netting at or near the full applicable retail rate,  
6 but where certain aspects of the net metering policy, such as the credit rate for monthly excess  
7 generation, was modified.

8 For example, California’s modified net metering policy, commonly referred to as “NEM  
9 2.0,” was adopted in 2016 and applied to IOUs once they reached their net metering cap, or  
10 beginning July 2017, whichever came first.<sup>4</sup> Like NEM customers under the original net metering  
11 policy (“NEM 1.0”), NEM 2.0 customers continue to be able to self-consume electricity generated  
12 by their net metering system and net any excess generation against imported electricity over a  
13 monthly billing period. However, unlike NEM 1.0 customers, NEM 2.0 customers must take  
14 service under a time-of-use rate schedule and are required to pay all non-bypassable charges (*e.g.*,  
15 bill surcharges that fund public purpose programs that are outside of base rates) for all electricity  
16 imported from the grid.

17 **What do you mean by a “net metering successor” policy?**

18 I use the term “net metering successor” to refer to a policy that replaces net metering. As described  
19 in more detail above, one example of a net metering successor policy that has been adopted in five  
20 states is net billing.

21 **Are there any other ways that states have modified policies related to DG compensation?**

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<sup>4</sup> California Public Utilities Commission, Decision 16-01-004.

1 Changes to rate design applicable to DG customers have also been considered in numerous  
2 proceedings. For instance, some utilities have proposed adding a monthly capacity-based charge  
3 on DG customers. Refer to the testimony of KYSEIA Witness Barnes for a discussion of several  
4 possible rate design options that could be considered in the future if the Commission determines  
5 after the requisite utility showing that there is a subsidy in DG rates.

6 **What other observations do you have in comparing net metering modifications in the context**  
7 **of Kentucky Power’s proposal in this case to other state net metering policies described in**  
8 **Exhibit BDI-2?**

9 Several things stand out. First, as described below, Kentucky Power has a comparatively low solar  
10 DG penetration relative to most IOUs in states identified in Exhibit BDI-2 that have established  
11 modified net metering policies or adopted net metering successor policies. This is significant  
12 because the policies that are appropriate for a nascent solar market like in Kentucky Power’s  
13 service territory will inherently be different from states with higher levels of solar adoption.

14 Second, Kentucky’s 45 kilowatt (“kW”) maximum system size for net metering system  
15 eligibility is among the most restrictive. In comparison, the neighboring states of Illinois allows  
16 systems up to 2,000 kW, for example.

17 Third, Kentucky’s 1% net metering cap is smaller than the net metering cap in most states.  
18 Like maximum system size restrictions, a net metering cap limits the growth of net metering, as  
19 well as any associated impacts – positive or negative – of solar DG.

20 Finally, most states have maintained net metering policies until after their net metering cap  
21 has been reached, and even then, the cap is often extended. In the present case, Kentucky Power  
22 has proposed major changes to net metering even though it is far below its net metering cap.

1 **Why have some states adopted modified net metering policies or net metering successor**  
2 **policies in recent years?**

3 Two factors are driving this trend. First, rooftop solar deployment has increased in recent years,  
4 driven by rapid cost declines. Most state net metering policies specify an aggregate capacity limit  
5 for net metering programs (“net metering cap” or “NEM cap”). State legislatures and PUCs have  
6 responded to utilities nearing or exceeding the specified net metering cap as a result of the  
7 proliferation of DG solar by increasing the net metering cap and/or by adopting policies to modify  
8 net metering or establish a pathway for adopting a net metering successor policy, which is often  
9 preceded by a study or formal investigation.

10 Second, utilities, their trade associations, and other aligned interests have waged a long-  
11 running campaign against policies encouraging the adoption of rooftop solar, particularly net  
12 metering.<sup>5</sup> Net metering allows a customer to purchase less electricity from a utility, resulting in a  
13 decrease in a utility’s revenue. In addition, electric utilities earn profit by making capital  
14 investments, on which they are permitted the opportunity to earn a return on equity. Investment in  
15 generation facilities such as solar DG by utility customers can therefore compete with a utility’s  
16 generation investments, with a reduced need in utility generation corresponding to a reduced profit  
17 opportunity for the utility. In states without retail choice, rooftop solar is one of the few examples  
18 of a utility facing a form of competition, as utility customers are otherwise stuck with being served  
19 by the electricity generated or procured by their monopoly utility and cannot chose their supplier.

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<sup>5</sup> See, e.g., Joby Warrick, “Utilities Wage Campaign Against Rooftop Solar,” *Washington Post* (March 7, 2015); Hye-  
Jin Kim, Rachel J. Cross, and Bret Fanshaw, “Blocking the Sun: Utilities and Fossil Fuel Interests That Are  
Undermining American Solar Power,” Frontier Group and Environment America Research & Policy Center  
(November 2, 2017); Gabe Elsner, “Edison Electric Institute Campaign Against Distributed Solar,” Energy and Policy  
Institute (March 7, 2015); See Generally, Energy and Policy Institute, “Category: Net Metering,”  
<https://www.energyandpolicy.org/category/solar/net-metering/>.

1 **Is Kentucky Power experiencing substantial deployment of solar net metering in its service**  
2 **territory?**

3 No. Currently, at the time of its application, Kentucky Power only had 33 solar net metering  
4 customers out of approximately 165,000 customers in Kentucky.<sup>6</sup>

5 **Are there recent examples of state public utility commissions (“PUCs”) eliminating or**  
6 **making substantial changes to net metering for an IOU with a lower net metering customer**  
7 **adoption rate than Kentucky Power currently has under tariff N.M.S. I?**

8 Not that I am aware of. At the time of its application, Kentucky Power reported only 33 solar net  
9 metering customers out of 165,000 customers in Kentucky.<sup>7</sup> This is equivalent to approximately  
10 0.02% of its customers. In contrast, major changes to net metering in other states have generally  
11 occurred only after significant amounts of solar net metering was deployed.

12 For example, in Hawaii, the PUC ended net metering in October 2015,<sup>8</sup> when IOUs  
13 Hawaiian Electric Company, Maui Electric Company, and Hawaii Electric Light Company had  
14 39,926 net metering customers, 8,922 net metering customers, and 9,233 net metering customers,  
15 respectively.<sup>9</sup> In comparison, these utilities had total customer counts in 2015 of 302,499  
16 customers, 70,284 customers, and 83,860 customers, resulting in net metering customer adoption  
17 rates of 13.2%, 12.7%, and 11.0%, respectively.

18 In contrast, state PUCs have often rejected or deferred consideration on net metering  
19 changes when IOUs do not have significant solar net metering deployment. For instance, in  
20 Arkansas, on June 1, 2020, the Public Service Commission (“PSC”) issued an Order addressing

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<sup>6</sup> Kentucky Power Witness Blankenship Direct Testimony, at 5-6.

<sup>7</sup> Ibid.

<sup>8</sup> Docket No. 2014-0192, *Instituting a Proceeding to Investigate Distributed Energy Resource Policies* (Hawaii Public Utilities Commission).

<sup>9</sup> U.S. EIA Form 861M.

1 implementation of Act 464 (2019), which authorized the PSC in that jurisdiction to make changes  
2 to net metering, by maintaining retail-rate net metering for the time being for residential and small  
3 commercial customers. The Order does allow utilities to propose net metering alternatives in the  
4 future for residential and small commercial customers, but not until after 2022.<sup>10</sup> At the time of  
5 this Order, Entergy Arkansas, Southwestern Electric Power Company, Oklahoma Gas & Electric,  
6 and Empire District Electric had 882 net metering customers, 264 net metering customers, 93 net  
7 metering customers, and 22 net metering customers, respectively. In comparison, the utilities had  
8 total customer counts of 713,072 customers, 121,474 customers, 67,599 customers, and 4,771  
9 customers, respectively, resulting in net metering adoption rates of approximately 0.1%, 0.2%,  
10 0.1%, and 0.5%.

11 **Have state PUCs decided to retain the fundamental policy design of net metering after**  
12 **conducting a review or investigation into the policy?**

13 Yes. In fact, maintaining the status quo net metering policy or only making modest modifications  
14 to net metering or related issues, such as rate design for DG customers, has frequently been the  
15 outcome of PUC proceedings that have addressed net metering policies in recent years. In states  
16 with relatively modest customer net metering adoption rates, PUCs have typically preserved net  
17 metering in its current form, or only made modest changes that would not fundamentally alter the  
18 viability of solar net metering, even when the PUC is acting to implement new legislation  
19 authorizing changes to net metering. For example, Mr. Van Nostrand describes in more detail the  
20 example of Oklahoma Gas and Electric's 2015 rate case, implementing changes to DG policy  
21 enacted in 2014 under SB 1456, in which the Oklahoma Corporation Commission rejected the

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<sup>10</sup> Docket No. 16-027-R, *In the Matter of Net Metering and the Implementation of Act 827 of 2015* (Arkansas Public Service Commission).

1 utility’s request to establish special demand rates and eliminate any compensation for exported  
2 generation for customers that install DG.

3 Likewise, in the Arkansas PSC net metering Order referenced previously, the PSC rejected  
4 major changes to net metering even though it was implementing Act 464 (2019), which granted it  
5 authority to make substantial modifications to the net metering policy. The PSC decided that  
6 “Based upon the evidence currently showing very low levels of penetration of renewable  
7 distributed generation by solar facilities in Arkansas in the residential class and in any non-  
8 residential customers without a demand component, the Commission finds that the current 1:1 full  
9 retail credit for net excess generation should be retained for now as the default Net-Metering rate  
10 structure,” (footnote omitted).<sup>11</sup> The decision permits utilities to propose more substantive changes  
11 through filings submitted after December 31, 2022, but requires the utilities to justify such a  
12 proposal by using a “timely and properly designed cost-of-service study” that demonstrates the net  
13 metering alternative is “in the public interest and will not result in an unreasonable allocation of  
14 or increase in costs to other utility customers.”<sup>12</sup>

15 **Have state PUCs expanded net metering after conducting a review or investigation into the**  
16 **policy?**

17 Yes. For instance, the Iowa Utilities Board issued an Order in July 2016 maintaining net metering  
18 after conducting an investigation into its net metering policy.<sup>13</sup> The Order created a three-year  
19 study process, while expanding the availability of net metering to all customer classes and  
20 increasing the maximum eligible system size from 500 kW to 1,000 kW.

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<sup>11</sup> Order, Docket No. 16-027-R, *In the Matter of Net Metering and the Implementation of Act 827 of 2015* (Arkansas Public Service Commission June 1, 2020), at 525.

<sup>12</sup> *Ibid.*

<sup>13</sup> Docket No. NOI-2014-0001, *Inquiry into Technical, Legal, and Policy Related to Distributed Generation* (Iowa Utilities Board July 19, 2016).

1 More recently, the Georgia PSC modified the DG compensation policy in place for Georgia  
2 Power in December 2019 by changing the netting period from instantaneous (i.e., net billing) to  
3 monthly (i.e., net metering) for the first 5,000 participating rooftop solar customers or until the  
4 new installed capacity reaches 32 megawatts (“MW”), whichever comes first.<sup>14</sup>

5 **Have state legislatures acted to restore net metering after PUC decisions replacing the**  
6 **policy?**

7 Yes, in two cases. In Nevada, the state legislature enacted Assembly Bill 405 in 2017, restoring  
8 retail rate net metering for small customers after the Public Utilities Commission of Nevada issued  
9 a decision in 2016 that severely reduced the financial benefits that would be realized by net  
10 metering customers, resulting in widespread backlash by customers and thousands of job losses.<sup>15</sup>

11 Likewise, in Maine, the state legislature restored net metering in 2019 after the PUC initially issued  
12 revised rules in March 2017 that replaced net metering with a buy-all, sell-all compensation  
13 structure.<sup>16</sup>

14 **Why are other states’ policy decisions on net metering or DG policy in general relevant to**  
15 **this proceeding?**

16 All states and their Commissions value their autonomy. Their policy decisions are governed by  
17 their unique legal frameworks, policy priorities, and objectives. Despite these inherent differences,  
18 it is significant that after substantial focus on net metering policies in recent years, most states have  
19 elected to expand or maintain existing net metering policies, make only modest changes that retain  
20 the fundamentals of net metering, or establish a future process for considering changes to net

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<sup>14</sup> Docket No. 42516, *Georgia Power Company 2019 Base Rate Case* (Georgia Public Service Commission February 6, 2020).

<sup>15</sup> See, e.g., Jeff St. John, “Nevada’s Solar Job Exodus Continues, Driven by Retroactive Net Metering Cuts,” Greentech Media (January 8, 2016).

<sup>16</sup> Docket No. 2016-00222, *Commission Rulemaking Amendments to Net Energy Billing Rule Chapter 213* (Maine PUC).



1 metering while allowing customers to continue to net meter in the interim. When state  
2 policymakers have moved forward with changes to net metering policies, they have often done so  
3 after first experiencing significant growth in solar DG, and only then after studying or investigating  
4 the policy and its impacts, and carefully considering the appropriate changes after developing and  
5 weighing a robust record. Decisions in other states provide insight into the range of options  
6 available, common principles, and broader DG policy strategies, as described in more detail in Mr.  
7 Van Nostrand’s testimony.

## 8 II. NET METERING LEGACY RIGHTS

9 **Please explain the principle of net metering Legacy Rights as it relates to the current**  
10 **proceeding.**

11 Net metering Legacy Rights refers to a decision made by a state PUC or established through  
12 legislation that allow DG customers to continue to take service under a net metering tariff in the  
13 event it is discontinued for new participants. In the present context, it refers to allowing net  
14 metering customers to continue to take service under their electric utility’s existing net metering  
15 tariff for either a defined period of time, or in perpetuity, should net metering be modified or  
16 discontinued. It also refers to allowing those same customers to continue taking service under a  
17 current rate structure should changes be made to rate structures that apply to DG customers. The  
18 intent of net metering Legacy Rights is to respect the long-term investments made by customers  
19 in DG systems that were made prior to the time when changes were known.

20 In this testimony, Legacy Rights is used in place of references to net metering  
21 “grandfathering,” given the historically negative connotations of the latter term.<sup>17</sup>

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<sup>17</sup> See, e.g., Request for Rehearing and Request for Clarification of PJM Interconnection, L.L.C., Federal Energy Regulatory Commission Docket No. EL-16-49 and Consolidated Docket Nos. ER18-1314 and EL18-178, January 21,

1 **Please elaborate on what expectations a customer would typically have when considering**  
2 **whether to install a DG system.**

3 It is reasonable to assume that a customer considering installing a DG system would, among other  
4 considerations, weigh the potential financial benefits of such an investment over its anticipated  
5 lifetime against the upfront costs of installing the system. DG systems typically involve a  
6 substantial upfront cost, with financial benefits then accruing over the life of the system in the  
7 form of offsetting electricity purchases from the utility.

8 It is also reasonable to assume that a potential net metering customer, like most utility  
9 customers, should anticipate changes to certain rate components over time. Customers are  
10 accustomed to and generally accept that periodic and typically gradual rate changes will occur.  
11 That is, customers have an expectation based on decades of ratemaking that they are likely to  
12 experience relatively small rate changes from year to year (*i.e.*, typically increases in existing rate  
13 components) rather than dramatic changes in rates or rate structure. This expectation is in large  
14 part attributable to the fact that utility regulators have historically made substantial efforts to avoid  
15 “rate shock” in ratemaking decisions, consistent with the principle of gradualism.

16 **Have other state PUCs addressed Legacy Rights for existing net metering customers?**

17 Yes, within the spectrum of recent regulatory decisions affecting net metering and DG customer  
18 rates, Legacy Rights is perhaps the single most consistent element. I have developed a table  
19 (Exhibit BDI-3) that provides an overview of how other state regulatory commissions have  
20 addressed Legacy Rights for existing DG customers in their consideration of changes to net  
21 metering and/or rate structures for DG customers. As Exhibit BDI-3 shows, while there are some

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2020, Footnote 21 (noting that “Because the term ‘grandfathering’ carries historically negative connotations, PJM encourages the use of an alternative term...”).

1 small differences in how states have approached Legacy Rights, there are common conclusions as  
2 well. The dominant conclusions with respect to Legacy Rights are that:

- 3 1. While certain elements vary from state to state, as a general policy principle, it enjoys  
4 universal support from regulators.
- 5 2. The most common Legacy period duration is at least 20 years, ranging upward to indefinite  
6 in some states.
- 7 3. Legacy Rights eligibility is based on a customer submitting an application either before  
8 some future benchmark or date certain, or the date of a decision.
- 9 4. Legacy Rights under a modified net metering policy or net metering successor policy tend  
10 to mirror the Legacy Rights period under the original net metering policy, or have slightly  
11 shorter time periods, although some states have not yet addressed this.

12 **What Legacy Rights provisions were included in Senate Bill (“S.B.”) 100 that apply to N.M.S.  
13 I customers?**

14 S.B. 100, also known as the Net Metering Act and codified at KRS 278.466(6), provides:<sup>18</sup>

15 For an eligible electric generating facility in service prior to the effective date of the initial net  
16 metering order by the commission in accordance with subsection (3) of this section, the net metering  
17 tariff provisions in place when the eligible customer-generator began taking net metering service,  
18 including the one-to-one (1:1) kilowatt-hour denominated energy credit provided for electricity fed  
19 into the grid, shall remain in effect at those premises for a twenty-five (25) year period, regardless  
20 of whether the premises are sold or conveyed during that twenty-five (25) year period. For any  
21 eligible customer-generator to whom this paragraph applies, each net metering contract or tariff  
22 under which the customer takes service shall be identical, with respect to energy rates, rate structure,  
23 and monthly charges, to the contract or tariff to which the same customer would be assigned if the  
24 customer were not an eligible customer-generator. (Emphasis added.)

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<sup>18</sup> KRS 278.466(6).

1 **What Legacy Rights provisions were included in S.B. 100 that would apply to N.M.S. II**  
2 **customers, if approved?**

3 SB 100 does not directly address Legacy Rights for customers taking service under new net  
4 metering tariffs established under SB 100, such as Kentucky Power’s proposed tariff N.M.S. II.

5 **Please briefly describe Kentucky Power’s tariff N.M.S. I proposal.**

6 Kentucky Power is proposing to close tariff N.M.S. I and replace it with tariff N.M.S. II for new  
7 net metering customers effective December 30, 2020.<sup>19</sup> Kentucky Power interprets the 25-year  
8 Legacy period specified under KRS 278.466(6) as applying to N.M.S. I customers beginning on  
9 the date when the Commission approves a new net metering tariff for Kentucky Power.<sup>20</sup> For  
10 example, if a final Commission decision in this rate case is issued in January 2021, N.M.S. I  
11 customers would continue to receive net metering service under N.M.S. I until January 2046.

12 **Please briefly describe Kentucky Power’s tariff N.M.S. II proposal.**

13 Under proposed tariff N.M.S. II, Kentucky Power proposes to create two netting periods within  
14 the billing period, calculate a participating N.M.S. II customer’s net usage during each netting  
15 period, and charge customers at the applicable retail rate for positive net kWh usage during each  
16 netting period over a billing period and compensate the customer a rate of \$0.03659/kWh for  
17 negative net kWh usage during each netting period over a billing period.<sup>21</sup>

18 Tariff N.M.S. II would take effect upon Commission approval<sup>22</sup> and would only be  
19 available for new customer enrollment until the total generating capacity of net metering systems  
20 reaches 1% of Kentucky Power’s single hour peak load during the previous year. Kentucky Power  
21 did not include any Legacy Rights provisions for N.M.S. II customers.

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<sup>19</sup> Kentucky Power Application, Exhibit D, at 132.

<sup>20</sup> Kentucky Power Response to KYSEIA Data Request KYSEIA\_1\_018.

<sup>21</sup> Kentucky Power Witness Vaughan Direct Testimony at 26.

<sup>22</sup> Kentucky Power Response to KYSEIA Data Request KYSEIA\_1\_013(a).

1 Refer to the testimonies of Mr. Barnes and Mr. Van Nostrand for extended discussions of  
2 additional issues presented in Kentucky Power’s N.M.S. II proposal beyond the issue of Legacy  
3 Rights.

4 **Will customers taking service under N.M.S. II receive any protections against future changes**  
5 **to the tariff or compensation rate, similar to N.M.S. I customers?**

6 No. In response to data requests, Kentucky Power asserted that there will be no Legacy period  
7 under N.M.S. II regarding changes to the compensation rate.<sup>23</sup> Kentucky Power also stated that  
8 there would be no Legacy period if the N.M.S. II netting period is modified in a future rate case.

9 **Why is it reasonable for N.M.S. II customers to be provided certain Legacy Rights?**

10 If the Commission approves tariff N.M.S. II, or similar tariff, future DG customers taking service  
11 under N.M.S. II will make significant, long-term financial investments in DG systems that are  
12 likely to be significantly and adversely affected by changes to the provisions of this tariff that were  
13 in place at the time the customer submitted a completed net metering application. Customers are  
14 likely to do so based on a reasonable assumption that historic rate trends and ratemaking practices  
15 would continue. Without providing these customers with Legacy Rights, the changes being  
16 contemplated would be punitive for those DG customers, who would not know if, how, or when  
17 changes could occur that would have a material impact on their investment.

18 **What Legacy Rights are reasonable for the Commission to establish for N.M.S. II customers?**

19 If the Commission approves N.M.S. II, or similar tariff, it should ensure these customers are  
20 provided Legacy Rights with respect to the rate structure, compensation rate for excess generation,  
21 and netting periods that were in effect at the time their completed net metering application was  
22 submitted, as well as all other terms and conditions in the N.M.S. II tariff.

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<sup>23</sup> Kentucky Power Response to KYSEIA Data Request KYSEIA\_1\_015(a).

1 **What Legacy period is reasonable for N.M.S. II customers?**

2 A Legacy period of at least 25 years for customers taking service under N.M.S. II is reasonable.  
3 This time period aligns with the Legacy period established by statute for N.M.S. I customers and  
4 would provide a reasonable time period for customers to recoup their investment in a DG system  
5 without facing undue risk of adverse policy changes. Furthermore, this time period would align  
6 with the 25-year performance warranty that is common for solar panels, which guarantees that the  
7 solar panel will not lose more than 20% of its output capacity during that time.<sup>24</sup>

8 **What potential future changes could adversely impact N.M.S. II customers if the**  
9 **Commission does not establish Legacy Rights for these customers in this proceeding?**

10 Kentucky Power’s testimony identifies possible substantial changes in the future to rate design,  
11 the compensation rate for excess generation, and netting period. First, Kentucky Power indicates  
12 that it may propose major rate design changes in the future, including moving residential customers  
13 to a rate schedule with a demand charge, which would be enabled by Kentucky Power’s proposal  
14 in this case to deploy AMI.<sup>25</sup> While it is reasonable for the current rate components to be adjusted  
15 over time for N.M.S. II customers, as they are for other customers, N.M.S. II customers should not  
16 be forced onto a different rate schedule in the future, such as one with a mandatory demand charge.

17 Second, Kentucky Power indicates that it plans to propose reducing the netting period to  
18 an hourly netting period in the future if its AMI deployment proposal is approved.<sup>26</sup>

19 Third, Kentucky Power could propose to reduce the compensation rate for excess  
20 generation from N.M.S. II customers in the future.

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<sup>24</sup> See, e.g., Beren Argetsinger and Benjamin Inskeep, “Standards and Requirements for Solar Equipment, Installation, and Licensing and Certification: A Guide for States and Municipalities” Clean Energy States Alliance (February 2017), at 39.

<sup>25</sup> Kentucky Power Witness Vaughn Direct Testimony at 15-16.

<sup>26</sup> Kentucky Power Response to KYSEIA Data Request KYSEIA\_1\_014(a).

1 Any of these changes could have a substantial, adverse impact on a customer that invested  
2 in a DG facility but would be unknown to the customer at the time they enroll in the N.M.S. II  
3 tariff. The absence of clarity and certainty on Legacy Rights under N.M.S. II could have an  
4 immediate chilling effect on the market and likely result in a significant reduction in the  
5 deployment of DG systems.

6 **How will the addition of a BESS to an existing or proposed net metering facility impact a**  
7 **customer’s eligibility for net metering service with respect to the 45 kW maximum system**  
8 **size restriction?**

9 Kentucky Power states that a BESS is not an “eligible electric generating facility” under KRS  
10 278.465(2).<sup>27</sup> Therefore, Kentucky Power concludes that a BESS’s capacity does not count  
11 against the 45 kW maximum system size, as specified by KRS278.465(2)(c).

12 **Is Kentucky Power’s treatment of BESS with respect to the 45 kW maximum system size**  
13 **restriction reasonable?**

14 Yes. Although I am not an attorney, it is my understanding that the when the plain language of a  
15 statute is unambiguous, it must be applied according to those terms. In this case, BESS clearly do  
16 not fall within the definition of “Eligible electric generating facility,” which is defined in statute  
17 as “an electric generating facility that: (a) Is connected in parallel with the electric distribution  
18 system; (b) Generates electricity using: 1. Solar energy; 2. Wind energy; 3. Biomass or biogas  
19 energy; or 4. Hydro energy; and (c) Has a rated capacity of not greater than forty-five (45)  
20 kilowatts.”<sup>28</sup>

21 **How would adding a BESS to an existing net metering facility impact a customer’s eligibility**  
22 **for net metering under Kentucky Power’s proposal?**

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<sup>27</sup> Kentucky Power Response to KYSEIA Data Request KYSEIA\_1\_016.

<sup>28</sup> KRS 278.465(2).

1 Kentucky Power asserts that the addition of a BESS to an existing net-metered facility “would  
2 constitute a material modification requiring the submission of a new ‘Application for  
3 Interconnection and Net Metering.’ Kentucky Power interprets any changes or modifications to  
4 existing systems requiring submission of a new ‘Application for Interconnection and Net  
5 Metering’ to terminate the net metering [Legacy] period.”<sup>29</sup>

6 **What would be the impact to a net metering customer that has their Legacy Rights forfeited**  
7 **by Kentucky Power upon installation of a BESS?**

8 An existing net metering customer under tariff N.M.S. I who subsequently installs a BESS would  
9 no longer be eligible to continue service under tariff N.M.S. I and would be eligible to take service  
10 under tariff N.M.S. II instead. As calculated by Mr. Barnes in his testimony, relative to the existing  
11 N.M.S. I tariff, Kentucky Power’s N.M.S. II tariff would reduce customer bill savings by 30 –  
12 40% for a system sized to produce an approximate 100% load offset on an annual basis. Although  
13 the charging and discharging of a BESS could be configured to mitigate this impact at least in part  
14 for a combined solar plus BESS (*e.g.*, by configuring the system to maximize self-consumption of  
15 electricity generated by the solar facility), it would require constraining how the battery is used by  
16 the customer, which could erode the value proposition for the BESS or otherwise reduce the  
17 attractiveness of the investment (*e.g.*, by reducing the ability of the BESS to be used for back-up  
18 power by maintaining a full charge or limiting its ability reduce peak demand for demand charge  
19 management purposes). This would create a substantial disincentive for existing net metering  
20 customers to install a BESS.

21 Furthermore, should the Commission adopt Kentucky Power’s N.M.S. II proposal in this  
22 case, a customer that installs a net metering facility under tariff N.M.S. II would lose N.M.S. II

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<sup>29</sup> Kentucky Power Response to KYSEIA Data Request KYSEIA\_1\_018(c).  
Direct Testimony of Benjamin D. Inskeep  
On Behalf of the Kentucky Solar Industries Association, Inc. 24  
October 7, 2020



1 Legacy Rights, if any are granted by the Commission in this proceeding, if the customer adds a  
2 BESS after tariff N.M.S. II is substantively modified or closed to new customer participation. This  
3 would create a similar disincentive for customers to add a BESS to a net metering facility should  
4 Kentucky Power make modifications to N.M.S. II in the future that further reduce the benefits of  
5 a net metering system, such as by reducing the compensation rate for excess generation.

6 **How have other states addressed the addition of BESS to an existing net metering facility in**  
7 **the context of Legacy Rights?**

8 Although behind-the-meter BESS deployment has been comparatively modest to date in most  
9 states, several states with high penetrations of net metering facilities have addressed Legacy Rights  
10 for net metering customers in the context of adding a BESS.

11 In California, NEM 1.0 customers can add a BESS, subject to certain limitations on the  
12 sizing, arrangement, and charging of the BESS, without losing their Legacy Rights for the net  
13 metering facility.<sup>30</sup> In Hawaii, the PUC approved two options for customers to add BESS to a net  
14 metering facility without losing their Legacy Rights, subject to limiting the combined BESS and  
15 net metering system exports to the capacity of the original net metering facility.<sup>31</sup>

16 **Is Kentucky Power’s proposed treatment of net metering Legacy Rights when a BESS is**  
17 **subsequently added to a net metering facility reasonable?**

18 No. There is no reasonable justification for removing the certainty and continuity provided by  
19 net metering Legacy Rights simply because that customer later decides to make an additional  
20 investment in a BESS. BESS can provide critical reliability, resilience, and resource diversity  
21 benefits to both individual customers and to grid itself. For example, adding a BESS to an

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<sup>30</sup> See, e.g., Pacific Gas & Electric, “Electric Schedule NEM: Net Energy Metering Service” (Effective February 22, 2017).

<sup>31</sup> Hawaii Public Utilities Commission, Order No. 35563.

1 existing net metering facility could help a customer align the timing of exported excess  
2 generation with when the grid as a whole would benefit the most from the capacity, such as  
3 during peak demand hours. While it is reasonable for Kentucky Power to be notified of a  
4 customer’s intent to add a BESS to an existing net metering system, that should in no way impact  
5 the status of a net metering customer’s Legacy Rights. Kentucky Power’s proposal is needlessly  
6 punitive, does not follow best practices adopted by other states with vastly higher solar  
7 penetration rates, discourages the adoption of a potentially beneficial technology, and should be  
8 rejected.

9 **How would modifications, additions, or repairs to an existing net metering facility impact a**  
10 **customer’s eligibility for net metering service under Kentucky Power’s proposal?**

11 According to Kentucky Power, “[r]outine maintenance and repairs do not require a new net  
12 metering application,”<sup>32</sup> and therefore would not compromise a customer’s existing net metering  
13 facility from continuing to take service under the applicable net metering service tariff. Similarly,  
14 Kentucky Power states that repair and replacement of existing generating facility components with  
15 like components that do not result in increases in generating facility capacity is allowed without  
16 Kentucky Power approval and would not impact a customer’s Legacy Rights status.<sup>33</sup>

17 However, Kentucky Power interprets *any* changes or modifications to existing systems  
18 requiring submission of a new “Application for Interconnection and Net Metering” to terminate  
19 the Legacy Rights period.<sup>34</sup> As noted above, this includes the subsequent addition of a BESS. It  
20 would also mean that an existing net metering customer who later expands the size of the net

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<sup>32</sup> Kentucky Power Response to KYSEIA Data Request KYSEIA\_1\_018(g).

<sup>33</sup> Kentucky Power Response to KYSEIA Data Request KYSEIA\_1\_018(c).

<sup>34</sup> Ibid.

1 metering facility would forfeit their Legacy Rights on the portion of their system that was installed  
2 pursuant to tariff N.M.S. I.

3 **How have other states addressed changes or modifications to existing systems in the context**  
4 **of Legacy Rights?**

5 States have generally allowed certain repairs, modifications, or replacements of existing equipment  
6 part of a net metering facility without a customer losing their Legacy Rights. For example, in  
7 California, NEM 1.0 customers continue to maintain their Legacy Rights so long as modifications  
8 to their net metering facility do not result in a 10% increase in generating capacity or a 1 kW  
9 increase in capacity, whichever is greater.<sup>35</sup> In general, newer solar panels have a higher capacity  
10 rating than comparable older solar panels. Providing for a 10% or 1 kW increase “buffer” allows  
11 a customer to make modifications to an existing system that might result in a small increase in the  
12 system capacity, such as from replacing an old solar panel that is no longer properly functioning  
13 with a newer panel, without losing their Legacy Rights.

14 **Is Kentucky Power’s proposal regarding modifications, additions, or repairs to an existing**  
15 **net metering facility as it relates to net metering Legacy Rights reasonable?**

16 No. Kentucky Power’s proposal is overly restrictive because it does not allow for *any* capacity  
17 increases, even very small increases, to a net metering facility that could occur should the customer  
18 replace an existing panel with a different type of panel (*e.g.*, if a “like” panel replacement is not  
19 an option for the customer, such as if the original solar panel manufacturer is no longer in  
20 business).

21 **Why else is the issue of modifications or additions to a net metering system important in the**  
22 **context of net metering Legacy Rights?**

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<sup>35</sup> See, *e.g.*, Pacific Gas & Electric, “Electric Schedule NEM: Net Energy Metering Service” (Effective February 22, 2017).

1 Customers who have installed a solar net metering facility may subsequently wish to expand the  
2 size of their system. For example, a net metering customer may increase their annual energy usage  
3 over time as the size of the household grows and their energy consumption increases. A customer  
4 could also begin by installing a small solar net metering facility that only partially offsets their  
5 annual energy usage and then gradually add additional solar panels, increasing the facility size  
6 over time as their budget allows.

7 **Is Kentucky Power’s interpretation that a customer who substantively increases the size of**  
8 **a net metering facility under N.M.S. I after tariff N.M.S. II is adopted would forfeit the**  
9 **Legacy Rights on the entire system reasonable?**

10 No. It is not reasonable for an existing net metering system to lose its Legacy Rights based on the  
11 customer expanding the size of the facility. The statute clearly states that the Legacy Rights “shall  
12 remain in effect at those premises for a twenty-five (25) year period,” and makes no allowance for  
13 revoking those rights based on subsequent additions to the system. Regardless of how *new* capacity  
14 additions are addressed, the *existing* net metering facility capacity is guaranteed a 25-year Legacy  
15 Rights period.

16 A more reasonable approach would be to permit a customer to expand a net metering  
17 facility under tariff N.M.S. I up to the point where the system is designed to offset the customer’s  
18 annual electricity consumption. Furthermore, the existing 45 kW maximum system size provides  
19 an additional “guardrail” on the extent to which an existing net metering facility can be expanded.  
20 Allowing capacity additions at N.M.S. I facilities, subject to these two restrictions, is a reasonable  
21 approach to address customer desires to expand an existing facility while still limiting the overall  
22 size the system could be increased to.

1 **IV. CONCLUSION**

2 **Please summarize your recommendations to the Commission.**

3 I recommend that the Commission:

- 4 • Adopt a 25-year Legacy period with respect to rate design, netting period, and  
5 compensation rate for customers taking service under any tariff approved in this proceeding  
6 to replace tariff N.M.S. I.
- 7 • Allow net metering customers, regardless of whether they are taking service under tariff  
8 N.M.S. I or a tariff approved in this proceeding to replace tariff N.M.S. I, to maintain their  
9 Legacy Rights if they subsequently install a BESS.
- 10 • Allow net metering customers to expand the size of a Legacy net metering facility up to  
11 the customer’s annual electricity usage or 45 kW, whichever is less, without forfeiting their  
12 respective Legacy Rights. Regardless of whether the Commission adopts this  
13 recommendation, it should allow customers to replace components of a net metering  
14 system, such as solar panels, without forfeiting Legacy Rights, even if it results in modest  
15 increases in the total system capacity.

16 **Does this conclude your testimony?**

17 Yes.

18

## Exhibit BDI-1: Curriculum Vitae of Benjamin D. Inskeep

Benjamin D. Inskeep

### EDUCATION

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#### **School of Public and Environmental Affairs (SPEA), Indiana University, Bloomington, IN**

M.S. in Environmental Science, 2012, Top GPA Award

Master of Public Affairs, 2012, Top GPA Award, Concentration: Environmental Policy

#### **University of Oxford, Oxford, United Kingdom**

Six-week graduate school program on climate change governance and environmental regulation, 2011

#### **Indiana University, Bloomington, IN**

B.S., Psychology, 2009, with *Highest Distinction*, Honors Notation, and Phi Beta Kappa honors Certificate, Liberal Arts and Management Program (honors-level interdisciplinary business program)

### EXPERIENCE

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**Principal Energy Policy Analyst**, February 2020 – Present

**Senior Energy Policy Analyst**, January 2019 - Present

**Energy Analyst**, May 2018 – December 2018

**Independent Contractor**, July 2017-April 2018

**Research Analyst**, March 2016 – June 2017

EQ Research LLC, Cary, North Carolina

- Lead EQ Research's CCA services focused on regulatory monitoring, compliance reporting, and customized research and analysis.
- Develop expert witness testimony, clean energy legislation, policy memos, regulatory public comments, policy reports, and market analyses with an emphasis on clean energy policy.
- Research, track, and analyze renewable energy legislation, regulatory proceedings, and stakeholder opportunities to participate in policymaking for client-facing policy tracking services.
- Manage EQ Research's services on U.S. electric utility rate cases including reviewing and summarizing all rate cases, researching and tracking anticipated rate cases and providing bi-weekly updates to clients on utility rate developments.
- Support and collaborate with a diverse regulatory team, including attorneys, policy analysts, businesses and environmental advocates, in ongoing regulatory proceedings.

**Researcher**, August 2017 – January 2018

Earth Island Institute, Indianapolis, Indiana

- Developed more than 100 wiki pages on existing and planned coal, LNG terminals and oil and gas pipelines for the CoalSwarm and FrackSwarm projects, which provide clearinghouses addressing the impacts of coal and fracking and move to cleaner sources of energy.

**Policy Analyst**, June 2014 – March 2016

North Carolina Clean Energy Technology Center, N.C. State University, Raleigh, North Carolina

- Co-creator, lead author, and editor for *The 50 States of Solar*, a quarterly report series that comprehensively tracks state regulatory and legislative distributed solar policy developments.
- Created an internal database for tracking distributed solar regulatory and legislative policy proposals, and queried and analyzed the data to answer policy questions, identify trends, and develop reports.

- Tracked and updated summaries of more than 500 utility, local, state, and federal policies and incentives for the *Database of State Incentives for Renewables and Efficiency* (DSIRE).
- Led solar workshops and provided technical assistance to local governments, including solar financial and policy analysis, reports, case studies, fact sheets, and customer-facing solar guides as part of the U.S. Department of Energy SunShot Solar Outreach Partnership.

**Doctoral Research Assistant**, August 2012 – December 2013

SPEA, Indiana University, Bloomington, Indiana

- Completed three semesters of Ph.D. coursework, attaining a 4.0/4.0 GPA.
- Collaborated with Professor Shahzeen Attari in academic research projects on the psychology of energy and water use and conservation.
- Lead-authored peer-reviewed research on the most effective actions households can take to curb water use.

**Climate Corps Fellow**, June 2012 – August 2012

Environmental Defense Fund, Cary, North Carolina

- Quantitatively benchmarked the energy efficiency of 90+ North Carolina fire stations and authored case studies highlighting the most effective local fire station energy efficiency initiatives.
- Evaluated the cost-effectiveness of various local government energy efficiency measures to demonstrate the financial value of sustainability.

**Sustainability Intern**, October 2011 – April 2012

Office of Sustainability, Indiana University, Bloomington, Indiana

- Analyzed data on Indiana University's energy use to determine greenhouse gas emission trends.
- Collected and analyzed quantitative and qualitative sustainability metrics for sustainability ratings.
- Benchmarked the university's sustainability relative to peer institutions.

**Research Intern**, February 2010 – May 2010

The Nature Conservancy, Indianapolis, Indiana

- Synthesized research on the economic benefits of community green space as part of a white paper tailored to generate support from conservative lawmakers on common sense conservation policies.

**PUBLICATIONS**

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- Inskeep, B. **Pollinator-Friendly Solar in Indiana.** May 2020. Published by EQ Research.
- Inskeep, B. **Four Flavors of Grid Modernization in the Midwest.** April 12, 2019. Published by EQ Research.
- Inskeep, B. **States Charting Paths to 100% Targets.** March 15, 2019. Published by EQ Research.
- Makhoun, M. and B. Inskeep. **Ten Things to Know about CCAs in California.** February 13, 2019. Published by EQ Research.
- Inskeep, B. **EQ Research's Q4 2018 GRC [General Rate Case] Update.** January 15, 2019. Published by EQ Research.
- Inskeep, B. **EQ Research's Q3 2018 GRC Update.** October 16, 2018. Published by EQ Research.

- Argetsinger, B. and B. Inskip. **Standards and Requirements for Solar Equipment, Installation, and Licensing and Certification**. January 2017. Published by the Clean Energy States Alliance.
- Barnes, C., J. Barnes, B. Elder, and B. Inskip. **Comparing Utility Interconnection Timelines for Small-Scale Solar PV, 2nd Edition**. October 2016. Published by EQ Research.
- Barnes, J., B. Inskip, and C. Barnes [with Synapse Energy Economics]. **Envisioning Pennsylvania’s Energy Future**. October 2016. Published by the Delaware Riverkeeper Network.
- Inskip, B., et al. **The 50 States of Solar**. February 2015, April 2015, August 2015, November 2015, February 2016. Lead author & editor for five quarterly editions. Published by the NC Clean Energy Technology Center.
- Inskip, B., et al. **Utility Ownership of Rooftop Solar PV**. November 2015. Published by U.S. DOE SunShot Solar Outreach Partnership.
- Inskip, B., and A. Proudlove. **Renewable Cities: Case Studies**. Published by U.S. DOE SunShot Solar Outreach Partnership, October 2015.
- Inskip, B., K. Daniel, and A. Proudlove. **Delaware Goes Solar: A Guide for Residential Customers**. June 2015. Published by U.S. DOE SunShot Solar Outreach Partnership.
- Inskip, B., and A. Proudlove. **Homeowner’s Guide to the Federal Investment Tax Credit for Solar PV**. Published by U.S. DOE SunShot Solar Outreach Partnership, March 2015.
- Inskip, B., and A. Proudlove. **Commercial Guide to the Federal Investment Tax Credit for Solar PV**. Published by U.S. DOE SunShot Solar Outreach Partnership, March 2015.
- Daniel, K., B. Inskip, and A. Proudlove. **Understanding Sales Tax Incentives for Solar Energy Systems**. Published by U.S. DOE SunShot Solar Outreach Partnership, March 2015.
- Inskip, B. and A. Shrestha. **Comparing Subsidies for Conventional and Renewable Energy**. Published by NC Clean Energy Technology Center, March 2015.
- Inskip, B., K. Daniel, and A. Proudlove. **Solar on Multi-Unit Buildings: Policy and Financing Options to Address Split Incentives**. Published by U.S. DOE SunShot Solar Outreach Partnership, February 2015.
- Daniel, K., B. Inskip, et al. **In-State RPS Requirements**. Published by NC Clean Energy Technology Center, November 2014.
- Inskip, B. and S. Attari. **The Water Short List: The Most Effective Actions U.S. Households Can Take to Curb Water Use**. *Environment: Science and Policy for Sustainable Development* 56, No. 4, 2014: 4-15.

## **PARTICIPATION AT PUBLIC UTILITY COMMISSIONS**

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- **Kentucky Public Service Commission, November 2019**, Provided comments on behalf of Kentucky Solar Energy Industries on the implementation of the Net Metering Act.
- **Indiana Utility Regulatory Commission, September 2019**, Provided public comments as a ratepayer at Public Hearing against Indianapolis Power and Light’s proposed \$1.2 billion grid modernization plan that would raise customer bills by \$10.50.
- **Indiana Utility Regulatory Commission, May 2018**, Provided public comments as a ratepayer at Public Hearing against IPL’s proposal in its rate case to increase its fixed customer charge from



\$17 to \$27, which would have been the highest fixed charge among investor-owned utilities in the nation.

## PRESENTATIONS

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- **Energy Storage in Integrated Resource Planning, September 2020**  
Panelist on webinar hosted by the Energy Storage Association
- **DERs in the Midwest**  
Moderated panel at Solar and Storage Midwest, November 2019
- **Planning for the Solar Revolution**  
Poster presentation at Solar Power International, Salt Lake City, Utah, September 2019
- **Policy Considerations for Accelerating the U.S. Clean Energy Transition**  
Invited by Prof. Sanya Carley to give lecture to graduate energy economics class at Indiana University School of Public and Environmental Affairs, Bloomington, Indiana, March 2019.
- **Solar Equipment, Installation, and Licensing & Certification: A Guide for States and Municipalities**  
Webinar presentation on report findings sponsored by the Clean Energy States Alliance, February 2017.
- **Distributed Solar PV Trends in Net Metering and Rate Design**  
Invited to give presentation at Solar Asset Management Conference, San Francisco, California, March 2016.
- **Solar Powering Your Community: Addressing Soft Costs and Barriers**  
Led all-day local government solar workshop at Kerr-Tar Councils of Government, Henderson, North Carolina, November 20, 2015.
- **Solar Powering Your Community: Addressing Soft Costs and Barriers**  
Led all-day local government solar workshop at NC Clean Energy Technology Center, Raleigh, North Carolina, November 19, 2015.
- **North Carolina in Context: Regional and National Trends.**  
Panel presentation at University of North Carolina Clean Energy Forum, Chapel Hill, North Carolina, September 2015.
- **Net Metering Updates.**  
Panel presentation at Solar Power International, Anaheim, California, September 2015.
- **The 50 States of Solar: Trends in Net Metering Policies and Rate Design.**  
Poster presentation at Solar Power International, Anaheim, California, September 2015.
- **Net Metering and Rate Design Trends.**  
Panel presentation at Intersolar North America, San Francisco, California, July 2015.
- **Distributed Disruption: The Economics and Policy Behind the Distributed Solar PV Boom.**  
Invited by Prof. Sanya Carley to give lecture to graduate energy economics class at Indiana University School of Public and Environmental Affairs, Bloomington, Indiana, April 2015.
- **Solar Powering Your Community: Addressing Soft Costs and Barriers**  
Led all-day local government solar workshop at Grand Valley State University's Michigan Alternative and Renewable Energy Center, Muskegon, Michigan, May 5, 2015.

- **The Water Short List: The Most Effective Actions to Reduce Household Water Consumption**  
Poster presentation at the International School on Energy Systems, Seeon, Germany, September 2014.
- **More Than a Drop in the Bucket: How U.S. Households Can Reduce Water Consumption by 70%**  
Presentation at the 13th Annual Association for SPEA Ph.D. Students Conference, Bloomington, IN, March, 2013.

## **AWARDS & HONORS**

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- 2012 Top GPA Award, M.S. in Environmental Science
- 2012 Top GPA Award, Masters in Public Affairs
- 2011 SPEA Merit Award
- 2006 Liberal Arts and Management Program Writing Excellence Award
- 2005-2009 Indiana University Honors Recognition Scholarship

## **VOLUNTEER SERVICE**

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**Citizens Action Coalition**, Indiana, February 2019 – present  
Board Member

**Solar Power International**, 2014 – 2016  
Education Committee Member for the largest solar conference in America

**SPEA**, Prof. Evan Ringquist Research Team, Bloomington, Indiana, 2011  
Volunteer Researcher on Environmental Justice Research Project

**The Nature Conservancy**, Indianapolis, Indiana, 2010  
Volunteer Researcher on Economic Development and Community Green Space