

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY )  
UTILITIES COMPANY FOR AN ADJUSTMENT )  
OF ITS RATES FOR ELECTRIC AND GAS SERVICE, )  
A CERTIFICATE OF PUBLIC CONVENIENCE AND )  
NECESSITY TO DEPLOY ADVANCED METERING )  
INFRASTRUCTURE, APPROVAL OF CERTAIN ) CASE NO.  
REGULATORY AND ACCOUNTING TREATMENTS ) 2020-00349  
AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT )

And

In the Matter of:

ELECTRONIC APPLICATION OF LOUISVILLE GAS )  
AND ELECTRIC COMPANY FOR AN ADJUSTMENT )  
OF ITS RATES FOR ELECTRIC AND GAS SERVICE, A )  
CERTIFICATE OF PUBLIC CONVENIENCE AND )  
NECESSITY TO DEPLOY ADVANCED METERING ) CASE NO.  
INFRASTRUCTURE, APPROVAL OF CERTAIN ) 2020-00350  
REGULATORY AND ACCOUNTING TREATMENTS, )  
AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT )

**RESPONSE OF JOINT INTERVENORS MOUNTAIN ASSOCIATION, KENTUCKIANS  
FOR THE COMMONWEALTH, KENTUCKY SOLAR ENERGY SOCIETY AND  
METROOLITAN HOUSING COALITION TO SECOND SET OF DATA REQUESTS  
FROM COMMISSION STAFF**

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The Commonwealth and  
Metropolitan Housing Coalition

April 20, 2021

## **Response of Joint Intervenors To Commission Staff Second Set of Data Requests KY PSC 2020-00349 / -00350**

### **Commission Staff JI DR2 1:**

1. Refer to the Revised Direct Testimony of Karl R. Rábago, page 11. Explain how “customer-generation can and will defer and avoid future fixed infrastructure investments.” Describe a methodology for estimating that avoided fixed infrastructure cost. Provide as much detail as possible, including citations to substantiate the calculation approach.

### **Response:**

Customer generation can and will defer and avoid future fixed infrastructure investments by:

1. Reducing loading on existing infrastructure, which extends useful life components that wear out due to loading.
2. Reducing system and feeder peak demand both before (pre-cooling) and during peak demand, when wear on components is greatest.
3. Improving system efficiency.
4. Reducing load losses, usually thermal loads, which contribute to fixed cost replacement requirements and upstream generation and transmission costs of all kinds, including wear and tear, O&M, and capital costs associated with demand.
5. Being deployed in lieu of fixed cost investments, such as through non-wires alternatives.

A comprehensive assessment of the benefits of right-sized distributed energy resources is available in “Small Is Profitable,” which documents 207 distinct benefits of distributed energy resources. Available at: <https://www.dropbox.com/s/v3e6gy655d355tm/Small%20Is%20Profitable%202002.pdf?dl=0>

Specific methods for calculating such values have been documented and utilized in a wide range of “Value of Solar” or “Value of DER” studies, as well as in other publications.

These methods, which are not always mutually exclusive, include:

1. Calculating value based on the fact that self-generators do not use delivery services when exporting energy, therefore all delivery costs are avoided when these customers export. Delivery costs include distribution and transmission capacity and should be grossed up for line losses, projected future delivery costs based on historical and expected spending levels, including for grid modernization investments and AMI spending. Costs should also be grossed up for relative contribution to feeder-level and non-coincident peaks. Exports serve the nearest unserved load, passing through a meter, therefore are charged at full retail rate by the utility, so such credit should not be decremented by any fictional delivery system “usage” or system “storage” charges.
2. Calculating value according to the sum of all distribution spending planned for the next 25-30 years (the warranted life of solar modules). Unfortunately, most utilities do not plan for distribution costs over such a period, so values must be estimated.
3. Calculating the marginal cost of distribution capacity, by feeder, and providing a distribution capacity credit.
4. Breaking distribution value into locational and general distribution system value, with adders for locational value.

IREC Guidebook on Valuing Distributed Solar, especially at pages 26-29.  
<https://www.dropbox.com/s/gh35erds5a8c5lj/IREC%20Rabago%20Solar%20Value%20Guidebook%201310.pdf?dl=0>

NY PSC Value of DER Proceedings -  
<https://www3.dps.ny.gov/W/PSCWeb.nsf/All/8A5F3592472A270C8525808800517BDD?OpenDocument>

NYSERDA Value Stack Calculator and Tools –

<https://www.nyserda.ny.gov/All-Programs/Programs/NY-Sun/Contractors/Value-of-Distributed-Energy-Resources>

ICF Meta-Analysis –

Department of Energy, “Review of Recent Cost-Benefit Studies Related to Net Metering and Distributed Solar,”

PNNL Meta-Analysis -

<https://www.districtenergy.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=0103ebf1-2ac9-7285-b49d-e615368725b2&forceDialog=0>

Yale Meta-Analysis -

[https://cbey.yale.edu/sites/default/files/2019-10/Distributed%20Solar\\_FINAL.pdf](https://cbey.yale.edu/sites/default/files/2019-10/Distributed%20Solar_FINAL.pdf)

Witness: Karl Rábago

Respectfully submitted,




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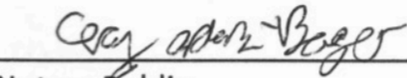
*Counsel for Joint Intervenors,  
Mountain Association, Kentuckians  
for the Commonwealth, and  
Kentucky Solar Energy Society*

VERIFICATION

The undersigned, Karl R. Rábago, being first duly sworn, deposes and says that he has personal knowledge of the matters set forth in his Responses to Data Requests and that the information contained therein is true and correct to the best of his information, knowledge, and belief, after reasonable inquiry.

  
Karl R. Rábago

Subscribed and sworn to before me by Karl Rabago this 20 day of April, 2021.

  
Notary Public

My commission expires: 12/18/2024

CLAYTON JAMES ADAMS-BERGER  
Notary Public  
State of Colorado  
Notary ID # 20204044175  
My Commission Expires 12-18-2024

### **Certificate of Service**

This is to certify that the electronic version of the foregoing *Response Of Joint Intervenors To Second Set of Data Requests From Commission Staff* is a true and accurate copy of the same document that will be filed in paper medium; that the electronic filing has been transmitted to the Commission on April 20, 2021; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that in accordance with the March 16, 2020 Commission Order in Case No. 2020-00085 an original and ten copies in paper medium of this filing will not be mailed until after the lifting of the current state of emergency.

A handwritten signature in black ink, appearing to read 'Tom FitzGerald', with a long horizontal line extending to the right.

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Tom FitzGerald