



Kentucky Utilities Co. and LG&E Seek Rate Increases and Changes to Net Metering That Would Reduce the Value of Customer-Produced Solar Energy by Nearly 80%

By Andy McDonald, KYSES Board Member

Kentucky Utilities (KU) and Louisville Gas & Electric (LG&E) have filed rate cases before the Kentucky Public Service Commission (PSC) in which they are seeking 11% to 15% rate increases across Residential, General Service, and Power Service customer classes. The utilities are also proposing to change their net metering tariffs to reduce the value of customer-generated renewable energy supplied back to the utility by about 80%. The Kentucky Solar Energy Society (KYSES) has intervened in both rate cases to advocate for fair rates and defend the value of net metering and distributed renewable generation. KYSES is working with Kentuckians For The Commonwealth, the Metropolitan Housing Coalition, and the Mountain Association as Joint Intervenors, and is represented by attorney Tom FitzGerald with the Kentucky Resources Council.



KU and LG&E are owned by PPL Corporation and are jointly managing their rate cases. The following tables summarize the rate increases being sought by both utilities, based on each utility's "Customer Notice of Rate Adjustment." LG&E's notice states that the average customer's monthly bill would increase 11.8% and KU says the average increase would be 10.67%. However, our analysis of their proposed rate increases indicates an even larger impact on customer bills.

Overall, LG&E is seeking a revenue increase of \$161.1 million for its electric and gas operations while KU is seeking a \$170.1 million revenue increase.

KU ELECTIC			CURRENT Avg	PROPOSED	
Residential Rate	Current	Proposed	Monthly Bill	Avg Monthly Bill	% Increase
Basic Service Charge	\$0.53/day	\$0.61/day	\$ 16.12	\$ 18.55	15.1%
Energy Usage Charge	\$0.0896/kWh	\$0.0995/kWh	\$ 100.39	\$ 111.44	11.0%
Total Bill			\$ 116.51	\$ 129.99	11.6%
Avg Monthly Usage	1,120 kWh				

LG&E- ELECTRIC			CURRENT Avg	PROPOSED	
Residential Rate	Current	Proposed	Monthly Bill	Avg Monthly Bill	% Increase
Basic Service Charge	\$0.45/day	\$0.52/day	\$ 13.69	\$ 15.82	15.6%
Energy Usage Charge	\$0.09278/kWh	\$0.10482/kWh	\$ 82.95	\$ 93.71	13.0%
Total Bill			\$ 96.63	\$ 109.53	13.3%
Avg Monthly Usage	894 kWh				

LG&E- GAS			CURRENT Avg	PROPOSED	
Residential Rate	Current	Proposed	Monthly Bill	Avg Monthly Bill	% Increase
Basic Service Charge	\$0.65/day	\$0.78/day	\$ 19.77	\$ 23.73	20.0%
Gas Usage Charge	\$0.73457/ccf	\$0.85073/ccf	\$ 39.67	\$ 45.94	15.8%
Total Bill			\$ 59.44	\$ 69.66	17.2%
Avg Monthly Usage	54 ccf				
LG&E Total	Monthly	Monthly			
Electric + Gas	current	proposed	% Increase		
	\$ 156.07	\$ 179.19	14.8%		

Proposed Changes to Net Metering

The net metering changes proposed by KU and LG&E are essentially identical. Under their NMS-2 tariffs, the utilities would credit all excess generation produced by the customer and supplied to the grid at their “avoided cost” or wholesale power rate of about 2.2 cents/kWh, while charging customers the full retail rate for all energy consumed from the utility. Unlike traditional net metering, which measures the customers’ net consumption or generation at the end of each billing cycle, NMS-2 would convert each kWh of excess generation into a 2.2 cent credit the moment it passes through the meter. This policy would further devalue a customer’s solar investment by reducing the value of *all* fed-in electricity instead of merely the excess generated as of the end of each month.

Customers of KU and LG&E will continue to be eligible for traditional net metering (NMS-1) until the PSC issues its final order in these rate cases, which is expected to be in May or June. In their “Customer Notice of Rate Adjustment,” the utilities state that NMS-1 will be available to customers who *submit an application* for net metering before the effective date of the new rates proposed in these cases. However, in other documents filed in these cases, the utilities state that NMS-1 will be available for systems *placed in service* before the effective date of the new rates. We have asked for clarification on this issue from the utilities. According to statute, customers who install their renewable energy systems prior to the new rates going into effect will be grandfathered under NMS-1 for 25 years.

Both KU and LG&E currently have about 500 net metering customers each. According to their case filings, at current installation rates of 45% per year, the capacity of net metering generators would reach 1% of the utilities' annual peak load in about 6 years. However, if their proposed changes to net metering were to be implemented, the capacity of net metering would not reach 1% of their peak load even by 2050. Thus, in their own testimony the utilities make plain that the effect of their net metering proposal would be to bring the growth of rooftop solar to a crashing halt. This confirms the concerns of solar and ratepayer advocates, that the effect and likely the intent of the changes to Kentucky's net metering law in 2019 were to suppress the market for rooftop solar, the utilities' competition, and customers' ability to control their energy costs, so that the utilities can corner the market on the sun.

KYSES and the Joint Intervenors have engaged two expert witnesses to support our work in these rate cases, Karl Rábago and James Owen. Karl has extensive experience with ratemaking and the value of solar and distributed generation. James is the Executive Director of Renew Missouri and previously served as an expert witness for the Joint Intervenors in the Kentucky Power Company rate case #2020-00174. We are encouraged that the PSC has also contracted with an expert on net metering to advise them on how to fairly value customer-generated solar energy during these rate proceedings.

Public comments are very important and can be submitted to the PSC by emailing psc.info@ky.gov. Include the case number (KU #2020-00349 and LG&E #2020-00350) within the subject line of your email and provide your full name and place of residence in the body of the e-mail.

Kentucky Public Service Commission Issues Ruling in Kentucky Power Rate Case

By Andy McDonald, KYSES Board Member

Commission defers decision on net metering, while providing important victories for community advocates on some issues, setbacks on others.

On January 13, 2021, the Kentucky Public Service Commission issued its order in Kentucky Power Company rate case #2020-00174. In addition to proposing a 25% rate increase for their 165,000 residential customers in Eastern Kentucky, KPC was proposing changes to their net metering tariff which would have reduced the value of customer-generated solar energy by 75%. The Kentucky Solar Energy Society partnered with the Mountain Association and Kentuckians for the Commonwealth to intervene in this case to defend the value of solar net metering and argue for fair rates for KPC's customers. Our organizations (the Joint Intervenors) are represented by Tom FitzGerald of the Kentucky Resources Council. James Owen of Renew Missouri provided expert witness testimony.

Regarding Net Metering:

- The Commission deferred a decision on KPC's proposed changes to net metering until a consultant hired by the Commission can advise them on the issue and then opened a new supplemental hearing process specifically to address net metering.
- The Commission gave KPC the option of implementing their new net metering rates within 15 days of the order, with the risk that those rates might be overturned by the Commission's final ruling. Unfortunately, KPC elected to implement their new net metering rates, effective as of January 13, 2021.

- We scored a victory as the Commission cited KPC's lack of a cost of service study as a reason to reject their proposed net metering rates.
- We scored another victory as the Commission rejected KPC's argument that their "avoided cost" was the appropriate value for customer-generated solar energy.
- KYSES and the Joint Intervenors are continuing to intervene in the supplemental hearing on net metering. We are excited to report that we have added Karl Rábago to our team. Karl has testified in hundreds of proceedings related to net metering and distributed generation, developed the nation's first value-of-solar tariff while with Austin Energy, and is the co-author of *A REGULATOR'S GUIDEBOOK: Calculating the Benefits and Costs of Distributed Solar Generation*.
- The PSC will issue a final ruling no later than May 14, 2021.

Regarding other topics addressed in the rate case issues, the PSC agreed with us on many important issues. Here is what our efforts helped to achieve:

- The PSC reduced the total revenue increase sought by Kentucky Power by 25 percent, from \$70 million to \$52 million.
- KPC was granted a 9.3% Return on Equity (ROE), lower than the 10.0% ROE they had requested.
- The PSC denied the company's plan to spend tens of millions of dollars on new, advanced meters (AMI), sparing customers from additional charges to pay for those upgrades. While we see potential value in AMI metering, KPC failed to demonstrate how they would use AMI to provide the most benefit to their customers. KPC had also proposed to immediately begin charging all customers for the AMI meters, even though the deployment would be spread over multiple years, leaving many customers paying for new meters years before having one installed on their home.
- The PSC rejected Kentucky Power's proposed "declining block rates" for residential customers, which would have provided lower rates to their highest energy users. KYSES and our allies pointed out that this approach discourages investments in energy efficiency and rooftop solar and punishes households who attempt to manage their energy bills by conserving energy.

Unfortunately, the Commission approved KPC's request to increase the monthly customer charge that all residential customers pay, from \$14.00 per month to \$17.50 per month. Residential energy rates were increased from 9.8 cents per kWh to 11 cents per kWh, a 12% increase compared with the 25% increase sought by the utility.

A public hearing in the supplemental net metering proceeding will be held April 6 to 8. Public comments can be submitted to the PSC by emailing psc.info@ky.gov. Include the case number (#2020-00174) within the subject line of your email and provide your full name and place of residence in the body of the e-mail.

KYSES will continue to work with our allies as the Commission deliberates upon KPC's net metering proposal. Meanwhile, we have turned our attention to LG&E/KU's rate case (#2020-00349 and 00350). LG&E/KU have also proposed new net metering tariffs which would drop the value of customer-generated solar energy to the "avoided cost" rate (under 3 cents per kWh). KYSES is intervening in these cases, once again with our friends at the Mountain Association and Kentuckians for the Commonwealth, along with the Metropolitan Housing Coalition, and we are being represented by Tom FitzGerald of the Kentucky Resources Council.

TVA in Kentucky 2021: An Update on Solar

By Ron Whitmore

TVA (Tennessee Valley Authority) supplies electric power to a large segment of south central and western Kentucky through contracts with 10 municipal and 5 co-op LPC's (local power companies) and operates in twenty-eight Kentucky counties. In 2019, 7.4 billion kilowatt hours of electricity were sold by TVA in Kentucky. Capacity of TVA power generation operations in Kentucky was 4.1 gigawatts through hydroelectric (Kentucky Dam), combustion turbines (Marshall County), combine-cycle gas (in Paradise), and coal fired (Paradise & Shawnee) facilities. Plans are for the Paradise coal unit to be retired in 2020.

In 2019, TVA instituted changes with its numerous LPC's requiring 20-year contracts, largely in exchange for a 3.1% "wholesale credit". As of Oct 31, 2019, 132 of over 150 local power companies in the TVA system, had signed TVA contracts. One of TVA's largest power consumer, Memphis LGW has not completed agreements as of Sept 2020. A recent press release indicates that the Memphis LGW Board of Commissioners has approved hiring a consultant firm to lead a Request for Proposals (RFP) for alternative power contract, citing savings in excess of \$120 million per year. Conversely, in Kentucky, Bowling Green Municipal Utilities (BGMU) completed the TVA agreement in September, in spite of competitive electric pricing from KYMEA. A major factor in the decision to continue with TVA was Bowling Green's access to the transmission infrastructure, which is owned by TVA. TVA is exempt from federal regulations that require fair access to transmission lines, and the city would have to purchase the entire Bowling Green electric utility transmission system if an alternative to TVA is used. TVA's long-term plans from recently released 2019 Integrated Resource Plan includes solar energy with 1.5 to 8 Gigawatts additional of PV generation by 2028. However, it seems the intention of TVA is to essentially control the solar market electric generation by limiting local choice generation such as roof-top or battery storage to 3 to 5% of local generation capacity, termed "flexibility options", to be incorporated into LPC contracts. These "flexibility options" are ill defined. In February 2020, a TVA press release announced 484 megawatts of Utility scale projects are pending, 200 megawatts to be online by the end of 2022. A proposal for utility scale project in Logan County Ky. is on the "short list" for consideration by TVA, according to Tom Harned, Director Logan Economic Development Alliance.

TVA support for rooftop solar has deteriorated. Effective Jan 1 2020, TVA discontinued the Green Power Plan (GPP). The GPP was a mechanism to allow rooftop solar electricity generated to be metered and credited to the residential generator's electric bill. This credit was at retail rate (about 9 Cents/ kWh in Warren County Ky). Alternative incentives for renewable green energy have been offered by TVA and are outlined below:

In late August 2020, TVA held a Webinar conference on recent upgraded programs to support renewable energy initiatives. These are divided into four incentive categories:

1. **GREEN CONNECT:** This program provides standardization and access to TVA endorsed solar installers, etc.
2. **GREEN SWITCH:** Provides for purchase of renewable energy credits for as little as \$2/month in blocks of \$2.00 per 200 kWh
3. **GREEN FLEX:** Allows business and industries to purchase "out of Valley" renewable energy certificates (REC's) These are Guaranteed 100% wind sourced credits from Iowa, Ill, and Kansas. A minimum one-year agreement and 2000 REC's are needed, and cannot exceed 105% of participants annual electricity consumption
4. **GREEN INVEST:** Interconnection for locally generated capacity up to 1 megawatt.

Allows three interconnection options:

- Self-Generation with no credit for excess power but generation offsets members energy usage,
- Self-Generation with Power Purchase Agreements (PPA); excess power generated is reimbursed at “avoided cost” per “Dispersed Power Price Schedule” (generally less than 2 cents /kWh), and
- Sell-All PPA; all power sold at “avoided cost”.

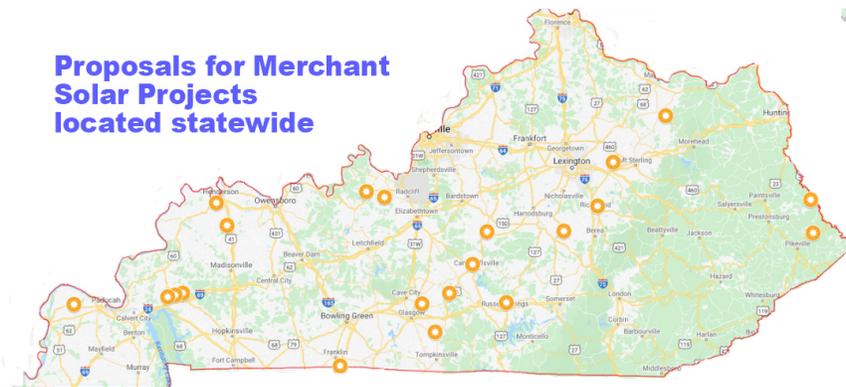
Per recent correspondence with Warren RECC the “self-generation” option is available for rooftop type installations that directly “offsets members energy usage”, but the “member does not receive credit for excess energy that is not consumed by member and flows back into the grid”. This appears to be a real time net metering option. There is also a monthly charge for ongoing “system testing and administrative requirements”, as well as application and engineering fee. Solar Energy Pioneers, Bowling Green’s installer of Solar Systems, closed their business early 2019. Further inquiry into each local power company/TVA contract will have to be made to assess status of rooftop solar or larger interconnection agreements.

Ron Whitmore is a retired Pharmacist & lives in Alvaton just south of Bowling Green, Warren County Kentucky. He has 5 kW Ground rack PV System with TVA/Warren RECC Grid connection agreement, in operation since Jan. 2015 under the now defunct TVA Green Power Plan GPP. He has been active with Ky Chapter Sierra Club, KFTC, & KCC in supporting advocacy of solar energy.

Kentucky is Becoming a Popular State for Merchant Solar

By Wallace McMullen

Somewhat unnoticed in the daily news headlines, Kentucky has recently become an attractive location for large solar projects. There are currently 20 merchant solar proposals in dockets before the KY Electric Generation and Transmission Siting Board, and nearly as many



applications from Kentucky locations to the PJM regional transmission operator to have wholesale electricity provider status. These proposals vary in size, from 40 Megawatts (MW) to 200 MW. They usually involve about 7 acres per MW, so sizeable amounts of land are involved.

The large solar installations need to connect to a transmission line. They also need large tracts of fairly flat land, in one continuous expanse or as contiguous parcels. Apparently open land close to transmission lines can be found in many places in Kentucky, as these proposals are spread out all across the state.

The developers working on these projects have a variety of perspectives. Carolina Solar speaks of helping farmers “to help keep the land in the family.” Edelen Developers, led by Adam Edelen, writes about “developing reclaimed mine sites and re-employing coal miners.” National Grid Renewables says “we develop projects that provide positive economic impact for

landowners and community members.” Silicon Ranch’s statement says they emphasize compatible grazing with their projects. There are a number of aspects to these developments that have opened questions that solar advocates are seeking answers to. These include:

- *Are there negative environmental impacts of merchant scale solar?*
- *Do these large installations cohabitate well with agriculture?*
- *Will these installations be significant in moving Kentucky away from coal-fired electricity and reducing our greenhouse gases emissions?*
- *Who gets the taxes from these installations?*
- *Do the business arrangements help Kentucky’s economy?*
- *How are other states handling these developments?*
- *What will the impacts on property values be?*
- *What is the jobs impact beyond the initial construction phase?*

We know that large solar installations have no unhealthy emissions. That’s good. And they do not poison the land on which they are located. The mounting posts could be removed in 30 years and the land returned to previous uses, if desired. Regarding concerns with stormwater runoff and erosion, solar panels are mounted on posts above the ground and nearly all of the land area under the array can be maintained as a permeable surface (i.e. vegetated soil). The author has not seen any reports of stormwater runoff or erosion problems in press accounts or industry newsletters.

Generating emission-free electricity here in Kentucky that is transmitted for use out of state will not have an immediate effect on our in-state coal-heavy electric generation. However, if these installations become common across Kentucky, it seems likely that will enhance the perception of solar generation as a useful technology, and that will encourage installations for in-state use. Furthermore, some of these large installations are intended for use in Kentucky, such as the KYMEA’s 54 MW Ashwood Solar project and Henderson Municipal Power and Light’s 50 MW planned project.

The question “Do these large installations cohabitate well with agriculture?” is important. Proponents of merchant solar point to numerous examples of installations with pollinating plants in between the rows of panels. There are also examples of existing projects where sheep or chickens graze beneath the solar arrays. LG&E had fun distributing a video of goats being turned loose on their 10 MW pilot project, although it’s said that goats are not well-suited for solar farms because of the risk that they will eat the wires or climb on the arrays. The author doesn’t yet know of a completed, working project nearby that combines large solar with an operating agriculture situation. A sheep-grazing solar project is reportedly under construction in Ohio. All indications are that this can be a favorable aspect of large solar installations if the developers so desire or if the local community requires it through zoning ordinances.

Merchant solar farms are expected to contribute noticeable tax revenue for the counties in which they are located, and should be a helpful revenue source for local school systems. From that perspective, they may be a boon to rural Kentucky.

Exactly how this works out is yet to be determined. Some questions probably can not be fully answered until we have a few of these large installations in place and operating. But so far, the burst of “merchant solar” energy that we are seeing in the proposed new projects looks to be a positive development for this state.

To see the applications for merchant solar plants before the Kentucky Electric Generation and Transmission Siting Board, visit <https://psc.ky.gov/Home/EGTSB>.

New Report: Local Solar, Local Savings: How to Cut Electricity Costs in Half for Public Schools and Local Governments in Frankfort, Kentucky

By Andy McDonald, Director, Apogee-Climate & Energy Transitions



Local governments and public schools in Frankfort, Kentucky could cut their electricity costs in half and dramatically reduce carbon emissions by developing a collaborative solar project within Franklin County, according to a new report by Apogee-Climate & Energy Transitions. With the cooperation of their local municipal utility, the Frankfort Plant Board (FPB), a 20 megawatt (MW) solar facility on about 150 acres could supply 100% of the net annual electricity needs of these four public agencies, providing combined savings to local taxpayers exceeding \$1.2 million per year.

The report, released on March 1st, explains how Kentucky cities like Frankfort, which have locally owned municipal utilities, can greatly reduce costs for local governments and public schools, while making major strides to reduce carbon emissions and improve air quality and public health. The report analyzes the benefits to the local utility, which would realize significantly reduced peak-demand charges and reduced risks within their wholesale power supply.

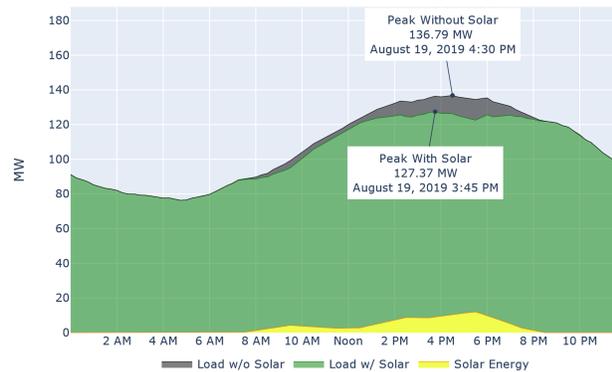
The report states that being served by a municipal utility gives Frankfort a unique opportunity unavailable to many other cities in Kentucky. The FPB was created to serve the community, not shareholders, and it is not regulated by the state Public Service Commission. This gives the FPB the freedom to establish policies that can benefit the whole community, as well as the utility.

The report describes how “virtual net metering” would enable the City of Frankfort, Franklin County Fiscal Court, Frankfort Independent Schools, and Franklin County Schools to sign solar Power Purchase Agreements (PPA’s) with a private solar developer. The developer would build, own, and operate the solar facility, with no up-front or maintenance costs for the project participants or the FPB. A solar PPA rate estimated at 4.5 cents/kWh, fixed at that price for 15 to

25 years, would provide low, long-term, stable electricity rates for these public agencies.

This figure from *Local Solar, Local Savings*, demonstrates the impact a 20 Megawatt (MW) solar facility would have on the FPB's monthly peak demand, using August 2019 as an example. The graph shows how August 2019's peak demand would have been reduced from 136.79 MW to 127.37 MW, saving the FPB \$160,965 for that month.

20MW Solar Array Impact on FPB Peak Demand August 2019



Apogee-Climate & Energy Transitions is a program of Earth Tools, Inc. and is based in Frankfort, Kentucky. Its mission is to advance the energy transition and solutions to the climate crisis in Kentucky. Apogee provides technical assistance, education, and policy research in the public interest.

To download the full report and a one-page fact sheet, please visit www.ApogeeClimate.org. For more information, please contact Andy McDonald at Andy@ApogeeClimate.org.

Upcoming Events

Honoring Earth: Celebrating the Sacred Outside and Within Conference & Retreat.

Date: June 19-20, Mt. Saint Joseph Conference and Retreat Center, Maple Mount, Ky. Join us for a day or a weekend of inspiration and practical information as we contemplate the sacredness of our common home – the Earth. Stay for an overnight retreat to relax and reflect more deeply on your journey on this planet.

- Saturday conference keynote by Kyle Kramer, Executive Director of the Passionist Earth & Spirit Center: “Our New Sacred Story: Finding our Place in an Unfolding Universe”
- Choice of three workshops: Gardening, Backyard Wildflowers, Solar Energy (Wallace McMullen from the Kentucky Solar Energy Society will be presenting on “The Benefits and Costs of Solar Energy for Homeowners.”)
- Saturday/Sunday retreat with Dr. Emily DeMoor from Brescia University: “Moments of Grace: Listening to the Voices of Creation”

Cost: \$40 - \$150. To register or for more information:

270-229-0206 maryann.joyce@maplemount.org <https://ursulinesmsj.org/retreat-center/>

Event may be subject to change due to Covid protocols.



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