

**From:** [PSC Public Comment](#)  
**To:** [REDACTED]  
**Subject:** RE: Case # 2021-00393  
**Date:** Monday, April 18, 2022 9:04:00 AM

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Case No. 2021-00393

Thank you for your comments on the application of Kentucky Utilities Company and Louisville Gas and Electric Company. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2021-00393, in any further correspondence. The documents in this case are available at [View Case Filings for: 2021-00393 \(ky.gov\)](#).

Thank you for your interest in this matter.

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**From:** Deborah Potts [REDACTED]  
**Sent:** Sunday, April 17, 2022 9:22 PM  
**To:** PSC Public Comment <PSC.Comment@ky.gov>  
**Subject:** Case # 2021-00393

I am writing regarding Case #2021-00393. I am a Kentucky resident:

Deborah Potts Novgorodoff  
2114 Douglass Blvd.  
Louisville, KY 40205

To the Kentucky PSC:

LG&E's IRP falls short in understanding today's market forces, the potential impact of climate change, and the need to significantly reduce our reliance on fossil fuels. Rather, it appears to be a "business as usual" approach. I would even suggest that it is a document for the last century, not the current one. As a document for planning for Kentucky's energy needs in the near and distant future, it falls woefully short of hitting the mark.

Climate change is real and we need to significantly reduce our dependence on fossil fuels. The impact of climate change includes severe weather which of course both takes lives, causes power failures, and impacts the economy. The IRP document indicates no urgency in dealing with the reduction in our reliance on fossil fuels to curb the impact of climate change. This must be changed.

The IRP also seriously underestimates the number of electric vehicles likely to be operating in Kentucky in the coming years. As a very satisfied electric vehicle owner, I know that these cars are cost effective to own and a joy to drive. It won't be long until others discover this. Auto

manufacturers get this. Why does LG&E not? The IRP does not properly forecast the impact that electric car ownership will have on its system.

I am a PPL shareholder and a member of the PPL Shareholders for Energy Democracy. As a shareholder and a Kentucky citizen, I ask you to please send LG&E back to the drawing board. Tell them to develop a vision that plans to reduce the impact of climate change, that recognizes the need to reduce our reliance on fossil fuels and that takes into account the probable impending surge in electric vehicle ownership.

Thank you for your consideration.

Best regards,

Deborah Potts Novgorodoff

Deborah Potts Novgorodoff

[REDACTED]

[REDACTED]

**From:** [PSC Public Comment](#)  
**To:** [REDACTED]  
**Subject:** RE: Case Comments: 2021-00393 LG&E/KU's Integrated Resource Plan  
**Date:** Monday, April 18, 2022 9:04:00 AM

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Thank you for your interest in this matter.

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**From:** Ellen S. Wade [REDACTED]  
**Sent:** Friday, April 15, 2022 4:41 PM  
**To:** PSC Public Comment <PSC.Comment@ky.gov>  
**Cc:** bigole@aol.com  
**Subject:** Case Comments: 2021-00393 LG&E/KU's Integrated Resource Plan

The proposed IRP is horribly blind to current conditions including severe impacts of climate change (severe destruction and power outages) and does not mention the burgeoning forces behind the increase in Electric Vehicles.

Carbon emissions can be moderated with a carbon tax, but the utility company acts like no one has identified this a a major solution and certainly doesn't want anyone else to believe this might be one. The carbon emission problem affecting our health today is a continued problem not addressed by LG&E/KU.

Please see this for what it is- hoping you as Commissioner are asleep at the wheel! Please wake up!

**Ellen S. Wade**  
423 Wood Rd.  
Louisville, KY 40222

[REDACTED]  
[REDACTED]

**From:** [PSC Public Comment](#)  
**To:** [REDACTED]  
**Subject:** RE: Public Comment regarding LG&E/KU IRP Case Number 2021-00393  
**Date:** Monday, April 18, 2022 9:04:00 AM

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Case No. 2021-00393

Thank you for your comments on the application of Kentucky Utilities Company and Louisville Gas and Electric Company. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2021-00393, in any further correspondence. The documents in this case are available at [View Case Filings for: 2021-00393 \(ky.gov\)](#).

Thank you for your interest in this matter.

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**From:** Elwood Sturtevant [REDACTED]  
**Sent:** Friday, April 15, 2022 1:14 PM  
**To:** PSC Public Comment <PSC.Comment@ky.gov>  
**Subject:** Public Comment regarding LG&E/KU IRP Case Number 2021-00393

I am the Rev. Elwood Sturtevant, a retired Unitarian Universalist minister who served a congregation in Louisville, KY, for 31 years. I live at 3712 Trail Ridge Rd, Louisville, KY, 40241, and have been an LG&E customer since 1987. I am a board member of Kentucky Interfaith Power and Light, and served for more than two decades as a board member of Eastern Area Community Ministries.

In 2006, the Unitarian Universalist Association adopted a Statement of Conscience concerning the Threat of Global Warming/Climate Change which called upon all Unitarian Universalists "to join with others to halt practices that fuel global warming/climate change, to instigate sustainable alternatives, and to mitigate the impending effects of global warming/climate change with just and ethical responses." And so, as I am called by my faith to take the threat of human-caused climate change seriously, I must note that the LG&E/KU IRP does not do so.

The LG&E/KU IRP outlines a plan to continue to use coal to generate electricity well beyond the 15 years covered by the plan. The plan shows an intention to rely on fossil fuels for nearly 80% of electricity generation through 2036, while national policy is to reduce green house gas emissions by 50% by 2030. I urge the PSC to recognize that the effects of climate change are real and, as the effects of fossil fuel pollution have been, unequally born by the poor and the less powerful in our communities. In considering whether LG&E/KU are appropriately planning to produce affordable power, the PSC should consider all of the costs imposed on Kentuckians by the production of power and should give consideration to the needs of the less powerful for justice.

It is instructive to note that this week, Kentucky celebrated the announcement of a \$2 billion investment to build a new, state-of-the-art gigafactory in the Kentucky Transpark in Bowling Green, such that Kentucky will be the leading manufacturer of electric vehicle batteries in the United States in a few years. This single factory will create battery cells powering up to 300,000 electric vehicles annually by 2027; Kentucky's total production capacity is anticipated to be about four times that amount. The LG&E/KU IRP fails to account for the dramatic changes that the predictable increase in electric vehicles will create here in Kentucky, and uses an absurd "base scenario" prediction of about 38,000 electric vehicles in operation in Kentucky by the end of 2036, although it concedes that the number may exceed 600,000. An electric utility should welcome the challenge of dealing with such

an increase in demand for electric power.

It should be noted that the newly announced gigafactory “will be powered by 100% renewable energy, supplied by onsite generation and purchased locally from the Tennessee Valley Authority (TVA), ensuring the plant helps drive progress toward decarbonizing the state’s industrial sector.” In order to remain competitive, LG&E/KU should similarly look to making our renewable energy future a demonstrated priority, rather than a promise that change will only come after every delaying tactic has been exhausted.

In 2020 Louisville adopted a resolution for renewable energy: 100% clean electricity in Louisville Metro government by 2030, 100% clean energy in Louisville Metro government operations by 2035, and 100% clean energy community wide by 2040. The LG&E/KU IRP should demonstrate how LG&E plans to cooperate with the state’s largest city and one of its largest customers in accomplishing these stated goals, but instead, it appears LG&E intends to force Louisville to seek alternate providers, or even to create its own electricity.

LG&E/KU have chosen to set forth an imaginary future in their IRP based on pretending that dramatic changes are not coming soon. Yet all the evidence shows that climate change is real and costly, that fossil fuel prices are subject to the whim of foreign despots, that clean energy is necessary for the health of people and not just the planet, and that the shift to renewable energy must be planned for now. I urge the Public Service Commission to call for all utilities to create IRPs that are based in the reality of the world as we are experiencing it. Monopolies need to be held to a standard that requires prudent and responsible behavior on behalf of the whole public.

Thank you for your attention to these important matters.

Sincerely,

Rev. Elwood Sturtevant

**From:** [PSC Public Comment](#)  
**To:** [REDACTED]  
**Subject:** RE: Public comment for case number 2021-00393  
**Date:** Monday, April 18, 2022 9:03:00 AM

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Case No. 2021-00393

Thank you for your comments on the application of Kentucky Utilities Company and Louisville Gas and Electric Company. Your comments in the above-referenced matter have been received and will be placed into the case file for the Commission's consideration. Please cite the case number in this matter, 2021-00393, in any further correspondence. The documents in this case are available at [View Case Filings for: 2021-00393 \(ky.gov\)](#).

Thank you for your interest in this matter.

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**From:** Kris ODaniel [REDACTED]  
**Sent:** Friday, April 15, 2022 9:18 AM  
**To:** PSC Public Comment <PSC.Comment@ky.gov>  
**Subject:** Public comment for case number 2021-00393

**\*\*CAUTION\*\* PDF attachments may contain links to malicious sites. Please contact the COT Service Desk [REDACTED] for any assistance.**

Dear Kentucky Public Service Commission,

I kindly submit my comments with thanks,

Kris O'Daniel  
647 Beechland Road  
Springfield  
KY-40069

[REDACTED]  
[REDACTED]

# Annual Monetized Public Health Benefits investing in Renewable Energy and Energy Efficiency

## With EPA's BPK values – second edition

### Introduction

State and local government policymakers have increasingly been asking for the U.S. Environmental Protection Agency (EPA) to help understand the opportunities for using energy efficiency and renewable energy (EE/RE) to reduce air pollution and improve public health.

Many recognize that EE/RE projects, programs, and policies can reduce air pollution emissions from the electric power sector either by decreasing demand for electricity generation or displacing fossil fuel-based generation with zero-emitting generation sources.

They also recognize that these avoided emissions of fine particulate matter (PM<sub>2.5</sub>) and other precursor pollutants may lead to tangible public health benefits, such as reducing the number of premature deaths, incidences of respiratory and cardiovascular illnesses, and missed work and school days.

*However, in many cases, state and local decision-makers are not quantifying or fully accounting for the health benefits of existing or planned EE/RE projects, programs, and policies in their decision-making processes. EPA has found that state and local decision-makers may not be fully aware of or confident in the available quantification tools and methods, or they lack the time, resources, or expertise needed to quantify the health benefits.*

EPA previously released health benefits-per-kilowatt-hour (BPK) values using 2017. (1<sup>st</sup> edition)

### What's New for the Benefits-per-Kilowatt-hour Values – 2<sup>nd</sup> edition?

EPA has updated the 2017 Benefits-per-Kilowatt-hour (BPK) values with 2019 data. In addition to updating the data used to calculate the BPK values, EPA has added new features and updated the methodology, including:

- Revised regions. The BPK values are now calculated for the 14 revised regions in AVERT\* v3.0 rather than the ten regions from AVERT v2.3.
- Additional technology types. EPA developed BPK values for two new technology types, including offshore wind and distributed (rooftop) solar.
- Avoided transmission and distribution losses in values related to energy efficiency. EPA made it easier for users evaluating energy efficiency scenarios by incorporating avoided power sector T&D losses for energy efficiency technologies.

\*AVERT: EPA's **A**voided **E**missions and **g**ene**R**ation **T**ool

## When to use the Benefits-per-kWh values

Health Benefits-per-Kilowatt-hour (BPK) values are reasonable approximations of the health benefits associated with EE/RE investments due to estimated reductions of PM2.5 and other precursor pollutants. These values can be used for preliminary analysis when comparing across state and local policy scenarios to indicate direction and relative magnitude. Examples of analyses where it would be appropriate to use them include:

- Estimating the public health benefits of regional, state, or local-level investments in EE/RE projects, programs, and policies
- Understanding the cost-effectiveness of regional, state, or local-level EE/RE projects, programs, and policies
- Incorporating health benefits in short-term regional, state, or local policy analyses and decision-making

## When not to use the Benefits-per-kWh values

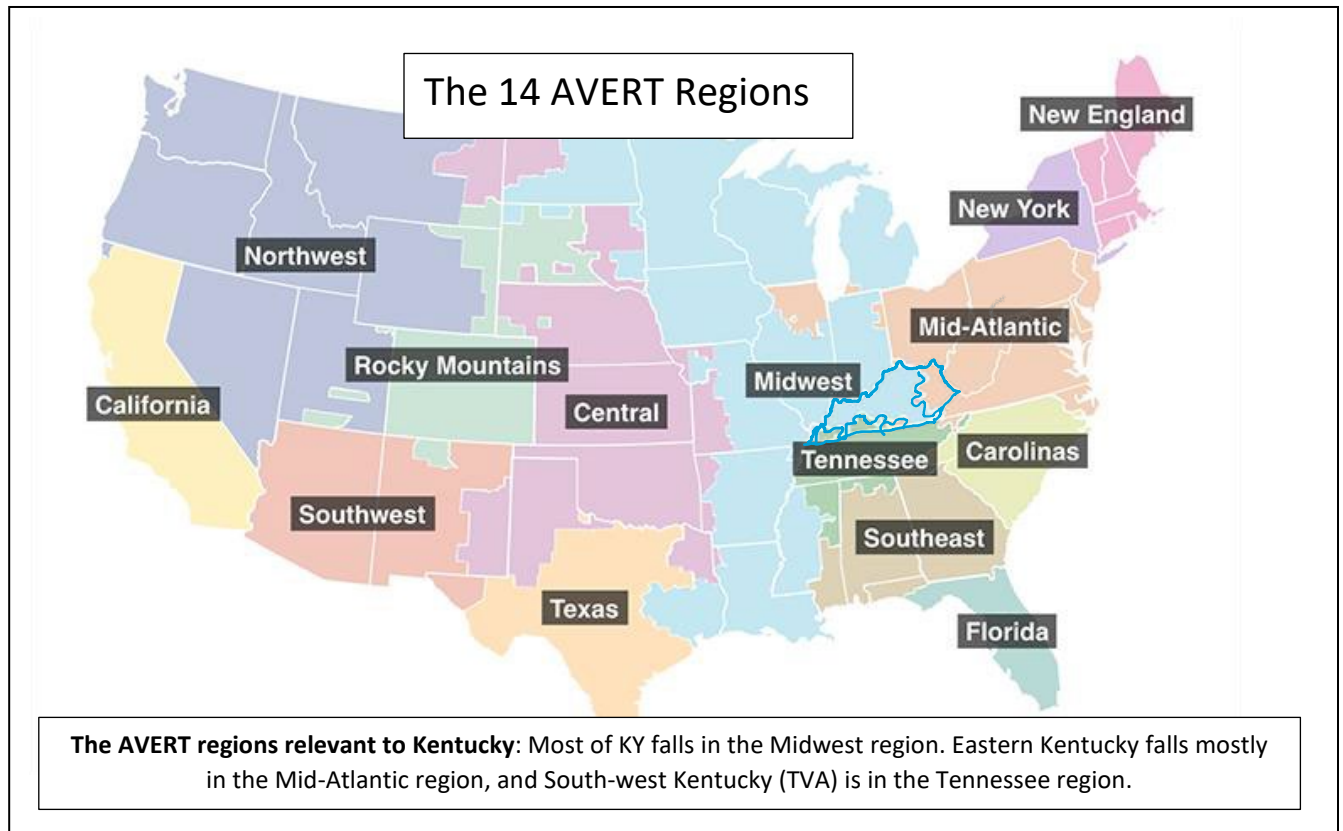
BPK values are not a substitute for sophisticated analysis and should not be used to justify or inform federal regulatory decisions. They are based on data inputs, assumptions, and methods that approximate the dynamics of energy, environment, and health interactions and include uncertainties and limitations, as documented in this technical report.

## Benefits-per-kWh values

EPA used a peer-reviewed methodology and tools to develop a set of screening-level regional estimates of the annual dollar benefits per kilowatt-hour from six different types of EE/RE initiatives.

- **Uniform Energy Efficiency** – Energy efficiency projects, programs, and policies that achieve a constant level of savings over one year,
- **Energy Efficiency at Peak** – Energy efficiency projects, programs, and policies that achieve savings from 12 pm-6 pm when energy demand is high (i.e., peak hours),
- **Distributed Solar Energy** – Projects, programs, and policies that increase the supply of distributed solar energy available (e.g., rooftop solar generation),
- **Utility Solar Energy** – Projects, programs, and policies that increase the supply of energy available from utility-scale solar,
- **Onshore Wind Energy** – Projects, programs, and policies that increase the supply of onshore wind available (e.g., wind turbines), and
- **Offshore Wind Energy** – Projects, programs, and policies that increase the supply of offshore wind available (e.g., wind turbines).





**Benefits-per-kWh Values, cents per kWh, at 3% and 7% discount rates. 2019 data.**

Region	Project Type	3% Discount Rate		7% Discount Rate	
		2019 ¢/kWh (low estimate)	2019 ¢/kWh (high estimate)	2019 ¢/kWh (low estimate)	2019 ¢/kWh (high estimate)
Midwest <b>Majority of KY</b>	Uniform EE	2.70	6.10	2.41	5.43
	EE at Peak	2.64	5.97	2.36	5.32
	Utility Solar	2.65	5.98	2.36	5.33
	Distributed Solar	2.65	5.99	2.37	5.34
	Onshore Wind	2.73	6.16	2.44	5.50
Mid-Atlantic <b>Mostly Eastern KY</b>	Uniform EE	3.10	7.00	2.78	6.26
	EE at Peak	3.17	7.15	2.83	6.37
	Utility Solar	3.10	7.00	2.77	6.25
	Distributed Solar	3.09	6.98	2.76	6.22
	Onshore Wind	3.04	6.85	2.71	6.11
	Offshore Wind	3.05	6.88	2.72	6.14
Tennessee <b>Mainly TVA regulated Utility region</b>	Uniform EE	0.84	1.89	0.75	1.70
	EE at Peak	0.88	1.98	0.78	1.76
	Utility Solar	0.84	1.89	0.75	1.68
	Distributed Solar	0.82	1.85	0.73	1.65
	Onshore Wind	0.82	1.85	0.73	1.65

## Annual Monetized Public Health Benefits investing in 10-Megawatt Utility-Scale Solar Facility in Kentucky.

Below are the estimated health benefits of installing a 10-megawatt solar installation in Kentucky (providing an average of 1,000 homes) using the BPK values for three AVERT regions: **Midwest** covering most of KY, **Mid Atlantic** covering most of Eastern KY, and **Tennessee** covering the TVA regulated utility region.

The BPK values are multiplied by the amount of electricity a given project will generate using the NREL PVWATT's calculator: [REDACTED] Both regions generate approximately **13.3 million kWh** per year from a 10 MW PV solar facility. See page 6 for details.

Type of BPK Value	Majority of Kentucky The Midwest AVERT Region			Mostly Eastern Kentucky The Mid Atlantic AVERT Region			Mainly the TVA regulated utility region. The Tennessee AVERT Region		
	BPK value Cents/kWh	Generation from 10 MW SOLAR	Estimated Health Benefits	BPK value Cents/kWh	Generation from 10 MW SOLAR	Estimated Health Benefits	BPK value Cents/kWh	Generation from 10 MW SOLAR	Estimated Health Benefits
The low estimate, 3% discount	2.65	13.3 million kWh	\$352,450	3.10	13.3 million kWh	\$412,300	0.84	13.3 million kWh	\$111,720
The high estimate, 3% discount	5.98		\$795,340	7.00		\$931,000	1.89		\$251,370
The low estimate, 7% discount	2.36		\$313,880	2.77		\$368,840	0.75		\$99,750
The high estimate, 7% discount	5.33		\$708,890	6.25		\$831,250	1.68		\$223,440

For the significant part of Kentucky, the Commonwealth will save health costs equivalent to \$350,000-\$800,000 annually, generating electricity from every 10 MW Utility-Scale Solar facility.

In Eastern Kentucky, the Commonwealth will save health costs equivalent to \$400,000-900,000 annually, and in the Tennessee Valley Authority (TVA) regulated territory, the Commonwealth will save health costs equivalent to \$100,000-250,000 annually.

**Distributed Solar would provide a matching amount of saving to the Commonwealth.**

According to Lazard's annual Levelized Cost of Energy Analysis, October 2021 [REDACTED], the cost of installing Solar PV – thin-film Utility-scale is 2.8-3.7 cents/kWh. Ref. page 6.

According to Lazard, **the cost of installing 13.3 million kWh solar is, therefore, \$372,400 to \$492,100** and is, for most, more than covered by the estimated savings in health benefits.

*Note: The BPK values do not include other pollution reduction benefits of RE/EE, such as reduced greenhouse gas emissions and reduced impacts on ecosystems.*

*The 3% and 7% discounts rates are used in economic analysis to evaluate future benefits against current capital investment. In this case, capital investment in energy efficiency produces future benefits in energy bill savings and health expenses. A 3% discount rate is considered "low" and appropriate for public investments; a 7% discount rate is more reflective of the return that a private investor would seek. EPA used both to enable the reader to apply their preferred economic criteria (and avoid starting an argument about the discount rate).*

krisodaniel/energy projects/2022 EPA BPK values for KY

## Annual Monetized Public Health Benefits Investing in Energy Efficiency in Kentucky

According to the U.S. Energy Information Administration (EIA), Utility investments in EE programs in Kentucky in 2020 resulted in annual energy savings of only **107 million kWh** at a total incentive cost of \$3.1 million. That’s a decline from 2018 when the yearly energy savings were twice as much **at 212 million kWh at \$17.1 million in incentive costs**. In 2017, the energy savings were around **341 million kWh at \$31.5 million**.

The monetized annual energy saving is calculated by dividing the annual energy saving for Kentucky among the three AVERT regions on 70/15/15 portions, with the Midwest AVERT region being the biggest.

The BPK values for Uniform Energy efficiency are multiplied by each region's shared energy efficiency saving.

Type of BPK Value	Majority of Kentucky The Midwest AVERT Region			Mostly Eastern Kentucky The Mid Atlantic AVERT Region			Mainly the TVA-regulated utility region. The Tennessee AVERT Region		
	BPK value Cents/kWh	Energy Efficiency Savings	Estimated Health Benefits	BPK value Cents/kWh	Energy Efficiency Savings	Estimated Health Benefits	BPK value Cents/kWh	Energy Efficiency Savings	Estimated Health Benefits
The low estimate, 3% discount	2.70	75 million kWh	<b>\$2.0 Million</b>	3.10	16 million kWh	<b>\$0.5 Million</b>	0.84	16 million kWh	<b>\$0.13 Million</b>
The high estimate, 3% discount	6.10		<b>\$4.6 Million</b>	7.00		<b>\$1.1 Million</b>	1.89		<b>\$0.30 Million</b>
The low estimate, 7% discount	2.41		<b>\$1.8 Million</b>	2.78		<b>\$0.45 Million</b>	0.75		<b>\$0.12 Million</b>
The high estimate, 7% discount	5.43		<b>\$4.0 Million</b>	6.26		<b>\$1.0 Million</b>	1.70		<b>\$0.27 Million</b>

**The estimated health benefits generated by the EE program will, at the lowest point, cover at least 75% of the cost and otherwise more than paying back the incentive cost of \$3.1 million.**

In 2018 the incremental cost of EE programs in Kentucky was approximately \$17.1 million. The estimated health benefits generated by the EE program were lower in 2018 and then covered between 30-75% of incentive costs using both the low and the high BKP values.

**Note:** Investing in energy efficiency in Kentucky today, with the increasing health benefits, will, at a minimum, cover 75% of the cost of the programs. These investments should be encouraged. Kentucky’s EE programs are already much lower than most states’ programs. The Commonwealth would see substantial health benefits from investment in energy efficiency.

krisodaniel/energy projects/2022 EPA BPK values for KY

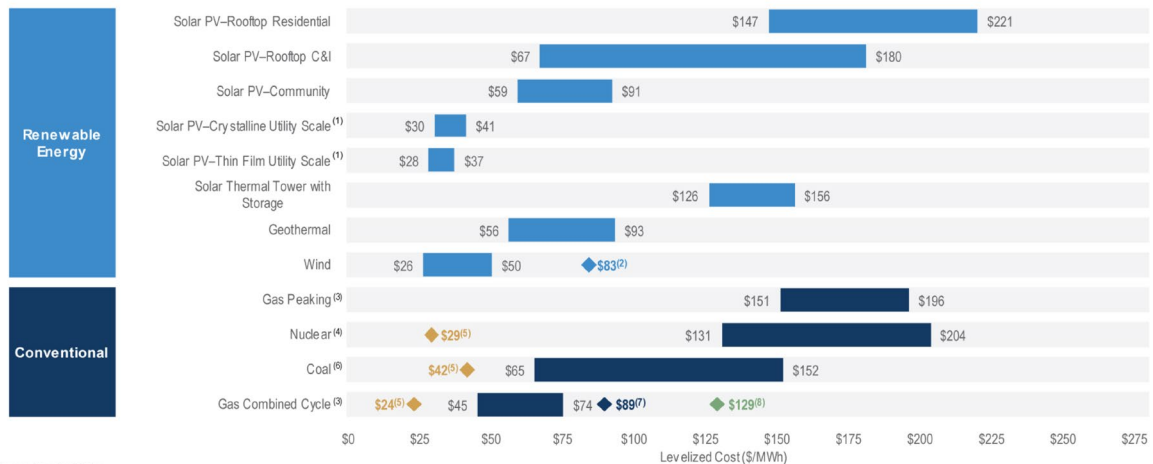
13,302,426 kWh/Year\*

System output may range from 12,580,104 to 13,863,788 kWh per year near this location.

Month	Solar Radiation ( kWh / m <sup>2</sup> / day )	AC Energy ( kWh )	Value ( \$ )
January	2.99	771,192	77,119
February	3.61	811,840	81,184
March	4.42	1,092,172	109,217
April	5.48	1,223,212	122,321
May	5.99	1,347,968	134,797
June	6.58	1,414,366	141,437
July	6.23	1,374,187	137,419
August	6.32	1,394,913	139,491
September	5.72	1,239,692	123,969
October	4.47	1,052,001	105,200
November	3.74	872,472	87,247
December	2.78	708,411	70,841
<b>Annual</b>	<b>4.86</b>	<b>13,302,426</b>	<b>\$ 1,330,242</b>

Levelized Cost of Energy Comparison—Unsubsidized Analysis

Selected renewable energy generation technologies are cost-competitive with conventional generation technologies under certain circumstances



Source: Lazard estimates.

Note: Here and throughout this presentation, unless otherwise indicated, the analysis assumes 60% debt at 8% interest rate and 40% equity at 12% cost. Please see page titled "Levelized Cost of Energy Comparison—Sensitivity to Cost of Capital" for cost of capital sensitivities. These results are not intended to represent any particular geography. Please see page titled "Solar PV versus Gas Peaking and Wind versus CCGT—Global Markets" for regional sensitivities to selected technologies.

- (1) Unless otherwise indicated herein, the low case represents a single-axis tracking system and the high case represents a fixed-tilt system.
- (2) Represents the estimated implied midpoint of the LCOE of offshore wind, assuming a capital cost range of approximately \$2,500 – \$3,600/kW.
- (3) The fuel cost assumption for Lazard's global, unsubsidized analysis for gas-fired generation resources is \$3.45/MMBTU.
- (4) Unless otherwise indicated, the analysis herein does not reflect decommissioning costs, ongoing maintenance-related capital expenditures or the potential economic impacts of federal loan guarantees or other subsidies.
- (5) Represents the midpoint of the marginal cost of operating fully depreciated gas combined cycle, coal and nuclear facilities, inclusive of decommissioning costs for nuclear facilities. Analysis assumes that the salvage value for a decommissioned gas combined cycle or coal asset is equivalent to its decommissioning and site restoration costs. Inputs are derived from a benchmark of operating gas combined cycle, coal and nuclear assets across the U.S. Capacity factors, fuel, variable and fixed operating expenses are based on upper- and lower-quartile estimates derived from Lazard's research. Please see page titled "Levelized Cost of Energy Comparison—Renewable Energy versus Marginal Cost of Selected Existing Conventional Generation" for additional details.
- (6) High end incorporates 30% carbon capture and storage. Does not include cost of transportation and storage.
- (7) Represents the LCOE of the observed high case gas combined cycle inputs using a 20% blend of "Blue" hydrogen, (i.e., hydrogen produced from a steam-methane reformer, using natural gas as a feedstock, and sequestering the resulting CO<sub>2</sub> in a nearby saline aquifer). No plant modifications are assumed beyond a 2% adjustment to the plant's heat rate. The corresponding fuel cost is \$5.20/MMBTU, assuming \$1.39/kg for Blue hydrogen.
- (8) Represents the LCOE of the observed high case gas combined cycle inputs using a 20% blend of "Green" hydrogen (i.e., hydrogen produced from an electrolyzer powered by a mix of wind and solar generation and stored in a nearby salt cavern). No plant modifications are assumed beyond a 2% adjustment to the plant's heat rate. The corresponding fuel cost is \$10.05/MMBTU, assuming \$4.15/kg for Green hydrogen.

Comments to 2021 JOINT INTEGRATED RESOURCE PLAN OF LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY UTILITIES COMPANY – CASE NUMBER 2021 - 00393

Dear Public Service Commission

[psc.comment@ky.gov](mailto:psc.comment@ky.gov) 2021-00393

Kentucky Utilities/LG & E is the largest investor-owned electric utility group in Kentucky. Electric retail sales were close to 50% of Kentucky's total electric retail sales in 2020, with a revenue of \$2,771 million, around 54% of all utility revenue in KY. The most significant revenue share is from sales to residential and, secondly, to commercial customers. (PSC annual report statistics-2020)

Unfortunately, for the people of Kentucky, KU/LG&E is also the largest emitter. According to EIA, KY's total Carbon Dioxide emissions in 2020 were 49,750 thousand metric tons CO<sub>2</sub> from an entire net generation of 63,539 GWh. KU/LG&E's total net sales of 30,990 GWh in 2020 represent roughly 24,000 thousand MT CO<sub>2</sub> emissions, or about half of total emissions in Kentucky.

In 2020 KU/LG&E reported Incremental Annual Energy Savings of 82,656 MWh, roughly half of the reported energy savings of 159.090 MWh in 2015. That's the wrong way!

For a company with this dominance in the market and with this degree of pollution, having a fully Integrated Resource Plan including Net-Zero goals is particularly important. It's a standard that all companies follow today; avoiding seems like an obstruction. How can such a company be trusted to secure a business future to the best of the interest of its' ratepayers?

Here are additional reasons why KU'LG&E must comply and must develop the needed IRP with goals to get to net-zero:

- EPA has quantified the health benefits of energy efficiency and renewable energy programs for individual states by avoiding emissions of fine particulate matter (PM2.5) and other precursor pollutants leading to tangible public health benefits. Although this is in the interest of the Commonwealth of KY, a leading utility like KU/LG&E should naturally work with such programs and not against them. They should be able to see the clear benefits to their ratepayers and even improve the company revenue at the same time.
- Based on EPA's second edition (2021) data, Benefits-Per-Kilowatt hour from Energy Efficiency, the annual dollar value from public health savings would, at a minimum, cover 75% of the incentive cost in 2020 for a significant part of KY. Kindly see the attachment.
- Similarly, for renewable energy, the annual dollar value from public health savings for Solar PV is \$350,000-800,000 for every 10 MW Solar-array. It would more than cover the installation cost for most of KY.
- Utility-scale solar would aid KU/LGE to reach RE/EE goals that MUST be set for the sake of the Commonwealth. In addition, it will help KY attract new businesses and companies.
- Distributed solar would provide matching savings and advantages for the Commonwealth.
- ESG values (environmental, social, and governance goals) are necessary and an asset for any viable company today and are needed to secure capital for suitable investments.
- The city of Louisville has stated its goals to go 100% renewable in 2030. Why is a leading company like KU/LG&E not actively engaged in this pursuit?

Thank you and with best regards from

Kris O'Daniel

Kris O'Daniel – Zelma Farm – 647 Beechland Road – Springfield – KY 40069 – [REDACTED]

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