

**Evaluation of  
The Louisville Greenhouse Gas Emissions Reduction Plan, April 2020**

**In Relation to  
The Louisville Metro Council Resolution for 100% Renewable Energy, February  
2020**

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The outstanding difference between the Louisville Greenhouse Gas Emissions Reduction Plan (ERP) recently issued by the Louisville Office of Sustainability and Resolution for 100% Renewable Energy passed by the Metro Council (100% Resolution) is that the ERP has no plan for *producing* utility-scale renewable energy. Phase 1 of the 100% Resolution calls for renewable electricity for 100% of the electrical needs of the Louisville city government by 2030; to accomplish this goal Louisville must *generate* renewable energy as well as reduce and eventually eliminate fossil energy.

Both the Louisville Greenhouse Gas Emissions Reduction Plan (ERP) of April 2020 and the Louisville Metro Council Resolution for 100% Renewable Energy (100% Resolution) of February 2020 are based on the 2018 report of the United Nations Intergovernmental Panel on Climate Change (IPCC). I begin here with the UN study, as it is of enormous importance in understanding what is happening in Louisville and in the rest of the world.

The IPCC report was written by 91 scientists from 40 countries around the world based on over 6000 scientific studies of the Earth's climate. There is no better, more thorough, more balanced, more comprehensive and rigorous compilation of climate science anywhere in the world. If one study is to be read on climate change – even a synopsis of one study – it would be the 2018 IPCC report. Its overall conclusion is that human beings must cut global carbon emissions (greenhouse gases, or GHG) **in half** by 2030, and **entirely** by 2050: no coal, no petroleum, and no natural gas. Sustainable life on Earth, human and otherwise, depends not on **reducing** GHG, but on **eliminating** it entirely. This is not an extreme position; this is what the best of science is telling us now.

The Louisville Greenhouse Gas Emissions Reduction Plan (ERP) is based on Louisville's earlier "80 by 50" plan: reduce 80% of current carbon emissions by 2050. While moving in the same general direction as the 100% Resolution, 80 by 50 does not eliminate GHG emissions; it reduces them in comparison to 2016 levels. 80% sounds like "most of" the 100% Resolution, but the "80%" *does not refer to renewable energy*; it refers to current coal-fired emissions. The more emissions now, the more allowed thirty years from now. The April 2020 ERP does not, therefore, comply with the global goal of 100% reduction by 2050. It *allows LG&E to burn coal for another 20 years or more*, gradually converting to natural gas as part of a long-term infrastructure replacement program. After 2050, LG&E may continue to burn natural gas, *which is also a fossil fuel and GHG emitter*. The 80 by 50 plan may impose some limited constraints on LG&E operations but does not reflect the goal of avoiding global climate catastrophe in the coming decades. A long-term business model for LG&E is a consideration in the coming transition to renewable energy, but it should not be the starting point. The health and viability of human life come first. The people of Louisville now depend on LG&E for gas

and electricity and should be grateful for many years of dependable energy service, but the world has changed. Louisville should continue its relationship with LG&E only if that relationship proves healthy for the city and for the world.

The Louisville Metro Council Resolution for 100% Renewable Energy of February 2020 is also based on the IPCC report. The primary difference is perspective: where ERP calls for the reduction of old liabilities, 100% renewable calls for the creation of new assets. ERP vastly reduces Louisville's negative impact on the climate, but it does not include a positive plan for *utility-scale generation* of renewable energy. It includes plans for massive conservation of energy resources, and a long-term, multi-decade shift from a very bad carbon fuel (coal) to a less bad carbon fuel (natural gas). With the exception of encouraging rooftop solar on individual houses, businesses, and public buildings, there is no discussion of how to replace fossil energy with renewable energy *on the municipal level*. The 100% Resolution allows limited fossil fuel (natural gas) electrical generation during the twenty-year transition period but calls for eventual elimination of *all* fossil fuel in accordance with the IPCC report.

There are many aspects of the ERP that accord with the principles of the 100% Resolution, including conservation, promoting public transportation, walking and biking, focusing on low-income neighborhoods, city buildings, street lighting, public health, etc., aspects that will not be listed in the following excerpts. The 100% Renewable Energy Alliance of Louisville agrees with the Louisville Office of Advanced Planning and Sustainability on the vast bulk of the ERP and also with the draft *Prepare Louisville* released on the same day, and appreciates the work that office is doing for Louisville and for the Earth as a whole.

The following are selected direct quotes (*in italics*) from the ERP (Emissions Reduction Plan), with my comments [in brackets] as to how they relate to the 100% Resolution:

[Mayor Fischer's opening statement acknowledges and accepts the IPCC goal of 100% renewable energy for Louisville]:

*To limit temperature rise in accordance with the Paris Agreement, GHG emissions must be halved by 2030 and reach net zero emissions by 2050 (IPCC, 2018). Louisville Metro supports this goal and will work with both internal and external partners to do all we can to reach these targets.*

**Executive Summary** [of the Emission Reduction Plan (ERP) refers back to Louisville's earlier "80 by 50" plan]:

*Louisville Metro joined cities across the globe in setting a target to reduce its communitywide GHG emissions by 80% by 2050. This target was chosen in December 2018 because it aligned with the Paris Agreement and the scientific consensus of what was required to avoid the most damaging effects of climate change at that time.*

## **Louisville Metro GHG Reduction Target:**

*Louisville generates 16,000,537 tons of carbon dioxide equivalent (tCO<sub>2</sub>e) per year. Without making any changes, we can expect to see emissions rise to 18,766,066 by the year 2050. If Louisville is successful in reducing emissions by 80% by 2050, remaining GHG emissions will be 3,383,063 tCO<sub>2</sub>e (Table E1)...*

*While 2035 is roughly halfway to 2050, the 2035 target is considerably less than a 40% reduction. This difference is mainly due to the expectation that significant changes in how Louisville Gas and Electric (LG&E) produces electricity **will not occur until after 2040** [my emphasis]. Reducing the carbon intensity factor of energy generation is the most impactful strategy and will result in large emissions reductions in the residential, commercial, and manufacturing sectors. If LG&E were to retire their coal fired power plants earlier or make a significant switch to more renewable energy sources, we could see a larger reduction at an earlier date...*

*Concurrent with the development of this ERP, Louisville Metro Council passed a resolution to support (1) a 100% clean renewable electricity goal for Metro Government operations by 2030, a 100% clean energy goal for Metro Government operations by 2035, and a 100% clean energy goal community-wide by 2040; and (2) the revision of all building codes for new construction to require energy efficiency, conservation, and renewable energy applications toward an eventual goal of net zero or net positive energy, water, and waste for Louisville Metro. Adoption of this resolution (Appendix E) is expected to provide additional support for implementing strategies and actions across all sectors in this ERP. If successful, the resolution has the potential to propel Louisville beyond the 80% by 2050 reduction target.*

*Louisville Metro will lead by example through installation of solar panels on public buildings.*

*Expedite permitting processes for solar installations*

*Require the consideration of renewable and alternative energy in the planning and design of new buildings to enable low-cost future installation*

*Advocate for a feed-in tariff or net metering program, which would promote energy security while supporting the business case for adoption of renewable energy locally*

*Implement clear zoning regulations that permit solar energy installations on residential rooftops*

*Ensure codes and ordinances in Louisville Metro allow homeowners to generate electricity from sunlight that shines on their property, including in historic districts*

*Require new homes to install solar power or be designed to be 'solar-ready'*

*Adopt stronger state financial incentives for solar energy, ambitious renewable electricity standards, and comprehensive solar rights policies*

*Adopt an increasing-over-time Renewable Energy Portfolio Standard to drive increasing investments in renewable energy for all sectors*

*Expand and improve the net metering policy by increasing the net metering limit to at least 1000 kW and lifting the cap to at least 8% of peak demand*

*Expand Energy Project Assessment District15 (EPAD) program to include single-family residential properties*

*Support efforts to build infrastructure to capture and clean biogas from WWTP and landfills*

**Buildings** (residential, commercial, institutional, manufacturing industries, construction, transportation):

*Solar PV Systems on 50% of homes.*

[This is a wonderful idea, and a favorite of mine, as a retired professional solar installer. But my experience has led me to believe that only about 25% of homes are currently suitable for effective solar installations. Existing architecture and landscaping are not designed for rooftop solar. **This is the primary reason for my emphasis on utility-scale solar for Louisville.**]

*The difference in the potential reductions relative to residential buildings is largely due to the significant amount of commercial rooftop area available to place solar arrays.*

*Updating the building code may require the Mayor and Metro Council to advocate for legislation that adopts the most recent International Building Code or that allows local governments to make their own improvements.*

*Conduct re-commissioning of existing Louisville Metro-owned buildings and facilities*

*Require the consideration of renewable and alternative energy considerations in the planning and design of new buildings and for retrofits of existing buildings to enable low-cost future installation - 'solar-ready' construction*

## **Energy Industry:**

*Currently, electricity that is provided to Louisville by LG&E is primarily generated from fossil fuel sources. This strategy considers the opportunity for emissions reduction from conversion of power generation sources to low-carbon options (e.g., natural gas, renewable energy).*

[Natural gas is a fossil fuel. It is “low carbon” only in comparison to coal. Renewable energy is not “low carbon” – it is **no carbon**. The difference between natural gas and renewable energy is essential for understanding Louisville’s energy future. These two should not be in the same category.]

*As power generation and distribution is outside of the direct influence of Louisville Metro, actions are limited to policy and supportive actions that would assist LG&E in transitioning toward more renewable and low-carbon sources of energy.*

[This is key to understanding the dilemma of the city of Louisville in relation to its utility provider. The statement implies that all that can be done by Metro Council, the Mayor’s

Office, and the citizens of Louisville is limited to “assisting” LG&E in deciding how and when to stop emitting GHG. The very next sentence completes the dilemma]:

*Changing our source of energy for electricity will have the single largest impact on our community GHG emissions.*

*Leverage negotiating power (through Louisville Metro’s size as a customer) to lobby for increased investment in renewable energy as part of Louisville Metro’s contract agreements with LG&E*

*Lobby state legislators and advocate for legislation to allow feed-in-tariff programs and create a positive environment for investment in renewable energy.*

[As far as I am aware, existing monopoly franchise agreements between the city and the utility are limited to distribution and sales of electricity, including transmission right-of-ways, within the designated territory; the exclusive right of the utility to choose the method of **generation** is not included.]

**Appendix E - 2020 Louisville Metro Clean Energy Resolution A RESOLUTION FOR 100% CLEAN RENEWABLE ELECTRICITY FOR METRO GOVERNMENT OPERATIONS BY 2030, 100% CLEAN ENERGY FOR METRO GOVERNMENT OPERATIONS BY 2035 AND 100% CLEAN ENERGY COMMUNITY-WIDE BY 2040.**

*Section 1, (3) the opening of free market pricing for electrical generation and guarantee of **total cost access** to the electrical grid in order to provide the public with cleaner and cheaper electricity.*

[Where the monopoly rights of the utility to *transmit and sell* electrical power within Louisville should remain, the right to *generate* wholesale electricity should be accessible to entrepreneurs on a market basis. Wholesale prices for each type of generation should be set by the Kentucky Public Service Commission and based on the **total cost** of generation, including medical, environmental, infrastructure, and other external costs.]

*SECTION II: Metro Council urges (1) Metro Government’s forthcoming Climate Action Plan to support this goal; (2) public participation be prioritized in the planning, decision- making, and implementation process*

[The question of how to generate renewable energy on a utility-scale opens the question of the relation between Louisville and LG&E. If the stockholders of LG&E are willing to abandon functioning fossil fuel assets and build large solar arrays in their place, Louisville could meet its 2030 and 2040 renewable energy goals and be in complete compliance with new global realities as outlined by the IPCC report. This is a lot to ask of an investor-owned utility company. If LG&E does not take this step, it is likely to become Louisville’s transmitter, distributor, and retail seller of electrical power, leaving generation of electricity to other parties.]