

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION
DOCKET NO. E-100, SUB 165

In the Matter of:) **CITY OF CHARLOTTE INITIAL**
2020 Biennial Integrated Resource Plan) **COMMENTS ON INTEGRATED**
) **RESOURCE PLAN**

**CITY OF CHARLOTTE INITIAL COMMENTS ON
DUKE ENERGY CAROLINAS, LLC AND DUKE ENERGY PROGRESS, LLC'S
INTEGRATED RESOURCE PLAN**

Pursuant to North Carolina Utilities Commission (“NCUC”) Rule R8-60(k), and the NCUC’s January 8, 2021 *Order Granting Extension of Time* the City of Charlotte, through the undersigned attorney, respectfully submits the following comments on the Duke Energy Progress and Duke Energy Carolinas (collectively “Duke Energy”) 2020 Biennial Integrated Resource Plan (“IRP”) filed on September 1, 2020.

I. INTRODUCTION

The City of Charlotte (“City”) is one of Duke Energy’s largest customers and also represents a broader customer class of nearly 900,000 residents. Charlotte’s City leadership, residents, and elected representatives recognize the growing urgency of addressing climate change and environmental inequities. In June 2018, the Sustainable and Resilient Charlotte by 2050 Resolution¹ was unanimously passed by City Council. This resolution set ambitious municipal and community-wide greenhouse gas (“GHG”) emissions reduction goals. Specifically, it states that the City will:

- Strive for all City fleet and facilities to be fueled by 100% zero-carbon sources by 2030, and

¹ Resolution, available at:

<https://charlottenc.gov/CityCouncil/Committees/Archive%20Environment%20Committee%20documents/Sustainable%20and%20Resilient%20Resolution.pdf>

- Strive to transform Charlotte as a whole into a low carbon city by 2050 by reducing GHG emissions to below two tons of CO₂ equivalent per person annually.

A constructive and fruitful partnership with Duke Energy, coupled with the experienced guidance of this Commission, will be critical to achieving the City's goals.

To achieve these targets, the City worked with Duke Energy and other key partners to develop the Strategic Energy Action Plan² ("SEAP"), which holistically addresses equitable carbon reduction in both City buildings and fleet as well as citywide GHG emissions. The City and Duke Energy recognize the critical importance of a successful partnership and have fostered that in order to reach the SEAP goals. Charlotte's ability to achieve SEAP goals relies in part on the carbon intensity of Duke Energy's grid mix, and under the existing regulatory structure, Duke Energy and the NCUC have significant influence over this. Utility resource planning needs to not only keep pace with the changes that are happening but set the pace for enabling more changes as the energy system becomes more decentralized.

Duke Energy has been one of the City's key community partners in implementing SEAP actions. Some achievements of note include: (1) signing a Memorandum of Understanding³ ("MOU") between the City and Duke Energy Carolinas to establish a Low Carbon, Smart City, (2) utilization of Duke Energy's Green Source Advantage Program⁴ ("GSA") for large customers to procure utility scale renewable energy, (3) Duke Energy participation in SEAP External Content Groups to catalyze partnership, collaboration, and action towards carbon reduction goals, (4) collaboration with Duke Energy and other North Carolina municipalities to expand renewable energy options, and (5) Duke Energy involvement in the City's Renewable Energy and Efficiency Workforce⁵ ("RENEW") training program.

The City is making progress towards its carbon reduction goals, but the ability to achieve these goals relies, in part, on reducing the carbon intensity of Duke Energy's grid mix. The decisions made in this 2020 Biennial IRP process will critically impact the City's ability to meet its renewable energy and GHG reduction goals.

In addition to influencing the City's energy supply, Duke Energy's 2020 IRP can also play an essential role in addressing energy burden. Energy burden is the percentage of annual income that a household or individual pays toward their energy bills (electricity and gas.) While all households experience a unique energy burden, a household is typically considered "in high burden" if their energy bills exceed 6% and in "severe energy burden" if their energy bills exceed 10% of their annual income. Energy burdens can be attributed to a number of causes such as poor insulation, outdated appliances and/or excessive energy use.⁶

Energy burden is not evenly shared across society and is quickly becoming known for its importance in energy-equity considerations. Low-income communities face energy

² SEAP, available at: charlottenc.gov/seap

³ <https://charlottenc.gov/sustainability/seap/SEAP/Duke%20MOU.PDF>

⁴ https://charlottenc.gov/sustainability/seap/Pages/Green_Source_Advantage.aspx

⁵ <https://charlottenc.gov/newsroom/cityhighlights/Pages/RENEW-Training-Program.aspx>

⁶ Brown, MA, A Soni, MV Lapsa, KA Southworth, M Cox. 2020. "High energy burden and low-income energy affordability: conclusions from a literature review," *Progress in Energy*, Vol 2, Issue 4. <https://doi.org/10.1088/2516-1083/abb954>

burdens that far exceed national averages. Coupled with the fact that energy bills are the most common reason that people turn to short-term loan products, energy burdens are increasingly contributing to chronic poverty in the United States.⁷ Equity is one of the pillars of the City's SEAP.

The City is working to address both variables of energy burden: income and energy spend. The City's RENEW program provides training to residents with barriers to employment for careers in the energy and sustainability sector earning family sustaining wages. The City has also partnered with Duke Energy in the past to maximize the utilization of programs that can improve energy efficiency in low income households (e.g. Duke Energy's Neighborhood Energy Saver program in the North End Smart District) in order to reduce their energy spend. In addition to these successful efforts, more can be done to address energy burden.

While the City's energy costs per kilowatt hour (kWh) are approximately 16%⁸ lower than the national average, household energy burden remains an issue for many Charlotte families. Energy rate structures as well as shortcomings in energy efficiency are *part* of what drives these patterns of energy burden. As such, many of the City's IRP comments are motivated by a strong desire to alleviate this burden on residents in a sustained way without exacerbating other health and environmental inequities.

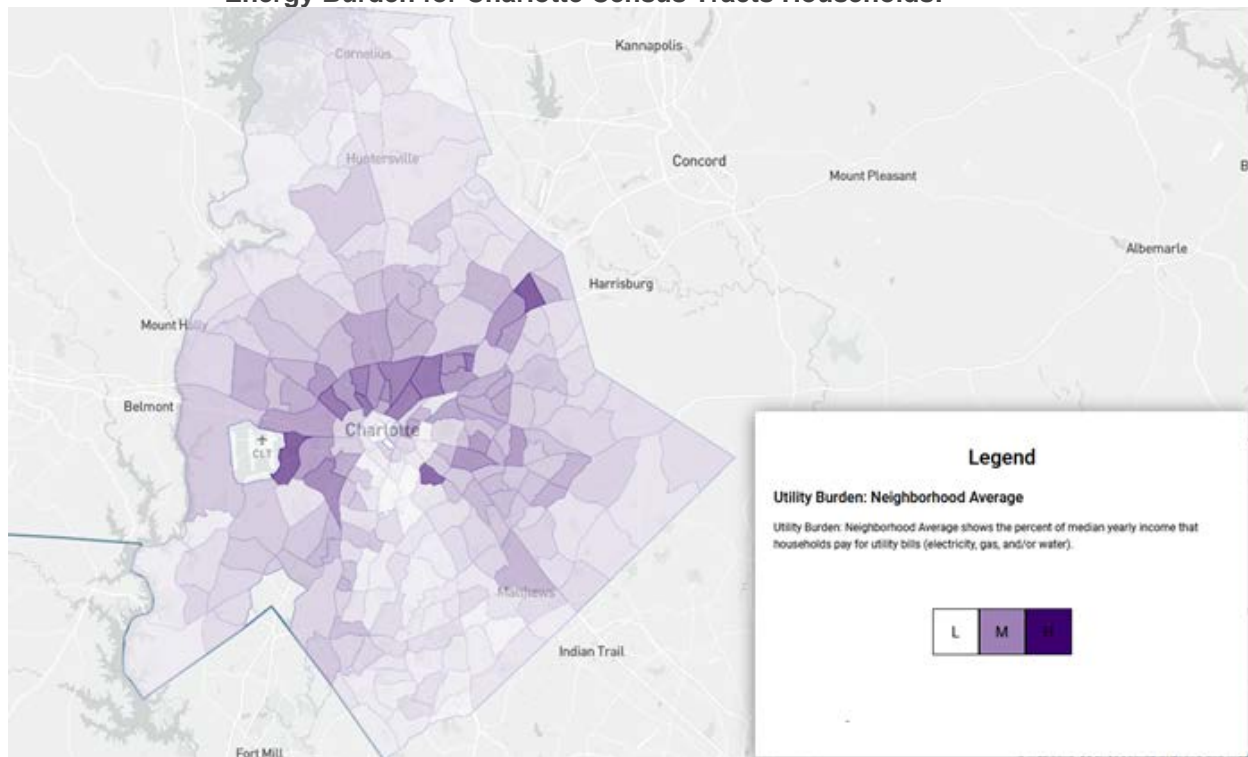
The average energy burden for Charlotte is 4.2%, and Charlotte ranks 14th nationally among major cities for highest percentage of energy burdened households. In 2018, Charlotte had over 120,000 households (31% of households) with a high energy burden at or greater than 6%.

The map below plots the Charlotte households by census tract that have high levels of energy burden, spending 6% or more of their income on paying for energy bills. The darker shade of purple represents census tracts with highest energy burden (closer to 13%) and the lighter colors represent neighborhoods with lowest energy burden (3% or less).

⁷ Levy, R. and J. Sledge. 2012. A Complex Portrait: An Examination of Small-Dollar Credit Consumers. Chicago. Center for Financial Services Innovation.

⁸ <https://www.eia.gov/electricity/data/eia861/>

Energy Burden for Charlotte Census Tracts Households:



Source: Greenlink Equity Map⁹

Charlotte is also one of 17 cities across the nation where more than 25% of low-income households experience severe energy burden above 14%.¹⁰ COVID-19 has increased the number of low-income Charlotteans experiencing energy burden and exacerbated the energy burden for many residents already struggling to pay their energy bills.

Additional maps have been included in the Appendix to highlight equity elements of the City's other IRP comments. These maps show a chronic pattern that specific regions of the City in the west, north, and east are disproportionately burdened with energy costs, and those most burdened are low income residents and people of color.

The City, Duke Energy, and North Carolina Utility Commission (NCUC) all have a collective responsibility to carefully examine how the decisions made in this venue will benefit and burden communities, particularly low income communities of color, that are already severely burdened. Given the City's carbon reduction priorities and its call to action through the SEAP as well as the specific interest in creating an energy system that alleviates energy burdens and ensures the social and economic benefits of a low carbon energy sector are received by all, the City has reviewed Duke Energy's IRP and submits the following comments.

⁹ www.equitymap.org

¹⁰ Drehabl, A., & Ross L. (2016). Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low-Income and Underserved Communities. American Council for an Energy-Efficient Economy.

II. COMMENTS

1. Maximize Use of Energy Efficiency in IRP Planning and Expand Access to Efficiency Programs for Low Income Customers

The City's SEAP identifies a number of goals related to equitably decarbonizing municipal and non-municipal buildings. Consistent with those SEAP goals as well as overarching GHG reduction targets, the City requests the NCUC:

- 1. Encourage Duke Energy to maximize the utilization of energy efficiency in this IRP and subsequent resource planning activities.**
- 2. Consider having Duke Energy update the currently proposed IRP scenarios by using a utility cost test (UCT) and using customer adoption models that include the full range of potential customer adoption methods.**

Importance to Charlotte

The City is glad to see energy efficiency included in each of the IRP scenarios. Energy efficiency is one of the most direct ways to help address energy burden challenges many Charlotte residents face. It also helps reduce the cost of operating the City's municipal buildings and supports the health and economic vitality of Charlotte communities.

It appears that in its IRP, Duke Energy used the total resource cost ("TRC") test in its market potential study ("MPS") to estimate the size of the energy efficiency resource available in their service territory. The City would like to see how those estimates change by using the utility cost test ("UCT") method instead. The UCT was recently approved by the NCUC for calculating the cost-effectiveness of new and prospective programs, and the UCT method would more accurately assess the size of the energy efficiency resource available in Duke's service territory. The City also encourages the NCUC to consider requesting Duke Energy to utilize enhanced customer adoption models, particularly through the lens of multi-family rental energy efficiency programs, that better capture the true potential of customer program demand and utilization. These changes would enable Duke Energy to prioritize energy efficiency as a least cost resource¹¹ for the system that delivers health, comfort, and affordability benefits to Charlotte communities.

Equity Connection

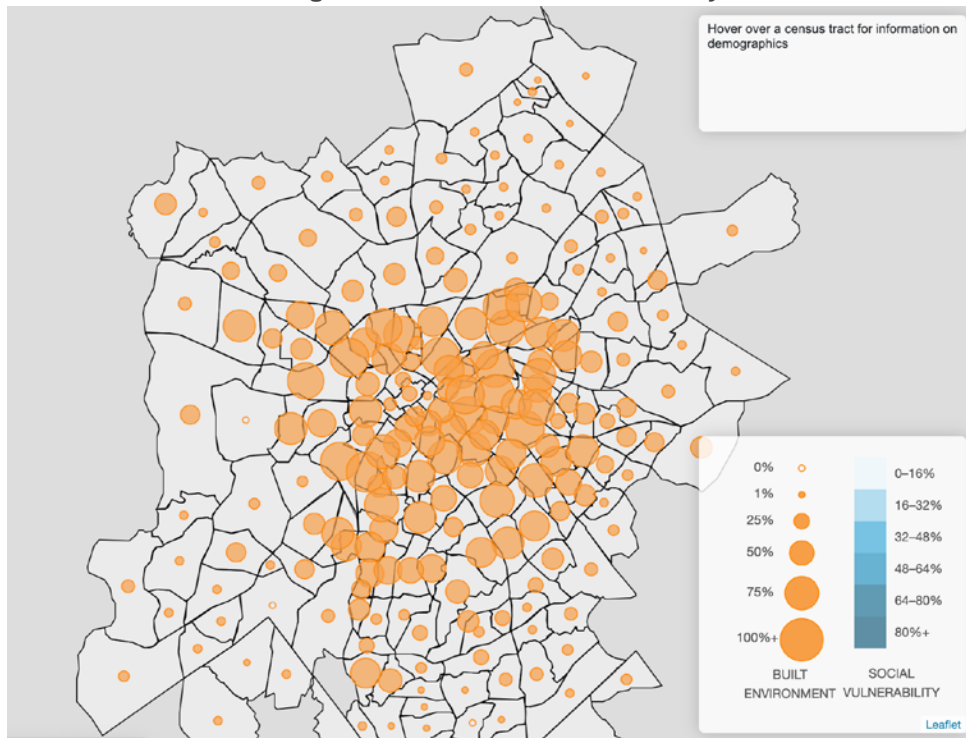
Combating energy burden with energy efficiency can be achieved by improving the ways low income households can take advantage of energy efficiency programs and rebates. Currently, incentives for energy efficiency and home retrofitting are most-frequently delivered to homeowners in single family dwellings, making it more difficult for low-income renters to benefit from efficiency programs and shrink high energy costs.

Further, older buildings with poor energy performance may be less resilient to extreme weather such as higher temperatures, which will only be exacerbated by climate change. Low-income individuals tend to live in these older dwellings which accentuates this

¹¹ <https://nicholasinstitute.duke.edu/sites/default/files/publications/North-Carolina-Energy-Efficiency-Roadmap-Final.pdf>

equity issue. The map below shows census tracts in Charlotte with a high proportion of buildings built before 1979. The larger circles indicate more buildings, and largely align with the areas already experiencing other inequities detailed earlier in this submittal.

Number of Buildings built before 1979 Charlotte by Census Tract:



Source: University of Notre Dame

Not only can equity be maximized in the current 2020 IRP, but going forward, solutions like on-bill financing and other mechanisms can help low-income customers overcome first cost premiums associated with energy efficiency solutions and remove barriers to participation by low-income residents. There are over 100 electric utilities in the United States (~30 of which are investor owned utilities, and several are located in the South) already offering on-bill financing options for their customers.¹² The Environmental and Energy Study Institute provides detailed information on how to design and launch an on-bill financing program.¹³

2. Accelerate Carbon Reduction in Duke Energy’s Grid Mix

The City’s SEAP identifies several goals related to developing and implementing a strategy for deploying low carbon infrastructure generation, one of which aims to reduce the carbon intensity of grid-supplied electricity by >90% by 2045. Consistent with those SEAP goals as well as overarching GHG reduction targets, the City requests the NCUC:

1. ***Encourage Duke Energy to meet or exceed the coal retirement dates outlined in the ‘Earliest Practicable’ scenario.***

¹² <https://www.eesi.org/obf/map>

¹³ <https://www.eesi.org/obf/main>

2. **Consider (i) having Duke Energy revisit the ‘Scenario F: No New Gas Generation’ calculations to incorporate clean energy portfolios, and (ii) request a subsequent all-source procurement strategy following the approval of the IRP.**

Importance to Charlotte

The City commends Duke Energy’s plans for retiring some coal units by 2025 and is encouraged by Duke Energy’s “Earliest Practicable” 2020 IRP scenario that retires all coal units by 2030. In consideration of the economic, health, and climate impacts of coal plants explored below, the City strongly encourages Duke Energy to meet the coal retirement dates they have outlined in the “Earliest Practicable” scenario.

The City also values the environmental benefits associated with ‘Scenario F: No New Gas Generation,’ as so named by Duke Energy in its IRP. The City acknowledges gas combustion is less carbon intensive than coal combustion. The City also acknowledges that retiring coal plants necessitates replacement with other sources. However, in contrast to the IRP’s current assumptions which indicate the ‘No New Gas Generation’ scenario yields higher costs to ratepayers, the City’s understanding is that coal replacement with clean energy portfolios (a combination of renewables, efficiency, demand response, and storage) can provide the same services as gas plants at lower costs, and with better public health and environmental benefits. Energy Innovation has concluded that 97% of coal could be replaced cost-effectively with local solar and wind energy. Further, an independent analysis¹⁴ of the economics of clean energy portfolios found that they have declined in cost by 80 percent since 2010, cost less than 90 percent of proposed gas-fired generation, and are projected to undercut operating costs of existing gas plants within 10-20 years.

The City is interested in better understanding the assumptions and conclusions made in Duke Energy’s ‘Scenario F: No New Gas Generation,’ specifically the assumptions that (1) this resource portfolio is ‘completely dependent’ on the ‘development of diverse, new carbon-free resources’ and (2) the highest customer costs are ‘due to the magnitude of early adoption of emerging carbon-free technologies.’ It appears these findings are inconsistent with the experience of many utilities across the country, including in New Mexico,¹⁵ Indiana,¹⁶ Arizona,¹⁷ Michigan,¹⁸ Minnesota,¹⁹ and Oregon,²⁰ which are presently replacing carbon-intensive resources with clean energy portfolios and saving customers money.

The City would like the NCUC to consider (1) having Duke Energy revisit ‘Scenario F: No New Gas Generation’ calculations to incorporate clean energy portfolios, and (2) request a subsequent all-source procurement strategy following the approval of the IRP. This

¹⁴ <https://rmi.org/insight/clean-energy-portfolios-pipelines-and-plants/>

¹⁵ <https://www.abqjournal.com/1439120/prc-approves-san-juan-abandonment.html>

¹⁶ <https://www.nipsco.com/our-company/news-room/news-article/nipsco-announces-new-indiana-based-solar-projects-to-power-270-000-homes-by-2023>

¹⁷ <https://www.wri.org/blog/2019/07/natural-gas-beat-coal-us-will-renewables-and-storage-soon-beat-natural-gas>

¹⁸ <https://rmi.org/michigan-is-the-latest-state-to-embrace-the-value-of-clean-energy-portfolios/>

¹⁹ <https://www.eenews.net/energywire/2019/07/01/stories/1060677945>

²⁰ <https://portlandgeneral.com/about/integrated-resource-planning>

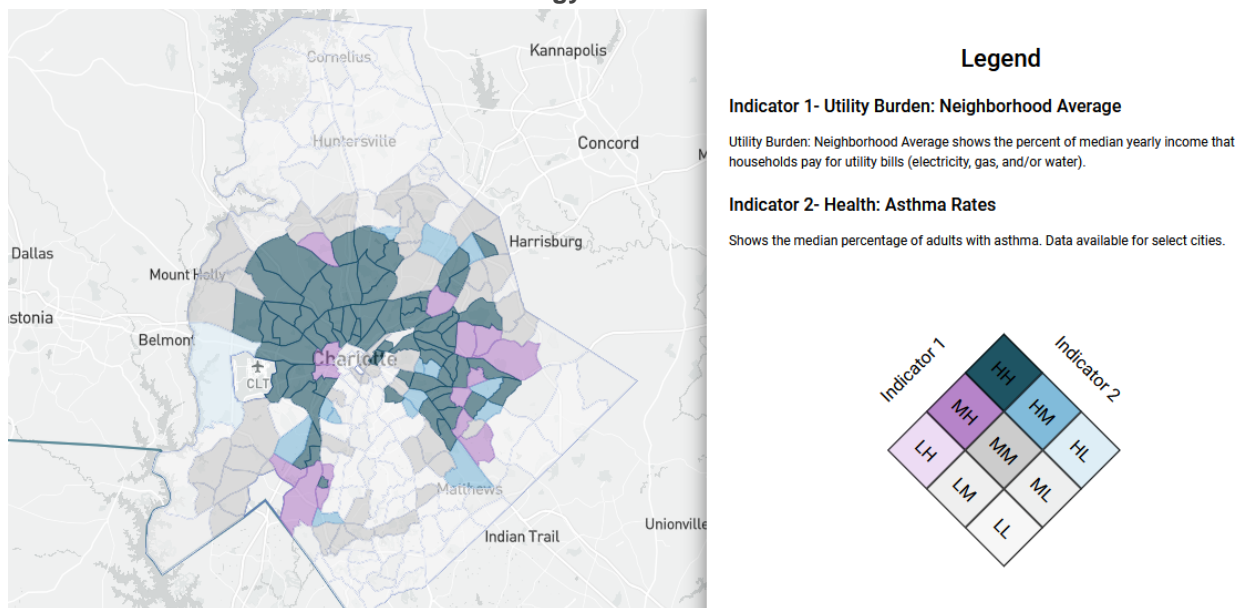
strategy may even enable acceleration of coal retirement earlier than outlined in the “Earliest Practicable” scenario.

Equity Connection

Charlotte commends Duke Energy’s exploration of the ‘earliest practicable coal retirements’ scenario and would like to see accelerated coal retirement because of the positive benefits to public health, long-term affordability, and the environment which benefits all.

- **Health Concerns** - The City strives to improve the health outcomes of all residents and ensure access to clean air and water. Along with contributing to climate change, pollution from coal plants is linked to lung conditions like asthma, heart conditions, and brain and nervous system conditions,^{21 22} all of which disproportionately affect low-income and black and brown communities. The average asthma rate for adults in Charlotte is 8.1%,²³ which is higher than the national average.²⁴ For those experiencing high energy burdens, average asthma rates increase by more than 40% (see Asthma Rates and Energy Burden map below). Moreover, children, whose lungs are still developing and who are more likely to be active outdoors, are at the greatest risk from air pollution. The longer coal plants remain online, the more they will negatively impact the health of Charlotte residents.

Asthma Rates and Energy Burden Across Charlotte:



Source: Greenlink Analytics (areas in dark blue are in the top third for both energy burden and asthma rates)

²¹ <https://www.ucsusa.org/resources/coal-and-air-pollution>
²² <https://www.sciencedirect.com/science/article/pii/S2300396017300551>
²³ <https://www.cdc.gov/places/about/500-cities-2016-2019/index.html>
²⁴ https://ftp.cdc.gov/pub/Health_Statistics/NCHS/NHIS/SHS/2018_SHS_Table_A-2.pdf

- Economic Concerns - There is a financial impact of keeping coal plants online once their operating expenses exceed the costs of renewable energy combined with storage. The City encourages life-cycle cost transparency as well as continuous movement toward a generation mix that saves customers money and reduces GHG emissions. The City also wants to ensure IRP decisions made now do not later yield stranded assets (*assets such as equipment or resources that lose their value at some time prior to their anticipated end of their economic life due to changes in technology, the market, legislative or regulatory changes, disruptive innovation or other societal changes*) whose costs could be passed on to ratepayers, especially to Charlotte residents already in high or severe energy burden. Energy Transition Institute's Carbon Stranding report presents the magnitude of this risk, finding that carbon assets that become stranded assets could cost NC ratepayers tens or hundreds of millions of dollars a year and as much as \$4.8 billion over the next several decades.²⁵
- Climate Concerns - Shifting away from fossil fuels is also essential to meeting the City's carbon emission targets. As previously noted, the City has set a target to power City fleet and buildings from zero carbon sources by 2030 and to transitioning all of Charlotte to a low carbon city by 2050. Reducing GHG emissions is also a critical action for the State, as described in the North Carolina Clean Energy Plan. In 2021, Duke Energy's coal fleets are projected to generate 16% of the region's electricity. Generating this amount of coal-fired electricity would equate to life cycle GHG emissions of 14.29 million metric tons of CO₂. Accelerating the retirement of coal generation will reduce Charlotte's contributions to climate change and align with the goals of the State.

Additional Detail and Supporting Information

The City encourages Duke Energy to explore, and the NCUC to request a competitive, all-source procurement process. All-source procurement is a type of request for proposals ("RFP") that is technology agnostic, allowing a full range of potential resources to compete on equal footing, and can create a fair process for renewable energy, energy efficiency, demand-side management, and storage to play a more critical role in addressing future energy and capacity needs. Energy Innovation's all-source procurement best practices²⁶ has served as a template for implementing all-source procurement in other markets.

The City also encourages the NCUC and Duke Energy to continue looking more closely into how 'earliest practicable' coal retirement dates are calculated under an all-source procurement strategy as well as other enabling tools as they become available.

3. Continue Expanding Use of or Access to Renewable Energy

The City's SEAP identifies a number of goals related to equitably decarbonizing municipal and non-municipal buildings as well as developing and implementing resilient innovation districts, all of which would be enabled by increased access to on-site,

²⁵ Carbon Stranding report, available at: <https://energytransitions.org/carbon-stranding>

²⁶ <https://energyinnovation.org/wp-content/uploads/2020/04/All-Source-Utility-Electricity-Generation-Procurement-Best-Practices.pdf>

community, and utility-scale zero carbon energy. Consistent with those SEAP goals as well as overarching GHG reduction targets, the City requests the NCUC:

- 1. Consider the publicly-stated GHG reduction goals of Charlotte and other municipal government Duke Energy customers in the evaluation of IRP scenarios.**
- 2. Encourage Duke Energy to utilize more renewable energy in their resource planning and to increase the utility-scale renewable energy procurement opportunities available to large customers.**

Importance to Charlotte

Renewable energy plays varying roles across the six IRP scenarios. The City applauds scenarios C-F where both solar and wind energy play a more substantial role. However, in order to meet municipal and citywide GHG reduction goals, additional zero carbon energy will be required (which the City recognizes can be achieved through the basegrid service mix or participation in additional customer programs or solutions). While the City is thrilled to participate in Duke Energy's GSA program, and its 35MW project significantly reduces the City's carbon footprint, additional renewable energy will be required to achieve municipal and citywide GHG reduction goals. Accordingly, we request the NCUC consider collective customer goals when reviewing the proposed scenarios and request Duke Energy utilize additional renewable energy resources or develop subsequent customer programs or solutions that allow local governments to reach stated goals. A recent proceeding in Georgia²⁷ yielded a similar outcome.

Equity Connection

While this IRP is not reviewing specific renewable energy programs, renewable energy programs do play a role in the context of increasing overall renewable energy procurements. In this regard, the City believes it is important to highlight that the development of locally based resources and programs, such as residential solar or community solar programs, are a high priority as they provide an opportunity to ensure there is equitable access and distribution of renewable energy benefits. For example, local programs can contribute to resilience, savings, and wealth-building by potentially lowering energy bills, especially for low-income customers who face a disproportionately heavy energy burden. Low-income populations are at risk of being left behind in the clean energy transition, especially when it comes to new technologies like rooftop solar. In fact, while nationwide low-to moderate-income households represent 40% of the population, they only account for less than 5% of solar installations. Developing solar resources in ways that can serve to offset the cost of energy for low-income customers should be incorporated whenever possible to improve energy equity and ensure that participation in the clean energy transition is not limited to the wealthiest Duke customers.

The City commends Duke Energy on their continued efforts to create utility-scale renewable energy programs designed specifically for municipal governments. The City also applauds Duke Energy's efforts to find ways to make community solar programs more attractive and accessible to ratepayers without incurring burdensome premiums. In

²⁷ <https://www.greentechmedia.com/articles/read/georgia-power-ups-plan-for-renewables-and-storage#gs.povh3w>

pursuit of equitable access to the economic and social benefit of renewable energy for all Charlotte residents, the City would like to express support for continuing to expand community solar offerings and on-site solar incentives to help reduce the energy burden of our most vulnerable populations. The City encourages the NCUC and Duke Energy to not only maximize efforts and create additional opportunities that can meet the growing customer demand for more clean energy within the confines of existing state law, but also work with the City and other Duke customers to shape new legislation that can equitably enable even more GHG reduction.

The City looks forward to collaborating with and supporting Duke Energy in the design and implementation of affordable, locally generated renewable energy programs for all customers.

4. Expand Beneficial Vehicle Electrification Efforts

The City's SEAP identifies several goals related to decarbonizing the City's fleet and to facilitating the rapid uptake of sustainable modes of transportation. Specific goals include (1) transitioning the City fleet to electric, and (2) deploying a citywide EV charging system. Consistent with those SEAP goals as well as overarching GHG reduction targets, the City requests the NCUC:

- 1. Encourage Duke Energy to incorporate recent automakers' EV rollouts and reforecast EV penetration and improve utility planning.**
- 2. Recommend that Duke Energy plan a robust suite of EV offerings and analyze how a more ambitious, proactive approach to increasing EV penetration in the state will impact future load growth.**

Importance to Charlotte

In the IRP, Duke Energy assumed an electric vehicle penetration rate of 7.3% by 2035. Since the IRP was released, General Motors announced that it would fully transition to EV production by 2035.²⁸ The City encourages Duke Energy to integrate these market signals and reforecast EV penetration and associated utility planning. The state of Virginia did something similar by evaluating multiple scenarios to best forecast their EV growth statewide.²⁹ The City is striving toward a complete transition of its vehicle fleet to EVs by 2030, as evidenced by recently installed EV charging stations, and by recently approved fleet and facility policies that require more EV purchases and electric vehicle supply equipment installs, respectively. The City is also in negotiations with eTransEnergy, a Duke Energy company, to transition city buses to electric buses.

Moving forward, the City believes that Duke Energy should continue to proactively promote EV adoption. Charlotte commends Duke Energy's efforts through the Electric Transportation Pilot Program, approved by the NCUC in December 2020. And while installing 310 chargers in North Carolina is a great start, the City would like to see more initiatives to meet increasing demands, as described in the SEAP and in Governor

²⁸

<https://media.gm.com/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2020/nov/1119-electric-portfolio.html>

²⁹ https://www.georgetownclimate.org/files/report/Final_VA-Transportation-Policy-Phase1_01222021.pdf

Cooper's Executive Order No.80, which calls for adding 80,000 zero-emission vehicles in North Carolina by 2025.

Austin,³⁰ TX has undertaken an EV charging station growth strategy that is outpacing EV charging station growth in the Charlotte metropolitan region and keeping up with surging market demand for EVs. While Austin is served by a municipal utility, Austin Energy, and the City recognizes this is a different utility structure, it represents how other utilities are accounting for and advancing the transition to electric vehicles that could be applicable to NC. Duke Energy could also offer incentives, similar to Austin Energy's rebates and tax credits,³¹ and could apply rate design to shift residential charging from peak periods to off-peak hours. This type of rate design would help customers avoid costly on-peak charges and save money.³² The City recommends that Duke Energy plan a robust suite of EV offerings and analyze how a more ambitious, proactive approach to increasing EV penetration in the state will impact future load growth.

Increased vehicle electrification can provide value to Duke Energy through new revenue streams for the utility to grow its profits as noted in the IRP. One consideration is to pair EVs, and other electrification efforts, with renewable or clean energy and/or clean energy portfolios. When done beneficially, with a priority on carbon reduction, transportation electrification can also support the City's decarbonization goals and improve public health.

III. CONCLUSION

The City of Charlotte has a responsibility to the health, economic well-being, and resiliency of its communities. The long-range plans proposed by Duke Energy will have a profound impact on the City's ability to meet these responsibilities as well as its own municipal decarbonization goals. Continuing to rely on fossil fuel-based electricity generation runs counter to Charlotte's SEAP goals, is economically uncertain, and leads to adverse health impacts, especially for low-income communities and for people of color. The City has been collaborating with other North Carolina local governments to review and discuss the IRP in order to discover more partnership opportunities to collaborate with Duke Energy on advancing shared equity, renewable energy, and GHG reduction goals.

In summary, the City of Charlotte makes the following requests of the NCUC and Duke Energy.

- The City encourages the NCUC to prioritize racial and economic equity in its deliberations on Duke Energy's IRP.
- The City encourages the NCUC to review Duke Energy's assumptions in the market potential study and request that Duke Energy submit updated scenarios that (1) use a utility cost test, (2) use customer adoption models unfettered by

³⁰ <https://www.austinmonitor.com/stories/2019/01/austin-energy-tries-to-encourage-austinites-to-buy-electric-cars/>

³¹ <https://ev.austinenergy.com/incentives/>

³² <https://austinenergy.com/wcm/connect/b216f45c-0dea-4184-9e3a-6f5178dd5112/ResourcePlanningStudies-EV-Whitepaper.pdf?MOD=AJPERES&CVID=mQosOPJ>

current customer acquisition methods, and (3) analyze energy efficiency potential at both the portfolio level and the program level.

- The City encourages Duke Energy to expand energy efficiency programs offered to help local governments and their constituents address bill affordability, health, and climate concerns.
- The City encourages Duke Energy to retire coal plants as soon as possible via the 'Earliest Practicable' IRP scenario or sooner.
- The City encourages Duke Energy to explore and the NCUC to request a competitive, all-source procurement process to meet future energy and capacity needs with clean energy portfolios. The City also recommends the NCUC adopt the all-source procurement best practices outlined by Energy Innovation.
- The City requests the NCUC to consider Charlotte's as well as other municipal governments' collective GHG reduction goals when reviewing the proposed IRP scenarios, and requests Duke Energy utilize additional renewable energy resources or develop additional customer programs or solutions that will enable local governments to reach renewable energy, equity, and GHG reduction goals.
- The City encourages Duke Energy to consider automakers' EV rollouts to better forecast EV penetration and improve utility planning.
- The City recommends that Duke Energy plan a robust suite of EV offerings and analyze how a more ambitious, proactive approach to increasing EV penetration in the state will impact future load growth.

In the spirit of the City's Low Carbon, Smart City MOU with Duke Energy, Charlotte is committed to, *"...seek to collaborate to make Charlotte a global leader in utilizing low carbon, local, renewable energies, while using data, technology, and collaboration to create a more sustainable and efficient city for all Charlotteans."* The City has a rich history of partnering with Duke Energy on energy programs that benefit Charlotte residents, businesses, and local government operations. The City looks forward to and is committed to continue successfully and collaboratively working with Duke Energy to enable solutions that will accelerate a more affordable, clean, equitable, resilient, and reliable energy system. Through the City's continued partnership with Duke Energy, including participation in this IRP process, we can demonstrate to Charlotteans, North Carolinians, and the nation what collaborative, clean energy leadership looks like.

Thank you for the opportunity to provide comments.

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Respectfully submitted, this the 25th day of February, 2021.

OFFICE OF THE CITY ATTORNEY

/s/ Karen Weatherly
Senior Assistant City Attorney
NC State Bar Number 16012
600 East Fourth Street
Charlotte, NC 28202
704-336-5878 Office
704-632-8346 Fax
kweatherly@ci.charlotte.nc.us

CERTIFICATE OF SERVICE

I hereby certify that all persons on the docket service list have been served a true and accurate copy of the foregoing City of Charlotte's Initial Comments on Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Integrated Resource Plan by hand delivery, first class mail deposited in the U.S. mail, postage pre-paid, or by email transmission with the party's consent.

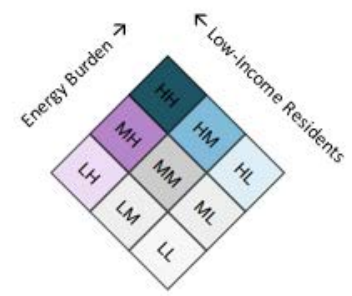
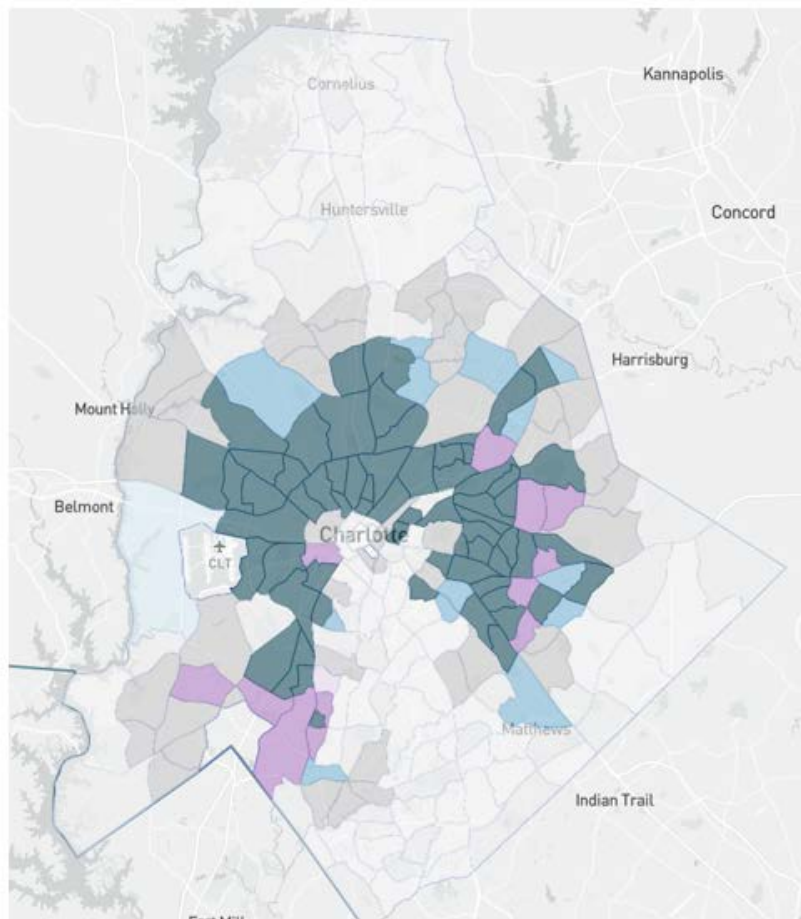
This the 25th day of February, 2021

OFFICE OF THE CITY ATTORNEY

/s/ Karen Weatherly
Senior Assistant City Attorney
NC State Bar Number 16012
600 East Fourth Street
Charlotte, NC 28202
704-336-5878 Office
704-632-8346 Fax
kweatherly@ci.charlotte.nc.us

Appendix

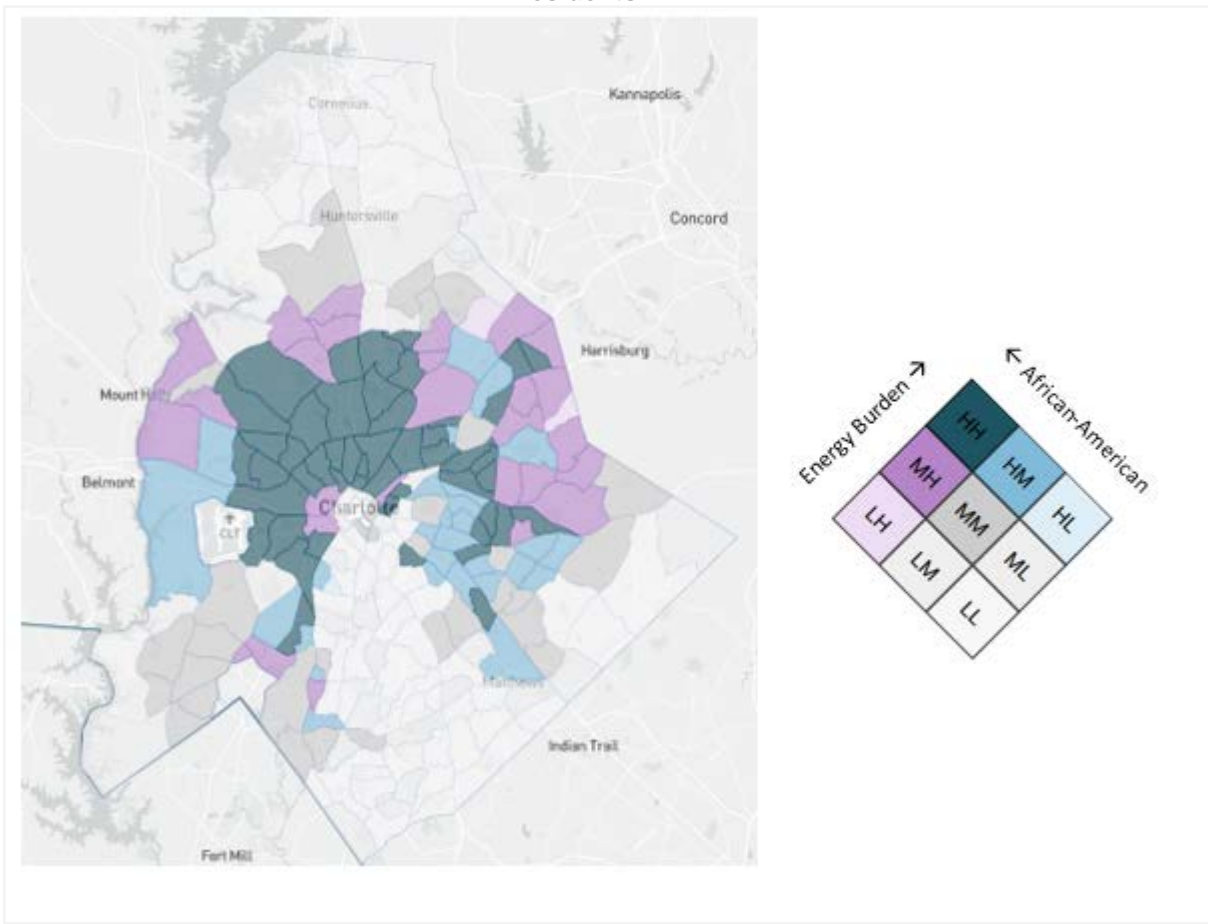
Charlotte Census Tracts that Have High Energy Burdens and Low-Income Populations:



Source: Greenlink Equity Map

Areas in dark gray show the census tracts that are in the top third for both energy burden and low-income individuals. There are numerous low-income neighborhoods in Charlotte that bear high energy burdens.

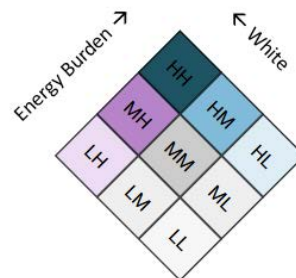
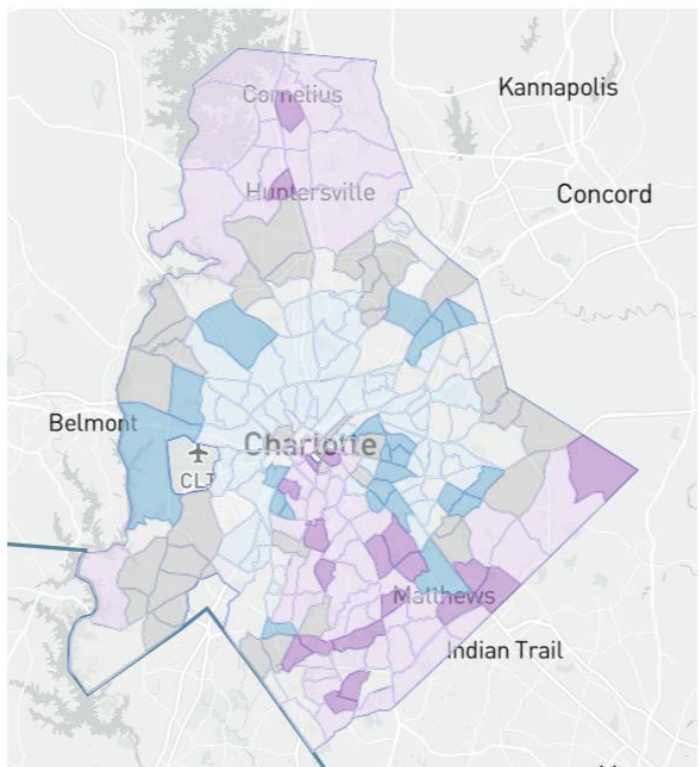
Charlotte Census Tracts that have High Energy Burdens and Dense African-American Residents:



Source: Greenlink Equity Map

Areas in dark gray show the census tracts that are in the top third for both energy burden and African-American Residents. There are numerous predominantly African-American neighborhoods in Charlotte that bear high energy burdens.

Charlotte Census Tracts that have Low to Moderate Energy Burdens and White Residents:



Source: Greenlink Equity Map

Contrast this to the previous map. Whereas there are many census tracts with high populations of African-American residents bearing a high energy burden, there are not a significant number of census tracts with predominantly white residents who have high energy burdens. This is an example of how people of color bear disproportionately high levels of energy burden.