

May 10, 2022
Public Service Commission of the District of Columbia
1325 G St. NW
Suite 800
Washington, D.C. 20005

RE: Written comments from RMI on Formal Case No. 1167

On behalf of RMI, we respectfully submit these comments regarding an electrification study filed in formal case No. 1167.

About RMI

RMI is an independent, non-partisan, non-profit organization whose mission is to transform the global energy system to secure a clean, prosperous, zero-carbon future for all. Our initiatives include researching the business models, policies, technologies, and financing mechanisms necessary to decarbonize the buildings and power sectors and advance an equitable clean energy transition. RMI has supported utilities and governments around the world to develop integrated resource plans by providing analytical support, project management, and advisory input. RMI believes strongly in the importance of analytically rigorous, participatory, and properly overseen energy plans that consider all available options to achieve decarbonization and constituent benefit.

Introduction:

For Order No. 20754 (formal case No. 1167), Rewiring America published an Electrification Study for the District of Columbia (“Study”). The Study finds that transportation and building electrification is a viable and recommended path for the District to reach its decarbonization goals. These comments will focus on the Study’s plans for building electrification.

Upon review of the Study, RMI finds that the plans put forward by the Study will help the District reach its climate goals in a managed, responsible, and cost-effective manner. There are several concepts we recommend the Commission consider as it reviews the Study:

- 1. DC will need to lean into beneficial electrification, not decarbonized gases, to meet its climate goals equitably.**

Washington Gas and Light (WGL) has proposed that the District utilize decarbonized fuel alternatives, including renewable natural gas (RNG) to reach its climate goals. However, research has found supposedly decarbonized gases are most cost-effective for hard-to-abate industrial end-uses, not for residential or commercial heating, where it can increase consumer costs.¹ A study from the American Gas Foundation estimated that RNG will cost between \$7 to \$20 per MMBtu by 2040 in an optimistic scenario, compared \$2-4 for fossil gas today.² Use of

¹ Dyson, M. Greene, S. Hennen, M. Teplin, C. *Building Electrification: A Key to a Safe Climate Future*. Oct. 20, 2022. RMI. <https://rmi.org/building-electrification-a-key-to-a-safe-climate-future/>

² Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment. December 2019. American Gas Foundation and ICF. <https://www.gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-Full-Report-FINAL-12-18-19.pdf>

these expensive fuels to homes would increase costs for a shrinking gas customer base and put low- and moderate-income (LMI) ratepayers at especially high financial risk. Additionally, as more affluent gas customers leave the gas system, low-income customers will be left to pay for the gas infrastructure maintenance costs, further increasing rates. For these reasons, it's important that low-income ratepayers be among the first, not the last, to electrify.

The Study's finding that electrification would decarbonize the District more equitably than decarbonized gases is consistent with analysis from other regions as well, including Philadelphia,³ Maryland,⁴ New Jersey,⁵ and New York.⁶ These studies have pointed out that expensive prices and limited supplies of decarbonized gases are significant barriers to equitable decarbonization, and have instead suggested solutions that rely heavily on building electrification.

2. DC's electric infrastructure can handle expected electrification load increases without increasing operating costs.

Pepco, in its electrification study, found that electrification across sectors to meet the District's climate goals would be within historic rates of growth, making electrification viable for the company and the District's electricity grid.⁷ The study noted that the utility's demand peaks are already higher in the summer than the winter. As the utility transitions to winter peaks, "a portion of future electrification-related winter load growth will not contribute to future capacity needs." Energy efficiency and load flexibility measures can reduce peak load by an additional 14% percent and overall load growth by 40% through 2050. The current summer baseline capacity and load-reducing measures would decrease electrification peak demand growth rates from 1.4% to 0.9%, well within Pepco's historic growth rates. A study done in New York City led to similar conclusions.⁸

3. All-electric new construction is affordable new construction.

The Study's finding that all-electric new construction is cost-effective and affordable is supported by research from across the country, including the Mid-Atlantic. One study from RMI found that all-electric homes across had lower upfront costs than mixed-fuel homes across six

³ *Philadelphia Gas Works Business Diversification Study*. December 2021. E3.

<https://www.phila.gov/media/20211207134817/PGW-Business-Diversification-Study-2021-12.pdf>

⁴ *Maryland Building Energy Transition Plan*. September 2021. Maryland Commission on Climate Change.

<https://mde.maryland.gov/programs/Air/ClimateChange/MCCC/MWG/Building%20Energy%20Transition%20Plan%20-%20MWG%20Draft.pdf>

⁵ *New Jersey Energy Master Plan*. January 2020. State of New Jersey, Office of Governor Phil Murphy.

<https://www.nj.gov/emp/>

⁶ *New York State Climate Action Council Draft Scoping Plan*. January 2022. New York Climate Action Council.

<https://climate.ny.gov/Our-Climate-Act/Draft-Scoping-Plan>

⁷ Hledik, R. Sergici, S. Hagerty, M. Olszewski, J. *An Assessment of the Electrification Impacts on the Pepco DC System*. August 2021. Prepared by Brattle for Pepco. <https://www.brattle.com/wp-content/uploads/2021/09/An-Assessment-of-Electrification-Impacts-on-the-Pepco-DC-System.pdf>

⁸ *Grid Ready: Powering NYC's All-electric Buildings*. December 2021. Urban Green Council.

https://www.urbangreencouncil.org/sites/default/files/2021.12.07_grid_ready.pdf

major metropolitan areas in the United States.⁹ Analysis published in the Maryland Building Energy Transition Plan found that not only do all-electric new homes produce no direct emissions from combustion in buildings, but they also have lower life cycle costs.¹⁰ Similar studies in other places, including Philadelphia, have come to similar conclusions.

4. ***Existing, low-income housing needs electrification assessments and holistic electrification solutions.***

The Study outlines the importance of electrification audits and embracing pre-electrification to ensure low-income homes are able to access electrification services. The District should also consider incorporating electrification audits and readiness into whole home retrofit upgrade programs that address a myriad of housing issues impacting low-income residents, including mold, lead, and general repairs. Such programs are being rolled out across the country, including in Philadelphia and New Jersey, and are considering energy efficiency and electrification measures as part of whole home upgrade packages.

5. ***Managed decommissioning will help reduce costs, as will investing in Non-Pipeline Alternatives.***

The Study's "managed decommissioning" of gas infrastructure proposal follows a growing trend of utilities looking to strategically abandon gas pipelines while maintaining energy reliability. ConEdison, a gas and electric utility in New York, has put out a Request for Proposal (RFP) looking for Non-Pipeline Alternatives (NPA) for building electrification and electricity load relief. The goal of the RFP is "strategic abandonment of leak prone pipe through electrification," utilizing fully electric alternatives to replace gas use in buildings. PG&E in California is developing a pilot project to explore strategic electrification and gas infrastructure decommissioning.¹¹ EverSource in New England and National Grid in Massachusetts are investing in geothermal microdistrict pilot projects as an alternative to home heating to avoid replacing gas lines.¹²

The Study notes that the \$4.5 billion that WGL has proposed investing in the gas distribution equates to \$27,400 per District household burning gas. That per household amount is roughly the same as the average all-in cost of a comprehensive household retrofit through the DC SEU's low income decarbonization pilot program. In other words: it is less expensive to completely rewire, weatherize, and buy every household brand new efficient electric appliances than maintain the existing polluting gas system. This is even without factoring the considerable cost savings from a scaled retrofit program or the fact that homeowners would have to replace

⁹ McKenna, C. Shah, A. Louis-Prescott, L. *All-electric New Homes: A Win for the Climate and the Economy*. October 15, 2020. RMI. <https://rmi.org/all-electric-new-homes-a-win-for-the-climate-and-the-economy/>

¹⁰ *Maryland Building Energy Transition Plan*. September 2021. Maryland Commission on Climate Change. <https://mde.maryland.gov/programs/Air/ClimateChange/MCCC/MWG/Building%20Energy%20Transition%20Plan%20-%20MWG%20Draft.pdf>

¹¹ *Strategic Pathways and Analytics for Tactical Decommissioning of Portions of the Natural Gas Infrastructure*. December 2020. California Energy Commission. <https://www.energy.ca.gov/solicitations/2020-12/gfo-20-503-strategic-pathways-and-analytics-tactical-decommissioning-portions>

¹² *Networked Geothermal Energy*. Eversource. <https://www.eversource.com/content/ct-c/residential/about/sustainability/renewable-generation/geothermal#:~:text=About%20the%20Program,two%20heating%20and%20cooling%20seasons.>

appliances at the end of life anyway. The infrastructure investment to completely decarbonize the District – with all of the attendant health and safety benefits – is less than maintaining the status quo.

Conclusion

Building electrification is a cost-effective and equitable solution, supported by research from across the country. The Commission can ensure these benefits through an integrated approach to building decarbonization and gas system planning decisions, including through several key strategies highlighted in the Study and applying a forward-looking, discerning lens to gas rates, procurement, or infrastructure investments.

Sincerely,

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